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Abstract: We evaluate the extent to which there are racial disparities in life insurance coverage using multiple years of the Survey of Income and Program Participation between 2001 and 2010. We find that African-Americans hold significantly more life insurance after controlling for other factors, especially employer-sponsored and whole life insurance. We demonstrate that our findings diverge from prior work because we examine all households instead of focusing exclusively on married and cohabitating households. The findings on life insurance coverage and composition imply that earnings shocks due to mortality are not a contributing factor to racial disparities in wealth.

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I. Introduction

Median net worth of white households is an order of magnitude larger than that of black households.[1] Large differences in wealth remain even after controlling for confounding factors such as earnings or family structure (Choudhury 2001; Barsky et al., 2002; Altonji and Doraszelski, 2005). The racial wealth gap has persisted over time, and the Great Recession widened it to the highest level in 30 years (Pfeffer, 2013; Kocchar and Fry, 2014). Possible explanations for this wealth gap include differential saving behavior, asset composition, and bequest motives (Smith, 1995; Menchik and Jianakoplos, 1997; Choudhury, 2001; Even and Macpherson, 2003; Gittleman and Wolff, 2004; Kocchar and Fry, 2014; Kuan et al., 2015).

Another possible contributing factor for the black-white wealth gap – one that is ignored in existing work – is the consequence of black-white differences in mortality prior to retirement.[2] Early death reduces household wealth and income, and increases poverty through lost earnings of a breadwinner and end-of-life expenses (Attanasio and Hoynes, 2000; McGarry and Schoeni, 2005). Figure 1 illustrates these stark differences in mortality.[3] Approximately 6 percent of all 50-year-olds die before age 60. The 10-year mortality rate at age 50 is nearly 70 percent higher for blacks relative to whites.[4] More than 12 percent of black males die within this age span, double the rate in the entire population. Similar racial differences emerge at both younger and older ages.

Large negative earnings shocks such as this can lead households to make financial errors or suboptimal choices, which in turn affects subsequent wealth accumulation (Bertrand, Mullainathan and Shafir, 2004; Mullainathan and Shafir, 2013). However, the differences in pre-retirement mortality will not necessarily influence the wealth gap because households can purchase life insurance to hedge

[1] Net worth for the median white household was approximately $190,000 and $19,000 for the median black household in 2007 as reported in the SCF (Kochhar and Fry, 2014).
[2] Racial differences in mortality are still present after controlling for education (Waldron, 2002).
[3] Data from the Centers for Disease Control/National Center for Health Statistics Vital Statistics System in 2009.
[4] Ten-year mortality rates are 5.7 percent and 9.5 percent respectively for white and black individuals at age 50.

against a breadwinner's lost earnings from pre-retirement death. Among households with life insurance, those experiencing early death would receive a payout, making them far less likely to make costly financial choices, such as carrying balances on credit cards, using payday loans, or being unbanked. Although a voluntary purchase, life insurance ownership is widespread, with 59 percent of adults having an individual policy, group policy, or both in 2010.[5] Life insurance coverage is more prevalent where the underlying risk from death of a breadwinner carries greater consequences. For example, 71 percent of married individuals with a child and mortgage have coverage in comparison to just 27 percent for individuals who are single, childless, and rent. All else equal, if black individuals purchase less life insurance coverage relative to whites, then the wealth gap would be exacerbated by differential mortality risk. Conversely, if black individuals respond to increased mortality risk by holding more life insurance then wealth gaps could not be explained by mortality differences.

The purpose of our study is to explore the existence of racial gaps in life insurance holdings. Current evidence on racial disparities in life insurance is sparse. Bernheim et al. (2003) find that blacks hold less life insurance relative to whites whereas Gutter and Hatcher (2008) find no disparities in overall life insurance ownership. In contrast to both studies, we find that blacks have greater participation in life insurance markets, after controlling for other confounding characteristics. Given the high levels of life insurance coverage, our basic finding suggests that differential mortality is unlikely to contribute to wealth disparities by race. Using multiple years of the Survey of Income and Program Participation (SIPP), our preferred specification estimates that blacks are 3 percentage points more likely to hold life insurance, from an overall baseline coverage rate of roughly 60 percent. Digging deeper, we find that black individuals are much more likely to hold whole life insurance and slightly less likely to hold term life coverage. In addition, they have much higher participation in employer-sponsored life insurance (ESLI). We show that a key reason our life insurance findings contrast with previous work is

[5] Prudential Financial, 2013.

that we include single households, while existing studies restrict analysis to married and cohabitating households.

The remainder of the paper is organized as follows: Section II reviews previous studies on life insurance, Section III describes the data, Section IV presents the empirical model, Section V discusses results, and Section VI concludes.

II. Literature Review

Several recent empirical studies have analyzed issues related to the demand for, and adverse selection in, life insurance in the United States (Cawley and Philipson 1999; He 2009, 2011; Harris and Yelowitz 2014; Hedengren and Stratmann, 2015). Furthermore, mortality risk and demand for life insurance has been analyzed at the international level (Li, Moshirian, Nguyen, and Wee 2007; Gatzert and Wesker 2014). However, only the work of Bernheim et al. (2003) and Gutter and Hatcher (2008) have examined racial disparities in life insurance coverage.

Gutter and Hatcher (2008) analyze racial differences in life insurance holdings and find no evidence of disparities amongst black and white households on the extensive margin (that is, whether the household has any life insurance holdings). They do find some racial disparities on the intensive margin (that is, comparing the face value of life insurance holdings to possible income losses). Their analysis utilized the Survey of Consumer Finances (SCF), which has been used in a number of previous studies (Lin and Grace, 2007; Liebenberg, Carson, and Dumm, 2012). Notwithstanding the prevalence of SCF in life insurance analysis, the sample is limited to observing participation and levels of life insurance holdings at the household level. This is problematic because life insurance is priced and purchased at the individual-level and not as a household. Thus, it is not possible to conclusively link a life insurance policy to the main breadwinner versus a secondary earner.

Bernheim et al. (2003) find that uninsured financial vulnerabilities were more common among nonwhites, and they were less likely to hedge against the financial consequences of a spouse's death through life insurance. Their study uses the Health and Retirement Survey (HRS), which only includes individuals aged 51 to 61 in 1992. Harris and Yelowitz (2014) demonstrate that life insurance demand varies by age and the need for life insurance coverage diminishes as an individual approaches retirement.

An important limitation to both studies is that they restrict attention to married or cohabitating couples. This type of restriction misses a significant portion of the diversity, as family structure drastically differs across race. In 2010, of those that were ever married, 19 percent of whites were divorced in comparison to 31 percent of blacks. In addition, blacks were almost twice as likely as whites to be single parents (i.e. separated, divorced, widowed, or never married with children).[6] Given the family structure differences, previous studies limited a disproportionate amount of black individuals that would have reason to purchase life insurance.

III. Data

For our primary analysis, we use data from the 2001, 2004, and 2008 panels of the SIPP to examine racial differences in life insurance holdings. This data has been used in recent studies on demand for life insurance (Harris and Yelowitz 2014; Hedengren and Stratmann 2015). This nationally representative longitudinal sample is constructed through individual interviews in four-month intervals known as "waves." Each wave contains responses regarding income, labor force activity, and participation in government assistance programs. In addition to the "core" monthly questions, the survey covers less-frequently asked subjects in "topical modules." The wealth topical modules contain information on assets and liabilities (including life insurance holdings) which are asked at least twice per

[6] In 2010, 20 and 38 percent of whites and blacks respectively were single parents.

panel. The key motivation for using the SIPP data comes from the availability of life insurance questions regarding individual market life insurance and ESLI. In addition, the SIPP allows for analysis across a broad age cohort with much larger sample sizes than the SCF.

We restrict our analysis to white and African-American adults aged 18 to 64 who provided answers to life insurance questions.[7,8] The age restriction is implemented to focus on the group that is the most likely to elect life insurance coverage. Additionally, this restriction is meant to include only those of working-age population, as the primary role of life insurance is to replace lost earnings of the principal breadwinner.

For comparison purposes, we apply similar screens to data from the SCF for years 2001, 2004, 2007, 2010 and 2013. The SCF is a triennial survey sponsored by the Board of Governors of the Federal Reserve System in cooperation with the Statistics of Income Division of the Internal Revenue Service. The survey collects detailed information about family finances including incomes, net worth, and credit use in addition to basic demographics including marital status and education. It also asks about life insurance coverage and holdings at the household level. The SCF is widely used to study issues where wealth and financial data are important, and oversamples high-income individuals in order to capture the full distribution of wealth (Kennickell, 2008).[9]

The two datasets directly overlap for calendar years 2001, 2004, and 2010, which allows for a side-by-side comparison. We aggregate the SIPP from the individual level to the household level in Table 1 to make it comparable to the SCF; in the subsequent regression analysis we utilize the individual-level SIPP data to better link life insurance demand to underlying mortality risk. Table 1 shows summary statistics for the two datasets in each year. The samples are generally quite similar with respect to family

[7] The findings presented hereafter are robust to restricting the sample to individuals aged 25 to 64.
[8] Following Gruber and Yelowitz (1999), we exclude imputed values for life insurance due to criticism of the SIPP wealth imputation methodology by researchers (Curtin, Juster, and Morgan 1989; Hoynes, Hurd, and Chand 1998). Dropped imputed observations constitute 21 percent of the sample.
[9] Unless noted, we use sample weights for both the SIPP and SCF specifications.

structure, racial representation, finances, employment, education and health. Several important variables are only available in one of the two datasets; the SIPP includes specific questions about ESLI and individual life insurance, while the SCF asks about risk aversion and smoking.

As can be seen in this table, life insurance ownership is quite common, with roughly 65 percent of households having some kind of plan. These levels are very similar to the findings by life insurance industry groups (LIMRA, 2013). An important trend, that is prevalent across both data sets, is the decline in life insurance over time. There are 10 and 7 percentage point decreases in life insurance coverage respectively for the SIPP and SCF samples from 2001 to 2010. Similar declining trends are present for term, whole, employer-sponsored and individual life insurance. These declines are consistent with industry-level findings that ownership of life insurance is at a 50-year low (Prudential Financial, 2013). Households are far more likely to hold term life insurance than whole life insurance, and group coverage through an employer is slightly more prevalent than individual life coverage.

An important advantage of the SIPP is it contains detailed information regarding the source of life insurance; it distinguishes different types of life insurance coverage including ESLI and individual market purchases. ESLI constitutes a large portion of all life insurance holdings with 36 percent of households having ESLI in 2010. In contrast to other types of life insurance, employer coverage is often provided automatically for full-time workers. The National Compensation Survey conducted annually by the Bureau of Labor Statistics, reports that for full-time civilian workers in 2010, 76 percent had access to ESLI and 74 percent participated, leading to a take-up rate of 97 percent. In contrast, just 16 percent of part-time workers had access to ESLI, although take-up rates were very high for eligible employees as well.[10] Take-up is extraordinarily high because fewer than 10 percent of workers at firms with basic life insurance coverage are required to make a contribution. In the case of death, slightly more than half of all workers (54 percent) with ESLI would receive a benefit payment in a fixed multiple of annual earnings

[10] All figures on the composition of ESLI come from Tables 17, 18, 20, and 21 of the March 2010 National Compensation Survey.

for their beneficiaries, while almost all the rest would receive a flat dollar amount (40 percent). Many policies provide a flat dollar amount of $50,000 or less because of the tax exemptions.[11] The median payout for a flat-dollar policy was just $16,000 in 2010 – which might be thought of as covering funeral expenses and other short-run costs, and the 90th percentile was $50,000. Of the employer policies that provide benefits as a multiple of annual earnings, 58 percent of workers have a plan with 1x earnings, and almost all the rest (37 percent) have a plan with 1 to 2x earnings. As a consequence, even though ESLI is quite prevalent, it tends to provide small amounts of insurance coverage.

In addition to mandatory coverage, ESLI policies often allow employees to purchase supplemental coverage, although evidence suggests that many employees do not take advantage of this.[12] These policies are typically community rated meaning they are priced based on the characteristics of the group rather than based on a single individual's probability of death. In contrast, individual life insurance policies are experience rated meaning they involve individual underwriting including health examinations, blood samples, family history, and assessment of risky behavior in order to determine the premium (although such applications do not ask about race). Supplemental ESLI policies are advantageous for individuals whose health is poorer than average for the pool of insured employees and less advantageous for individuals that are in relatively better health. A major limitation with ESLI is that employees generally only qualify for the coverage while they are employed. If the individual loses employment (and consequently group coverage) due to health problems, then coverage might be prohibitively expensive for the employee in the individual market (Prudential, 2013). In contrast, individual term policies are only conditional on premium payments for the life of the policy.

[11] The IRS provides an exclusion for the first $50,000 of group-term life insurance coverage provider under a policy carried directly or indirectly by an employer.

[12] Using administrative payroll data, Harris and Yelowitz (2015) find that the median employee at a large public university in the southeast had life insurance coverage at 1x annual salary; the modal worker did not elect any supplemental coverage through the employer.

Table 2 shows summary statistics broken out by race for the SIPP. Black individuals have substantially less monthly income and lower net worth, consistent with the existing literature on wealth/income gaps. In addition, they are less likely to have a college education and report being in worse health. African-Americans are less likely to have life insurance, with an ownership gap of 10 percentage points. The aforementioned decrease in life insurance holdings over time is present for both races. After conditioning on employment, participation in ESLI is more similar across races, but blacks are still less likely to hold life insurance.

There are also differences in coverage based on insurance type. The two most common forms of life insurance are term and whole.[13] Term life insurance covers an individual for a specified period (i.e. a 10-year term policy) and does not have a "cash value" as payment only occurs in the case of death. Whole life insurance policies are guaranteed for the life of the policyholder conditional on premium payment and have a "cash value" which can be accessed through termination of the contract. The racial disparity exists for term life insurance with mean participation of 36 and 23 percent for whites and blacks respectively in 2010. This gap is much smaller for whole life insurance with a 1 percentage point difference in whole life insurance coverage.

Finally, Table 2 illustrates some of the differences in family structure. Whites are more likely to marry, less likely to separate, and less likely to divorce conditional on ever being married. Blacks are more likely to have a child but less likely to be married and have a child. In 2010, black individuals are twice as likely to have never been married and have a child relative to white individuals. These differences in family composition could greatly influence both the need and desire for life insurance holdings.

[13] Other life insurance policies that also incorporate investment motives include universal life insurance and variable life insurance.

IV. Demand Determinants and Empirical Model

One of the major roles of insurance is to smooth family consumption across different states of the world. Life insurance can help mitigate the drop in family consumption in the event of death. The existence of a dependent family member such as a spouse or child should increase demand for life insurance (Inkmann and Michaelides, 2012). One would expect, ceteris paribus, that a single parent would have an increased demand for life insurance relative to a married individual because of the lack of a provider in the case of early death.[14] Therefore, the aforementioned exclusion of single headed households by previous work has the potential to affect the analysis. The desire to leave a bequest or the emphasis that the individual places on surviving dependents' well-being also directly influences both participation and coverage amounts of life insurance.

The canonical expected utility model shows that with actuarially fair pricing and risk averse individuals everybody should purchase insurance. A majority of the population has some form of life insurance coverage, but this is far from the theoretical prediction of full participation. Individuals may deviate from the predictions of the rational frictionless environment and fail to purchase life insurance due to fixed costs. Fixed costs vary greatly based on the type of insurance. For example, term life insurance is associated with extensive underwriting whereas ESLI has much lower fixed costs. These fixed costs become less of a concern as the coverage amount increases as well as the term of the policy. All else equal, as the fixed costs increase, individuals are less likely to buy life insurance.

Various psychological frictions or costs exist that cause deviations from the frictionless rational model as well. Implicit costs due to the difficulty of evaluating the relative advantages for the various types of life insurance can decrease coverage (Iyengar et al., 2004; Handel, 2013). Furthermore, the psychological cost of thinking about death decreases the likelihood of purchasing life insurance (Kopczuk

[14] Additional earners in the household can be thought of as an imperfect form of self-insurance. The same might be true for individuals with larger families or extended networks. See Ehrlich and Becker (1972) and Dehejia et al., (2007).

and Slemrod, 2005). Price misconceptions can also influence the participation rate. A recent study found that 80 percent of Americans misjudged the cost of life insurance (LIMRA, 2015). These misconceptions and the cost of correcting these misconceptions decrease life insurance participation.

Another consideration for life insurance participation is heterogeneity in health. Life insurance companies may reject individuals in poor health to avoid potential losses (Hendren, 2013). This type of rejection is again more relevant for individual term policies due to underwriting. In addition, individuals in the best health may not purchase insurance because they are pooled together with relatively unhealthy individuals and consequently face actuarially unfair premiums (Akerlof, 1970).

The factors that influence life insurance coverage could vary by race. The following empirical model seeks to understand this relationship. Equation (1) presents a linear probability model used to test the influence of race on life insurance participation:

(1) $$LifeIns_i = \beta_0 + \beta_1 Black_i + \beta_2 X_i + \varepsilon_i$$

where $Black_i$ is an indicator variable that the individual was African-American, X_i represents a vector of covariates including age, gender, marital status, children, income, net worth, education, home ownership, mortgage, employment, and health following work reviewed in Liebenberg et al. (2012). $LifeIns_i$ is an indicator variable that represents having any, term, whole, ESLI, and individual life insurance depending on the specification. The results of the different specifications will give information about not only coverage, but also the comprehensiveness of the life insurance policies as measured by the form of life insurance and face value.

V. Results

We first run bivariate regressions to formally measure the relationship between life insurance and race.[15] Table 3 presents our findings. As expected from the summary statistics given previously, β_1 is

[15] Results from a probit regression yield similar results.

negative and statistically significant for participation in all of the different types of life insurance. In particular, black individuals are approximately 11 percentage points less likely to hold any life insurance than white individuals. This negative coefficient is present for all specifications but with varying magnitudes.

In contrast, Table 4 presents the findings of the full model including relevant covariates from the SIPP. After controlling for covariates, black individuals are significantly more likely – by 3 percentage points – to hold life insurance, which is distinct from previous work that found no racial difference.

The full model for whole life insurance further finds that blacks are almost 5 percentage points more likely to have coverage than whites are. Whole life insurance coverage – which does not have a fixed length – is increasing with age. An important difference in the specification with whole life insurance is that having a college degree does not increase coverage.

The racial gap in term life insurance changes from a large negative (12.5 percentage points) to small negative effect (1.1 percentage points) after including covariates. This small negative finding could partially be due to the inability in the data to completely characterize health, which is explicitly incorporated into underwriting in the term life insurance market.

The probability of having term life insurance is a concave function of age consistent with the findings of Jappelli and Pistaferri (2003). The decreasing magnitudes at the latter years of an individual's working years could reflect increasing premium due to actuarial adjustments or potentially decreasing need for coverage as children leave home. In contrast to whole life insurance coverage, individuals with a college education are almost 10 percentage points more likely to purchase term coverage.

In both regressions for term and whole life insurance, we find consistent results for a number of covariates. As theory would suggest and consistent with previous findings, the presence of a spouse or child increases the likelihood of having life insurance (Jappelli and Pistaferri, 2003; Inkmann and Michaelides, 2012). An unmarried partner negatively influences life insurance holdings. Additionally,

individuals who are in good health are more likely to have life insurance possibly due to screening/underwriting from insurance companies or advantageous selection (Finkelstein and McGarry, 2006). In addition, homeowners are significantly more likely to have any life insurance and having a mortgage increases demand for coverage (Gutter and Hatcher, 2008).[16] Employment and income additionally both have a positive effect with net worth having a small negative or insignificant effect. Males are more likely to have life insurance across all specification (Gandolfi and Miners, 1996).

In addition to the distinction between whole and term, Table 4 presents the results from ESLI and individual life insurance. For both sources of insurance, blacks are more likely to have life insurance. The main difference between the two sources of coverage is that being married and having a child does not increase coverage in ESLI whereas they are both significant factors for individual market coverage. This finding is likely due to automatic coverage given by an employer; virtually all employees take it up when offered.

To gauge the influence of each individual covariate on the transformation of the racial gap from negative to positive, we implement a technique prescribed by Gelbach (2015). His work shows that the traditional practice of sequentially adding covariates to a model to observe the influence on the coefficient of interest leads to ambiguous results that are "sequence-sensitive." For example, the change in the racial gap by adding education as a covariate differs depending on the order it is added to the model. If we added education variables first then the observed change in the racial gap would be different than if we added family structure first and then added education. This result is due to the correlation between education and family structure. In order to create a "path independent" explanation of the influence of each covariate Gelbach prescribes omitted variable bias equations to gauge the contribution of each covariate. The influence of each covariate is a function of the correlation

[16] When a household applies for a mortgage, they may be offered credit insurance, which protects the loan on the chance that the applicant cannot make payments. Such insurance is usually optional. Credit life insurance pays off all or some of the loan if the applicant dies. See https://www.consumer.ftc.gov/articles/0110-credit-insurance.

between the covariate and Black in addition to the covariate's coefficient in the full specification. For example, net worth is highly correlated with race but it is not a major determining factor in life insurance coverage and therefore does not exhibit a large influence in the transformation of the black coefficient from negative to positive.

Table 5 shows the Gelbach Decomposition for the SIPP analysis covariates following the format presented in Grove, Hussey, and Jetter (2011). In the specification for having any life insurance, two variables that contribute greatly to the sign change in the racial gap are home ownership and having a mortgage. Combined they account for 35 percent of the coefficient's change. Risk of foreclosure, for surviving household members, in conjunction with the negative correlation between homeownership and being black causes the inclusion of homeownership/mortgage to greatly influence the black coefficient. The influence of being married explains 15 percent, level of education explains 14 percent, income explains 13 percent, and employment explains 13 percent of the change in the black coefficient from negative 11 percentage points to positive 3 percentage points. The decomposition for term and whole life insurance indicates that the same variables tend to explain the majority of the difference. For the decomposition for term, education explains relatively more (17 percent) and for whole life insurance owning a home accounts for an even greater portion (33 percent). For ESLI, employment and proxies for type of employment (personal income and education) account for 68 percent of the change in the negative 6 percentage point bivariate result to the positive 3 percentage point racial gap for ESLI.[17]

In order to better understand possible racial disparities, we also present results on the intensive margin – the face value, in dollars, of such life insurance policies. Caution is needed when examining the intensive margin. Clearly, the "face value" of a policy —payout in the case of death— matters for hedging against earnings losses, and industry studies suggest coverage levels have fallen (LIMRA, 2013). Unfortunately, there is widespread confusion among survey respondents with respect to life insurance

[17] The decomposition for the individual market is similar to the decomposition for the any life insurance specification.

quantities. Two-thirds of respondents in the SIPP misinterpret questions due to confusion between "cash value" (which only applies to whole-life policies) and "face value" (which applies to both whole and term policies) (Gottschalck and Moore, 2007). These same issues arise to various degrees in other datasets, too.[18]

Table 6 shows the results from the intensive margin with the face value of life insurance as the dependent variable. We only observe the face value in 2001 for the SIPP due to a change in survey questions in later years. We perform the analysis using OLS and find that after controlling for covariates there is no statistically significant difference between races. Due to the inclusion of many zero values, we further test the analysis using a Tobit. After controlling for covariates, we find that the coefficient for black is not significantly different from zero consistent with the OLS finding.

VI. Reconciling Results

Our findings that black individuals are more likely to purchase life insurance diverge from the findings of Gutter and Hatcher (2008) and Bernheim et al. (2003). Gutter and Hatcher find no racial difference on the extensive margin and that blacks hold less coverage on the intensive margin. Bernheim et al. find that nonwhites are more likely to have uninsured vulnerabilities.

In order to reconcile our results with previous work, we restrict our SIPP sample to married/cohabitating individuals in the first panel of Table 7, while including all covariates from Table 4. The first row illustrates that when we restrict the sample to only married/cohabitating individuals, we find no statistical difference between the races in coverage, consistent with the extensive margin findings of Gutter and Hatcher (2008). The different columns illustrate that this coverage result is robust to the inclusion or exclusion of sample weights, and to each calendar year. Thus, a major difference in

[18] The HRS questions are essentially the same as the SIPP, and the HRS is also widely used for life insurance analysis (Bernheim et al. 2003; He, 2009, 2011; Cawley and Philipson, 1999). Differences in life insurance quantities found in Bernheim et al. (2003) and Gutter and Hatcher (2008) could be partially explained by confusion about the "cash value" and "face value" questions.

our extensive margin results comes from analyzing the full sample of individuals rather than restricting our analysis to married/cohabitating individuals. When we look at the intensive margin (value of policies), we find that the restriction to married/cohabitating individuals causes the coefficient on black to change from an insignificant number (see Table 6) to a statistically significant negative coefficient from the Tobit analysis. Once again, the restricted sample gives us the same qualitative finding as Gutter and Hatcher (2008).

The second panel of Table 7 shows parallel results from the SCF restricted to married/cohabitating households. The first column of results shows that even with the restricted married/cohabitating sample we find that blacks are more likely to hold life insurance when we look at all years. However, when we isolate our analysis to 2004 SCF – thus using a sample similar to Gutter and Hatcher (2008) – we replicate their finding of no difference across race in life insurance coverage. However, the remaining columns show the finding is sensitive to sample weights and the particular year of analysis.

Differences between the SIPP and SCF results could be due to differences in sample sizes, level of analysis (individual vs. household), or the high proportion of wealthy individuals sampled in the SCF. Overall, we are more confident in our findings from the SIPP due to the individual level, insensitivity to weights, and the larger sample sizes.

VII. Implications and Concluding Remarks

Using SIPP data across multiple years, we analyze racial disparities in life insurance coverage. We find, contrary to previous literature, that black individuals are more likely to hold life insurance policies. Previous studies have excluded single households – which make up more than half of black households – and we show that this exclusion matters for the findings. We also analyze the types of insurance held by race. Black individuals are more likely to hold whole and employer-sponsored life insurance (ESLI)

policies and less likely to hold term life insurance. Whole life insurance is generally considered to be less desirable than term life insurance because it mixes a low rate of return investment and high commission rates with life insurance coverage (Anagol et al. 2012). ESLI provides conditional coverage which is only in force while employed at the given firm. This is problematic for individuals who might leave a job for health reasons prior to death. In addition, many individuals are automatically enrolled – but at small amounts – in life insurance plans by virtue of being employed at a firm.

In summary, the evidence points to greater life insurance coverage rates among African-Americans. Many studies have found significant racial disparities in wealth. A possible reason for this racial gap in wealth is differential mortality risk. Mortality differences can contribute to wealth gaps through two key mechanisms. First, higher mortality alters the time horizon to enjoy the return from investments, including financial, human capital, and health investments. Second, holding investment constant, a non-trivial fraction of households will suffer earnings shocks due to the death of a breadwinner, which in turn could lead to costly financial choices. With life insurance coverage, this risk can be mitigated. Our results on life insurance coverage suggest that mortality differences, at least due to the second mechanism, should not contribute to racial wealth gaps.

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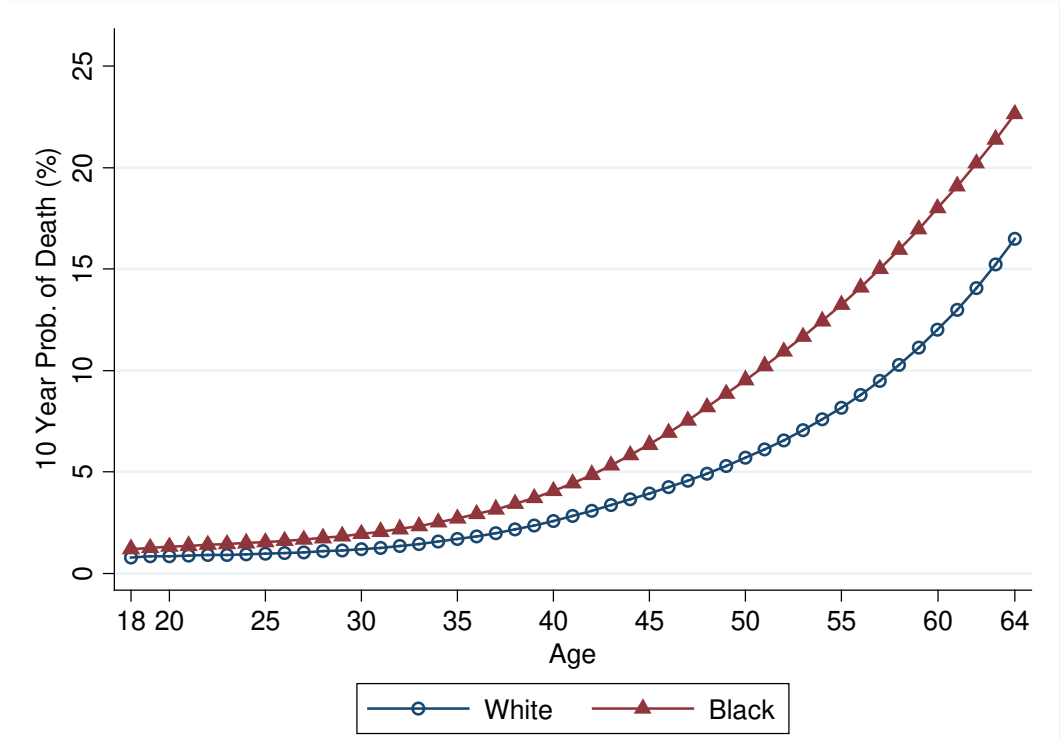
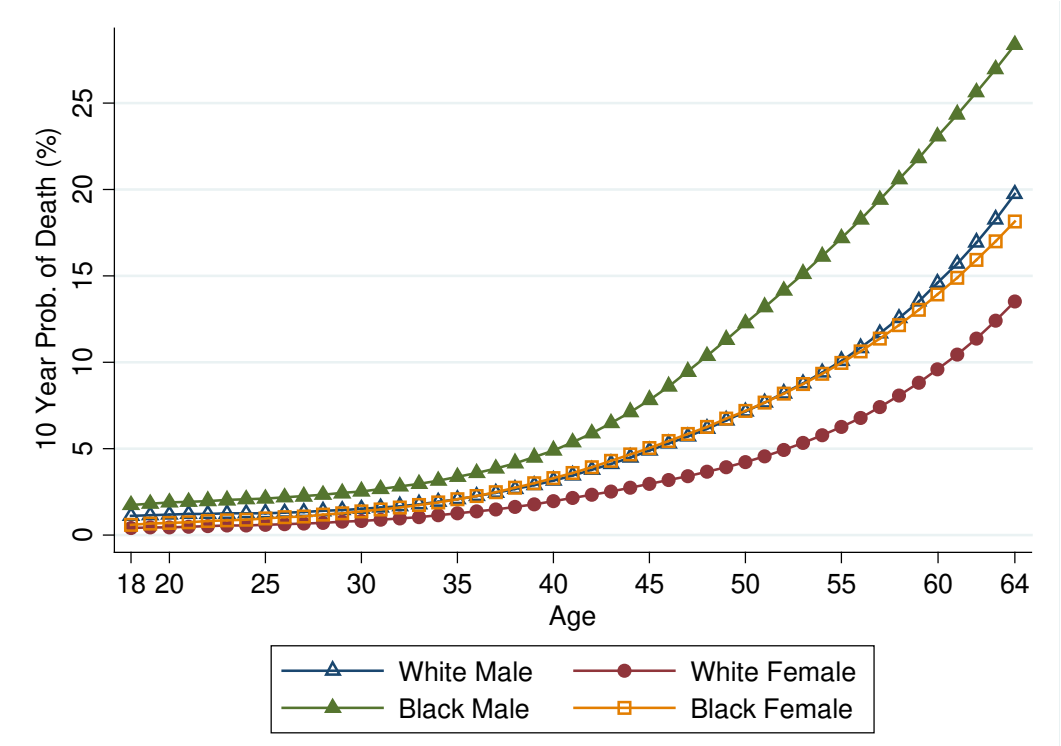
Figure 1

1a: Mortality Rates by Race



1b: Mortality Rates by Race and Gender



Source: http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_07.pdf

Table 1: Summary Statistics - SIPP and SCF

	2001		2004		2010	
	SIPP	SCF	SIPP	SCF	SIPP	SCF
Demographics (Head)						
Age	43.1	42.5	43.5	43.1	44.7	44.2
Male	0.72	0.76	0.72	0.74	0.71	0.76
Female	0.28	0.24	0.28	0.26	0.29	0.24
White	0.86	0.84	0.84	0.83	0.83	0.82
Black	0.14	0.16	0.16	0.17	0.17	0.18
Family						
Married	0.54	0.53	0.52	0.51	0.50	0.51
Child	0.47	0.50	0.47	0.51	0.46	0.49
Finances						
Employed (Head)	0.85	0.84	0.85	0.81	0.80	0.76
Net Worth ($1m)	0.16	0.18	0.20	0.15	0.19	0.06
Owns House	0.60	0.67	0.60	0.68	0.59	0.66
Household Income ($1k)	4.82	6.43	5.26	6.48	5.56	7.08
Personal Income ($1k)	3.35	.	3.68	.	3.84	.
Education (Head)						
<12th Grade	0.09	0.12	0.08	0.09	0.06	0.09
High School Grad	0.29	0.30	0.23	0.29	0.23	0.3
Some College	0.32	0.25	0.38	0.26	0.37	0.26
College Degree	0.30	0.33	0.31	0.36	0.33	0.35
Health (Head)						
Good	0.87	0.80	0.87	0.81	0.88	0.78
Poor	0.13	0.20	0.13	0.19	0.12	0.22
Smoke	.	0.29	.	0.27	.	0.26
Risk Aversion (Investments)						
No risk	.	0.31	.	0.34	.	0.39
Average Risk	.	0.42	.	0.43	.	0.40
High Risk	.	0.27	.	0.23	.	0.20
Life Insurance (Household)						
Any	0.69	0.73	0.65	0.70	0.58	0.66
Any Term	0.52	0.59	0.50	0.58	0.45	0.55
Any Whole	0.36	0.28	0.31	0.25	0.26	0.20
Both Term & Whole	0.15	0.14	0.12	0.13	0.09	0.09
ESLI	0.48	.	0.44	.	0.39	.
Individual Life	0.44	.	0.35	.	0.28	.
Observations	14,079	3,166	21,062	3,163	16,168	4,369

Notes: Household level data from SIPP 2001, 2004, 2008 (topical and core files) and from the SCF 2001, 2004, 2010 public files. Household weights are used for both samples. Income is measured on a monthly basis. The sample is restricted to household reference persons that are either black or white and between age 18 and 64.

Table 2: Summary Statistics - Racial Comparisons

	2001		2004		2010	
	White	Black	White	Black	White	Black
Demographics						
Age	40.7	38.3	41.1	38.7	41.8	39.4
Male	0.49	0.43	0.49	0.44	0.49	0.45
Female	0.51	0.57	0.51	0.56	0.51	0.55
Family						
Married	0.61	0.37	0.61	0.35	0.57	0.32
Unmarried Partner	0.05	0.05	0.06	0.05	0.06	0.05
Separated/Divorced	0.14	0.17	0.14	0.18	0.14	0.16
Widowed	0.02	0.03	0.02	0.03	0.02	0.03
Never Married	0.23	0.43	0.24	0.44	0.27	0.49
Child	0.54	0.62	0.54	0.60	0.54	0.59
Child & Married	0.37	0.25	0.37	0.24	0.34	0.21
Child & Partner	0.01	0.01	0.01	0.02	0.01	0.01
Child & Never Married	0.11	0.27	0.12	0.27	0.14	0.29
Child & Separated/divorced	0.05	0.08	0.05	0.08	0.05	0.08
Child & Widow	0.01	0.01	0.01	0.01	0.01	0.01
Finances						
Employed	0.79	0.69	0.80	0.72	0.75	0.64
Net Worth ($1 mill.)	0.20	0.05	0.26	0.07	0.25	0.07
Owns House	0.58	0.31	0.59	0.32	0.56	0.29
Household Income ($1k)	5.55	3.65	6.20	3.85	6.71	4.09
Personal Income ($1k)	2.62	1.72	2.90	1.91	3.09	2.02
Education						
<12th Grade	0.08	0.19	0.07	0.14	0.06	0.12
High School Grad	0.30	0.36	0.25	0.30	0.24	0.3
Some College	0.33	0.31	0.38	0.40	0.37	0.41
College Degree	0.29	0.13	0.30	0.15	0.33	0.17
Health						
Good Health	0.89	0.81	0.90	0.82	0.90	0.85
Poor Health	0.11	0.19	0.10	0.18	0.10	0.15
Life Insurance						
Any	0.57	0.45	0.55	0.45	0.48	0.37
Any Term	0.40	0.28	0.40	0.28	0.36	0.23
Any Whole	0.27	0.25	0.23	0.22	0.19	0.18
Both Term and Whole	0.10	0.07	0.08	0.05	0.07	0.04
ESLI	0.32	0.25	0.29	0.24	0.25	0.18
ESLI given Employed	0.40	0.37	0.36	0.34	0.34	0.28
Individual Life	0.42	0.31	0.33	0.28	0.26	0.21
Face Value of Life Insurance ($1k)	79.2	42.2	.	.	.	.
Face Value, Given Face Value>0	138.5	89.9	.	.	.	.
Observations	23,081	3,766	34,865	5,503	26,570	4,594

Notes: Individual level data from the SIPP topical and core files for the 2001, 2004, and 2008 panels. Income is measured on a monthly basis. Individual sample weights were used in computing statistics. The sample is restricted to individuals between age 18 and 64.

Table 3: Life Insurance Coverage – No Controls

Dependent Variable	Any Life Ins.	Whole Life Ins.	Term Life Ins.	ESLI	Indiv. Market
Black	-0.114***	-0.015***	-0.125***	-0.060***	-0.072***
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)

Notes: All specifications use the SIPP. There are 98,379 individual observations for each specification. Dependent variable "Indiv. Market" indicates have life insurance holdings through the individual market (not ESLI). The sample is restricted to individuals that are either black or white and between age 18 and 64. Standard errors are shown in parentheses and clustered at the household level *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Life Insurance Coverage – With Controls

Dependent Variable	Any Life Ins.	Whole Life Ins.	Term Life Ins.	ESLI	Indiv. Market
Black	0.028***	0.048***	-0.011**	0.030***	0.021***
	(0.005)	(0.005)	(0.005)	(0.004)	(0.005)
Age 25-39	0.042***	0.007	0.036***	0.075***	-0.011*
	(0.007)	(0.005)	(0.006)	(0.006)	(0.006)
Age 30-34	0.095***	0.024***	0.081***	0.117***	0.019***
	(0.007)	(0.006)	(0.007)	(0.006)	(0.006)
Age 35-39	0.136***	0.044***	0.110***	0.126***	0.053***
	(0.007)	(0.006)	(0.007)	(0.006)	(0.007)
Age 40-44	0.155***	0.062***	0.122***	0.133***	0.081***
	(0.007)	(0.006)	(0.007)	(0.006)	(0.006)
Age 45-49	0.178***	0.081***	0.134***	0.148***	0.095***
	(0.007)	(0.006)	(0.007)	(0.006)	(0.006)
Age 50-54	0.197***	0.099***	0.131***	0.141***	0.119***
	(0.007)	(0.006)	(0.007)	(0.006)	(0.007)
Age 55-59	0.222***	0.138***	0.126***	0.117***	0.154***
	(0.008)	(0.007)	(0.008)	(0.007)	(0.008)
Age 60-64	0.247***	0.177***	0.109***	0.059***	0.199***
	(0.009)	(0.008)	(0.008)	(0.007)	(0.008)
<12th Grade	-0.098***	-0.053***	-0.066***	-0.043***	-0.070***
	(0.006)	(0.005)	(0.005)	(0.004)	(0.005)
Some College	0.043***	0.010***	0.042***	0.020***	0.031***
	(0.004)	(0.004)	(0.004)	(0.003)	(0.004)
College Degree	0.077***	0.004	0.095***	0.047***	0.048***
	(0.005)	(0.005)	(0.005)	(0.004)	(0.005)
Male	0.015***	0.017***	0.014***	0.016***	0.020***
	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)
Married	0.084***	0.033***	0.069***	0.003	0.070***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Unmarried Partner	-0.035***	-0.018***	-0.016**	-0.008	-0.036***
	(0.009)	(0.007)	(0.008)	(0.008)	(0.007)
Child	0.028***	0.016***	0.022***	-0.019***	0.046***
	(0.004)	(0.004)	(0.004)	(0.003)	(0.004)
Good Health	0.062***	0.031***	0.047***	0.038***	0.044***
	(0.005)	(0.005)	(0.005)	(0.004)	(0.005)
Net Worth ($1 m)	-0.004***	0.001	-0.005***	-0.007**	0
	(0.001)	(0.002)	(0.001)	(0.003)	(0.002)
Owns House	0.126***	0.079***	0.081***	0.056***	0.102***
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Mortgage	0.075***	0.011**	0.075***	0.037***	0.044***
	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)
Employed	0.158***	0.053***	0.129***	0.245***	0.014***
	(0.004)	(0.004)	(0.004)	(0.003)	(0.004)
Personal Income ($1k)	0.018***	0.007***	0.017***	0.023***	0.009***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

Notes: All specifications use the SIPP. There are 98,379 individual observations for each specification. Dependent variable "Indiv. Market" indicates have life insurance holdings through the individual market (not ESLI). The sample is restricted to individuals that are either black or white and between age 18 and 64. Standard errors are shown in parentheses and clustered at the household level *** p<0.01, ** p<0.05, * p<0.10. Controls also include year fixed effects.

Table 5: Gelbach Decomposition of Black/White Gap in Life Insurance Participation
Explained Contributions of Covariates SIPP

	Any Life Ins.		Whole Life Ins.		Term Life Ins.		ESLI		Indiv. Market	
	Contrib.	% of Gap	Contrib.	% of Gap	Contrib.	% of Gap	Contrib.	% of Gap	Contrib.	% of Gap
Age	0.010	6.9%	0.006	9.9%	0.005	4.8%	0.004	4.7%	0.007	8.0%
Education	0.020	13.8%	0.005	8.0%	0.020	17.3%	0.011	11.7%	0.013	13.9%
Male	0.001	0.7%	0.001	1.8%	0.001	0.8%	0.001	1.1%	0.001	1.4%
Married	0.021	15.1%	0.009	13.5%	0.018	15.6%	0.001	0.8%	0.018	19.3%
Unmarried Partner	0.000	-0.1%	0.000	-0.1%	0.000	-0.1%	0.000	0.0%	0.000	-0.1%
Child	-0.002	-1.2%	-0.001	-1.5%	-0.001	-1.2%	0.001	1.3%	-0.003	-3.1%
Good Health	0.005	3.5%	0.002	3.9%	0.004	3.3%	0.003	3.3%	0.004	3.8%
Net Worth ($1m)	-0.001	-0.5%	0.000	0.2%	-0.001	-0.7%	-0.001	-1.3%	0.000	0.1%
Owns House	0.033	23.2%	0.021	32.7%	0.021	18.7%	0.015	16.2%	0.027	28.6%
Mortgage	0.016	11.5%	0.002	4.0%	0.016	14.3%	0.008	8.8%	0.010	10.3%
Employed	0.018	12.6%	0.006	9.5%	0.015	12.8%	0.028	30.5%	0.002	1.8%
Personal Inc. ($1k)	0.019	13.1%	0.008	12.0%	0.018	15.4%	0.024	26.2%	0.009	9.3%
Year Effects	0.001	0.8%	0.001	1.3%	0.001	0.6%	0.001	0.6%	0.001	1.5%

Notes: Numbers reported reflect the influence of each covariate in the change of the Black coefficient from the bivariate to the full controls specification. The sum of an individual column will fully describe the Black coefficient change from the bivariate case (Table 3) to the specification with full controls (Table 4). Each specification includes all variables from Table 4 and has 98,379 observations.

Table 6: Face Value of Life Insurance ($1k)

Black	-37.025***	0.723	-75.084***	2.718
	(2.378)	(2.092)	(5.333)	(4.387)
Age 25-39		-3.905		23.319***
		(3.002)		(6.902)
Age 30-34		21.892***		72.061***
		(4.054)		(7.39)
Age 35-39		19.657***		76.185***
		(3.195)		(6.379)
Age 40-44		17.673***		77.382***
		(3.275)		(6.288)
Age 45-49		8.831***		69.879***
		(3.159)		(6.227)
Age 50-54		1.633		66.562***
		(3.382)		(6.557)
Age 55-59		-1.396		72.517***
		(3.557)		(6.979)
Age 60-64		-13.281***		63.840***
		(3.504)		(7.403)
<12th Grade		-7.215***		-48.126***
		(1.665)		(4.916)
Some College		12.074***		24.167***
		(1.801)		(3.26)
College Degree		52.984***		74.740***
		(3.211)		(4.542)
Male		29.330***		41.017***
		(1.589)		(2.567)
Married		28.196***		48.831***
		(1.881)		(3.445)
Unmarried Partner		12.375***		-1.833
		(3.518)		(7.968)
Child		24.226***		30.570***
		(1.995)		(3.328)
Good Health		6.612***		30.684***
		(1.967)		(4.623)
Net Worth ($1 mill.)		1.214		0.609
		(1.646)		(1.696)
Owns House		20.979***		45.805***
		(2.415)		(4.393)
Mortgage		11.568***		30.592***
		(2.013)		(3.719)
Employed		-5.679**		43.359***
		(2.262)		(4.244)
Personal Income ($1k)		15.892***		18.875***
		(0.805)		(0.93)
Model	OLS	OLS	Tobit	Tobit

Notes: There were 26,847 observations in each regression using the 2001 SIPP panel. *** p<0.01, ** p<0.05, * p<0.10. Regressions use individual sample weights and standard errors are clustered at the household level. Controls also include year fixed effects. The face value of life insurance is measured in thousands of dollars.

Table 7: Reconciling Results with Previous Work - Family Structure, Weighting, Years and Data Sources

	All Years		2001		2004		2010	
SIPP								
Any Life Insurance	0.002	0.006	-0.005	0.001	0.006	0.014	0.007	0.003
	(0.008)	(0.008)	(0.015)	(0.014)	(0.014)	(0.012)	(0.015)	(0.014)
Face Value ($1k)	-12.13*	-10.84*	-12.13*	-10.84*	.	.	.	.
	(6.61)	(5.95)	(6.61)	(5.95)				
SCF								
Any Life Insurance	0.053***	0.044***	0.079**	0.052	0.033	0.022	0.061**	0.062**
	(0.015)	(0.013)	(0.031)	(0.032)	(0.038)	(0.032)	(0.029)	(0.026)
Face Value ($1k)	-12.62	-75.27	43.93	18.74	-65.03	-183.64	-36.01	-24.69
	(37.72)	(242.54)	(44.82)	(346.09)	(91.47)	(511.10)	(76.01)	(569.69)
Weights Included?	Yes	No	Yes	No	Yes	No	Yes	No
SIPP Sample Size	61,557	61,557	17,207	17,207	25,542	25,542	18,808	18,808
SCF Sample Size	11,535	11,535	2,169	2,169	2,088	2,088	2,777	2,777

Notes: Coefficients for Black reported where *** p<0.01, ** p<0.05, * p<0.10. Linear Probability Model used to estimate specifications with Any Life Insurance as the dependent variable and Tobit regressions for specifications with Face Value as the dependent variable. All years of SCF includes 2001, 2004, 2007, 2010 and 2013. In addition to the covariates from Table 4, variables for smoking status, bequest motives and risk aversion included for SCF regressions.