

University of Michigan Law School

## University of Michigan Law School Scholarship Repository

---

Law & Economics Working Papers

---

1-18-2022

### Racial Discrimination in Life Insurance

**William G. Gale**

*Brookings Institution*

**Kyle D. Logue**

*University of Michigan Law School, klogue@umich.edu*

**Nora Cahill**

*Tax Policy Center*

**Rachel Gu**

*Brookings Institution*

**Swati Joshi**

*Brookings Institution*

Follow this and additional works at: [https://repository.law.umich.edu/law\\_econ\\_current](https://repository.law.umich.edu/law_econ_current)



Part of the [Insurance Law Commons](#), [Law and Economics Commons](#), [Law and Race Commons](#), [Social and Cultural Anthropology Commons](#), and the [Social Psychology Commons](#)

---

#### Working Paper Citation

Gale, William G.; Logue, Kyle D.; Cahill, Nora; Gu, Rachel; and Joshi, Swati, "Racial Discrimination in Life Insurance" (2022). *Law & Economics Working Papers*. 217.

[https://repository.law.umich.edu/law\\_econ\\_current/217](https://repository.law.umich.edu/law_econ_current/217)

This Article is brought to you for free and open access by University of Michigan Law School Scholarship Repository. It has been accepted for inclusion in Law & Economics Working Papers by an authorized administrator of University of Michigan Law School Scholarship Repository. For more information, please contact [mlaw.repository@umich.edu](mailto:mlaw.repository@umich.edu).

## **Racial Discrimination in Life Insurance**

William Gale  
*WGale@brookings.edu*

Kyle D. Logue  
*klogue@umich.edu*

Nora Cahill  
*NCahill@brookings.edu*

Rachel Gu  
*RGu@brookings.edu*

Swati Joshi\*  
*SJoshi@Brookings.edu*

January 2022

\*Gale is the Arjay and Frances Fearing Miller Chair and Director, Retirement Security Project, in the Economic Studies Program at the Brookings Institution. Logue is the Douglas A. Kahn Collegiate Professor of Law at the University of Michigan Law School. Cahill is a research assistant, Joshi is a senior research assistant, and Gu was a 2021 summer/fall intern, at Brookings. The authors thank the editor, Tony Webb, anonymous referees, Camille Busette, Sandy Darity, Jr., Raffi Garcia, Timothy Harris, Anton Korinek, Rob McClelland, Robert Pozen, and Aaron Yelowitz for helpful comments and Thomas Roberts for helpful background work. The views expressed here are solely those of the authors and should not be attributed to any other person or any organization.

## ABSTRACT

We examine the historical and statistical relationship between race and life insurance. Life insurance can play a central role in households' financial security. Race has played an important and changing role in the provision of life insurance in the U.S. from slave insurance before the Civil War, to "Scientific Racism" continuing into the 20<sup>th</sup> century, to policies that do not explicitly mention race in recent decades. In empirical work using new data, we confirm earlier work showing that Black individuals have higher life insurance coverage rates than white individuals, controlling for observable characteristics. We find no difference in the likelihood of purchasing coverage—for Black individuals versus white individuals—in states with strong versus weak anti-discrimination laws. We also find that the presence of strong anti-discrimination laws tends to reduce overall life insurance coverage – by about 3 percentage points. We present some evidence that this finding is due to a generally stronger regulatory stance in the state rather than the specific impact of the anti-discrimination life insurance law. This analysis bears on the presence of discrimination in the current life insurance industry as well as related issues like the financial status of minority households.

## KEY TAKEAWAYS

- The life insurance industry has a long history of racial discrimination, but the current status of such discrimination is unclear.
- Using 2014 SIPP data, we find, consistent with previous research, that Black individuals are more likely to have life insurance than white individuals, controlling for other observable characteristics.
- Using novel data on the strength of anti-discrimination rules in life insurance in each state, we find no difference in coverage rates for Black versus white individuals in states with strong versus weak anti-discrimination laws. We find that overall life insurance coverage in states with strong anti-discrimination laws is roughly 3 percentage points lower than those with weaker laws and present evidence that the difference is due to a generally stronger regulatory stance in those states rather to the anti-discrimination laws per se.

Life insurance plays an important role in people’s planning for and financial management during retirement. During working years, households use life insurance to protect against the risk that breadwinners will die and leave the rest of the family with reduced resources. In retirement, life insurance policies that contain investment features can help retirees manage their wealth. Likewise, life insurance can be a valuable planning tool for households that feel they are over-annuitized—perhaps as a result of mandatory annuitization through Social Security, for example—and would like to increase intended bequests, given their net worth (Bernheim 1991; Gale and Scholz 1994). Hartley, Paulson, and Powers (2017), using data from the 2013 Survey of Consumer Finances (SCF), report that the four most common (non-exclusive) reasons people purchase life insurance are to cover burial and final expenses (51 percent), replace lost income (34 percent), pay off mortgage in case of death (26 percent), and transfer wealth to the next generation (24 percent).

Like many other major facets of the American economy, the life insurance industry has roots in the exploitation of Black Americans. As discussed below, from slave insurance in the 18<sup>th</sup> and 19<sup>th</sup> centuries, to “Scientific Racism” that continued into the 20<sup>th</sup> century, to policies that do not explicitly mention race in more recent decades, race has played an important and changing role in the life insurance industry. This paper explores the extent to which life insurance sold today continues to show signs of racial discrimination, with “racial discrimination” in this context referring to any race-based differences in premiums or access to coverage, whether based on invidious stereotypes, valid actuarial data, or some combination of the two. Any racial discrimination in life insurance markets would obviously be a cause for concern, for reasons discussed in the Conclusion.

Although racial discrimination has existed in life insurance markets in the past (in very obvious ways discussed in Section I), it is unclear whether it continues to exist today, for a number of reasons. Begin with the observation that there is no evidence (of which the authors are aware) of any life insurance company in the U.S. currently using race explicitly as part of its underwriting practices, in terms of deciding whether to offer coverage, how much, or at what price. It is difficult to prove a negative, but because such a practice would necessarily be public, it seems likely that it would have been reported in the press by now if insurers were doing it. There have been no such reports. This fact is especially interesting given that racial discrimination in life insurance, even the form of explicitly charging differential premiums based on race, is legal in many states. Insurance markets—including those related to discrimination—are regulated mostly at the state level and thus can vary substantially across geographic areas. Remarkably, as of 2012 (the most recent year for which there are data), only 17 states explicitly prohibited insurance companies from using race as a determinant of payout and premiums (Avraham, Logue, and Schwarcz 2014). Also at play is the fact that life insurance companies, even if they do not use race explicitly, use algorithms to help set rates that may contain implicit biases or use proxy variables (such as zip code or credit score) that correlate with race (O’Neil 2016). Only a handful of states impose any limits at all on the use of zip code or credit scores specifically with respect to life insurance, and, again, there is no federal limitation (Avraham, Logue, and Schwarcz 2014). Thus, whether or not insurance companies use race explicitly in pricing their life insurance policies, it is still possible that race plays a role.

In this paper, we examine historical and statistical relations between race and life insurance. Section I provides a brief overview of the history of race and life insurance in the

United States, from pre-Civil War beginnings to the post-war development and subsequent decline of race-based premiums and plans. The history is relevant today because the current behavior of individuals and life insurance companies does not occur in a historical vacuum. Rather, it is the result of the evolution of the industry and of race relations within society.

In section II, we review previous work on race and life insurance as prelude to our new empirical analysis. In section III we use the 2014 Survey of Income and Program Participation (SIPP) to examine the relation between race and life insurance coverage. Our first set of results show that controlling for observable characteristics, Black individuals are somewhat *more* likely to hold life insurance than white individuals. This result is consistent with the findings of Harris and Yelowitz (2015), who use earlier years of individual data in the SIPP and of Hartley, Paulson, and Powers (2017) who use 2013 household data in the SCF. This result presents an interesting contrast to a vast number of studies (cited below) that show that Black households hold less overall wealth than white households with the same observable characteristics.

This initial finding—that Black individuals are more likely to have life insurance than white individuals—is consistent with the absence of racial discrimination in life insurance markets, but it is not definitive. For example, Black individuals have lower life expectancy than white individuals, controlling for observable factors. Thus, if life insurance companies do not take race into account in their pricing practices, then on average life insurance will be a better deal for Black individuals than white individuals. Controlling for other factors, Black individuals should then be more likely to purchase life insurance.<sup>1</sup>

But there are also several reasons why the result does not definitively show the absence of racial discrimination. First, the estimated difference in life insurance coverage across racial groups may be inconsistent with the quantitative predictions from a detailed simulation model that incorporates factors like risk aversion, differences in mortality, etc. That is, once such factors are taken into account, it could be that we should expect Black individuals to be substantially more than 3.9 percentage points more likely to purchase life insurance than the average. Second, the coefficient on race could be reflecting the influence of unobserved factors that vary by race, such as risk aversion, the *de facto* insurance provided through extended family networks (though we control for nuclear family characteristics), or trust in life insurance companies or agents.

To control for these unobserved factors and to examine the impact of state anti-discrimination statutes in life insurance, in our second set of results we merge SIPP data with an ordinal ranking code developed by Avraham, Logue, and Schwarcz (2014). Their code describes the strength of anti-discrimination laws in all types of insurance across political jurisdictions (50 states and Washington, DC). Included are codes for racial discrimination in life insurance. With this variable, we are able to control for the strength of the anti-discrimination law in the political jurisdiction where the individual lives, and we are able to examine interactions between that variable and the individual's race.

---

<sup>1</sup> In contrast, retirement products like defined benefit plans and annuities have the opposite characteristic: if they are priced without regard to race, Black individuals, with shorter life expectancy than white individuals, will receive a worse deal on average. Social Security is a more complicated situation, since it pays benefits as an annuity but has a progressive structure and Black workers on average earn less than white workers.

Importantly, this also allows us to capture the unobserved differences by race in the coefficient on the race variable.<sup>2</sup> Thus, our regressions provide information on how coverage rates in the aggregate and differentially by race vary with the strength of anti-discrimination laws.

With this data set, we do not find differential likelihoods of having coverage for Black individuals versus white individuals in states with strong versus weak anti-discrimination laws. We also find that states with strong anti-discrimination laws in life insurance tend to have lower overall life insurance coverage—by about 3 percentage points. In sensitivity tests of this result, however, we find evidence consistent with the view that the strong anti-discrimination laws in life insurance are proxying in the regressions for more stringent insurance regulation generally at the state level.

One interpretation of our results is that we have found no evidence of racial discrimination in life insurance markets, specifically because of the absence of likelihood-of-coverage differentials between states with strong and weak anti-discrimination laws. On this view, if racial discrimination in life insurance existed, then we would expect to see a higher relative likelihood of Black individuals having life insurance in the states with stricter anti-discrimination laws compared with the states with weaker such laws; the idea being that insurers would be less likely to discriminate in the stricter states than in the weaker states. But we do not see that pattern. On the other hand, given our finding that the strength of anti-discrimination laws on the books seems to be more of a proxy for the overall stringency of states' insurance regulatory environment, rather than a measure of the difference of the states' relative strictness with respect to racial anti-discrimination law in life insurance, our study provides one piece of evidence but fully resolving whether discrimination continues to exist would require additional data and suggests a need for future work.

Section IV provides a brief conclusion. Coupled with other recent research (Clark et al. 2021; Yakoboski, Lusardi, and Hasler 2020; and Hou and Sanzenbacher 2021), our results help shed light on the financial status of minority households. Nevertheless, developing a better understanding why there is a substantial Black-white gap in wealth and retirement saving but essentially no life insurance coverage gap (controlling for observable characteristics) would be of interest.

## II. HISTORICAL DEVELOPMENTS

### A. Pre-Civil War

During the 18<sup>th</sup> and most of the 19<sup>th</sup> century, white Southerners tended to see life insurance for themselves and their loved ones as morally problematic because it placed a value on human life (Murphy 2005; Agesa, Agesa, and Berry 2011; Lurvink 2020). Yet slave owners were eager to buy life insurance covering enslaved people, who were regarded as property.

---

<sup>2</sup> As a matter of logic, it is possible that differences in unobserved variables between Black and white individuals are different in states with strong anti-racial discrimination statutes than in states with weak anti-racial statutes, in which case the coefficient on our interaction term could pick up other factors besides the impact of the law. We suspect, however, that any racial differences in unobserved variables on an overall basis are far larger than differences between the races across particular states.

Policies were sought to compensate owners for the loss of enslaved people who were highly skilled and hired out, or those who worked in dangerous settings. Slave insurance policies were inherently risky, however, and insurers were cautious in underwriting the lives of people who were so often abused and overworked. As a result, companies were reluctant to sell slave policies, often only doing so with stringent terms and high premiums (Agesa, Agesa, and Berry 2011). Only about three percent of industrial slaves—and significantly fewer of those enslaved on plantations—were insured in the 1850s, the peak decade of slave insurance (Savitt 1977).

In the North, the life insurance market catered to the white, urban middle class (Agesa, Agesa, and Berry 2011; Murphy 2005). The market for life insurance grew over the 19<sup>th</sup> century due to the combination of industrialization, social change, and economic vulnerability (Heen 2009). While some life insurance providers, including the “Big Three” insurance companies—Prudential, Metropolitan, and John Hancock—sold policies to African Americans, Black customers were overwhelmingly classified as “excessive mortality risks,” facing higher premiums and more limited policy choices than their white counterparts did, based not on actuarial data but solely on their race (Heen 2009). Many life insurers refused to sell policies to Black clients altogether.

## **B. Race-Based Policies and Scientific Racism**

Life insurance discrimination during the Jim Crow era fell into three categories: refusal to provide service, dual rates, and dual plans.

Refusal to provide service was not uncommon. As Black customers began purchasing policies, Prudential began conducting statistical studies into mortality differentials, soon finding that its Black policyholders had shorter life expectancies, and thus higher mortality risks, than white policyholders. In 1881, Prudential announced that all industrial life insurance policies—a new type of low-premium life insurance that gained popularity in the 1870s—held by Black adults would be worth one-third less than those held by white people, but weekly premiums would remain the same (Haller 1970; Heen 2009). Other companies followed Prudential’s example. Due to growing discrimination among insurance companies, several states passed anti-discrimination laws in the 1880s and 1890s preventing insurance companies from selling race-based policies.<sup>3</sup> In response, all the “Big Three” insurers (Prudential, Metropolitan, and John Hancock) stopped selling policies to Black customers in these states, and Prudential eventually stopped soliciting Black business at all during this period (Haller 1970; Paltrow 2000a; Heen 2009).

Under dual-rate discrimination, companies used segregated mortality tables to charge Black customers higher premiums for similar policies, a practice that, at MetLife, did not end until 1935 (Paltrow 2000a; McGlamery 2009). To be clear, mortality rates differed significantly among white and Black Americans at this time. At the start of the 20<sup>th</sup> century, the gap in life expectancy between white and non-white Americans was about 14.6 years (Centers for Disease Control 2017). But dual-rate discrimination was about more than differences in life expectancy.

---

<sup>3</sup> Between 1884 and 1902, anti-discrimination laws regarding life insurance were enacted in Connecticut, Massachusetts, Michigan, Minnesota, New Jersey, New York, Ohio, and Rhode Island. Rhode Island repealed the law in 1906. Each of the other rates is classified in the strong anti-racial discrimination category in the statistical analysis below, based on 2012 law (Avraham, Logue, Schwarcz 2014).

First, it was fueled by “Scientific racism,” characterized by a statistician at Prudential named Frederick Hoffman. Scientific racism justified insurance discrimination by assuming that lower life expectancies among Black Americans were due to inherent differences between white and Black people, rather than a result of environmental and economic factors caused by historical and contemporary oppression. Insurers falsely attributed differences in mortality rates to biological or genetic factors, rather than circumstance (Heen 2009). For example, Hoffman and other statisticians assumed that higher incidences of malaria and other diseases among Black communities were due to the behaviors and susceptibility of Black Americans, and that those behaviors would eventually cause the total disappearance of Black people in the U.S. (Darity 1994). As a result, insurers did not distinguish rates for Black individuals based on economic status, health, job, etc., although mortality varied significantly in different circumstances. Other differences in mortality did not motivate insurance discrimination: although women had lower mortality rates than men at every age, the same insurers that charged race-based premiums in the first half of the 20<sup>th</sup> century often did not charge gender-based premiums (Heen 2009).

Many of the same companies also engaged in dual-plan discrimination, where Black customers were banned from purchasing better-quality ordinary life insurance (or were directed away from those plans). Based on racist beliefs about Black households’ ability to budget and reliably send premium payments, insurance companies often restricted Blacks to lower quality “industrial” plans (McGlamery 2009, Paltrow 2000a). Industrial life insurance, or “burial insurance,” emerged in the 1870s to meet a growing market of low-income workers, who were attracted to the promise of a well-funded funeral (Eckholm 2006). Unlike ordinary life insurance, burial insurance required no up-front payments, involving instead premiums of a few cents a week that were collected door-to-door by insurance agents (James 1947; Heen 2009; Young 1976). Because the payouts were so low, however, burial insurance was generally a worse investment than conventional life insurance. Many households ended up paying more in premiums than their policies were worth (Paltrow 2000a; Agesa, Agesa, and Berry 2011; Cost and Coverage 1952; James 1947). The rapid growth of industrial insurance markets parallel to ordinary life insurance left opportunities for insurers to discriminate against Black customers by restricting them to lower-value industrial policies. Agents at many companies earned higher commissions for selling substandard policies to Black customers than if they sold standard ones, and some plans were simply not sold to Black customers at all (Heen 2009; McGlamery 2009; Paltrow 2000a). Some agents were dishonest, collecting more premiums than were charged by the insurance company (Young 1976; Heen 2009).

In successful responses to legal challenges, insurers used superficially race-neutral reasoning to defend the higher premiums and restricted policy options they gave to Black customers, claiming that their treatment was due to other factors. For example, MetLife maintained a list of occupations deemed dangerous enough to warrant increased premiums. This list included jobs that were not dangerous, but were primarily held by Black workers, such as bellhops, hotel housekeepers, and porters (Paltrow 2000a). Registered nurses working in tuberculosis wards (who were disproportionately white) were classified as lower risk than hospital kitchen workers (who were disproportionately Black). Some insurers labeled majority-Black neighborhoods as high-risk areas where policies carried higher premiums and lower benefits, thus allowing the companies to claim that the adjustments were geographic, rather than racial, in nature (Paltrow 2000a, Heen 2009).

### C. Benevolent Societies and Black-owned Insurance Companies

Criticism of racial discrimination in life insurance was common in Black communities. Black Americans argued that patronizing Black-owned life insurance companies would support Black communities and would lessen racism in life insurance markets (Mitchem 1939). Black newspapers also criticized white insurance companies that charged Black policyholders higher premiums or didn't solicit Black business at all (New York Amsterdam News 1938, 1939; New York Age 1938).

Black Americans often turned to local Black benevolent and mutual aid societies. These groups became centers of religious and social activity, offering illness, unemployment, and death benefits, financed by membership fees (Heen 2009). Black-owned insurance companies presented an alternative to the "Big Three" and other large, white-owned insurers, and some societies evolved into early Black-owned industrial insurance companies (Spencer 1985). Hartley, Paulson, and Powers (2017) note that the prevalence of such institutions may help explain high insurance rates among Black individuals today.

Nevertheless, it is worth pointing out that the societies often struggled to access capital, maintain membership, and cover benefits (Chapin 2012; Garrett-Scott 2016). Shifts in social norms and legal rules that favored greater racial equality, before and during the Civil Rights Movement (discussed below), were not sufficient to make the market for Black-owned insurers sustainable. Rising incomes among Black workers increased demand for life insurance, but Black households turned increasingly to white-owned insurance companies, because the regulatory landscape and market discrimination largely relegated Black insurers to substandard policies that were unattractive to the growing Black middle class (Chapin 2012). Also, the rise of employer-provided group insurance largely left out Black businesses, most of which were too small to qualify for plans and government subsidies under state regulations, and Black churches, mutual aid societies, and other organizations, which were also left out by regulations. Because of this, white-owned insurance companies benefited from growing business from white-owned firms buying group insurance for employees, leaving behind Black insurers. During the rise of the Black middle class in the mid-20<sup>th</sup> century, white insurers began to market more aggressively toward Black customers, further cutting out Black insurance companies (Chapin 2012).<sup>4</sup>

### D. Decline of Explicitly Race-Based Policies

---

<sup>4</sup> Discrimination was also prevalent in other forms of insurance. Black drivers had a difficult time obtaining auto insurance because custom dictated that the Black driver always paid for damages after getting in an accident with a white driver, regardless of whose fault it actually was. While the history of auto insurance policies has received virtually no analysis, Black newspapers and NAACP records show that, throughout the interwar years, most insurers denied Black drivers given that they would always be held at fault if they got into an accident and found themselves in court. Some companies were more welcoming: in 1933, a representative from Equitable Building told the *Baltimore Afro-American* that "Our company as a general rule does not accept colored business, but when they are in business and in a profession it makes a difference and they are considered as any other risk." In 1939, a court-ordered investigation in Illinois found that of 47 surveyed insurers, 44 said that they refused to insure Black people, and three said they would under "certain circumstances." The NAACP received correspondence from several members seeking insurance and began challenging state laws, but this was difficult in states where auto insurance was not mandatory or linked to driving privileges such as obtaining a license or registering a car. Notably, future Supreme Court Justice Thurgood Marshall had his insurance cancelled in 1940 on grounds that he lived in the "congested area" of Harlem, making the case difficult to fight. For more details, see Bay (2021).

Following World War II and revelations about Nazi scientific racism, insurers began phasing out the use of explicitly discriminatory insurance policies (Heen 2009). Between the 1950s and the 1980s, large companies like Metropolitan Life expanded Black individuals' access to all their insurance policies and eliminated dual-rate systems (Paltrow 2000a). These changes coincided in time with, and were likely at least partially caused by, a significant decline in the racial mortality gap, along with social pressure during the Civil Rights Movement to reduce racial inequality (Heen 2009).<sup>5</sup> The demand for industrial policies declined, as incomes increased for Black Americans and deregulation exposed the high cost and inefficient business structure of industrial insurance policies.

This was not a uniform movement, however, and did not eliminate racism in life insurance. Some individual companies, like Life Insurance Co. of Georgia, kept their own separate tables for white and Black clients well into the 1970s (Paltrow 2000c). New race-merged mortality tables used by many companies in the early 1960s had large "windows," allowing insurers to charge different rates based on the racial composition of their customer base (Heen 2009).

### **E. Changes Since 2000**

Recent litigation involving major insurance companies brought renewed scrutiny of discriminatory practices in the life insurance industry (Donn 2004). While most insurers stopped issuing new explicitly race-based policies in the mid-20<sup>th</sup> century and industrial insurance declined steeply since 1960, these actions did not end discrimination in life insurance. When insurers ended many of their practices, they failed to correct the policies that had already been sold, leaving many people with old policies that were based on racist practices that raised their premiums or left them with less-valuable policies (Paltrow 2000a; McGlamery 2009). The continued existence of race-based insurance policies provided a foundation for class-action lawsuits, spurring a huge number of settlements between 2000 and 2010.

The wave of litigation started in 2000 when Bill Nelson, Florida's Insurance Commissioner and former Senator, filed a 'cease-and-desist' order charging American General Life and Accident Insurance with continuing to collect inflated premiums on racially priced life insurance products sold to Black policyholders through the 1960's. Two months later, in an out-of-court settlement, the company agreed to pay \$206 million in refunds and restitution to 9.1 million Black policyholders. A series of suits and settlements followed (Treater 2000). Appendix Exhibit 1 describes several large lawsuits in the 2000s that forced insurers to pay restitution to Black policyholders.

Today, the role that race plays in the life insurance market is unclear. Recent research has shown that, after controlling for other observable characteristics, Black Americans are more likely to hold a life insurance policy than white Americans (Harris and Yelowitz 2015) but may hold smaller policies (Gutter and Hatcher 2008). While the first result is encouraging, given the history of racism in life insurance markets, there are concerns, nevertheless, that discrimination has not been eliminated.

First, insurance is largely regulated at the state level, suggesting the possibility that the

---

<sup>5</sup>Harper et al. (2007) show that the life expectancy racial gap fell substantially from 1900 to 1960.

extent of racist policies allowed to persist could be uneven across the country. As discussed further below, while many states limit or prohibit racial discrimination in life insurance, it remains legal in most states (Avraham, Logue, and Schwarcz 2014). Federal law, specifically Section 1981 of the Civil Rights Act of 1866, prohibits intentional discrimination on the basis of race in the enforcement of contracts; however, because of the difficulty of proving the level of discriminatory intent required in such cases, this statute is rarely invoked against insurers. Moreover, in the only reported case in which the issue was litigated to conclusion (and not settled), the court held that, so long as race-based life insurance premiums were based on sound actuarial data, they do not run afoul of Section 1981. This exception is discussed in Avraham, Logue, and Schwarcz (2014). In addition, Title VII of the Civil Rights Act of 1964 forbids employers from discriminating on the basis of a range of characteristics, including race, and so would apply to employer-sponsored life insurance policies.

Second, the use of artificial intelligence (AI) methods to generate insurance pricing—in particular, the phenomenon of proxy discrimination, wherein an algorithm can discriminate against groups either intentionally or inadvertently—can harm minorities by using features correlated with policyholder race as a substitute for explicitly using race in order to satisfy anti-discrimination laws (Prince and Schwarcz 2020). Proxy discrimination takes advantage of characteristics like surname, zip code, or home address to work around laws barring explicit consideration of race as a factor in hiring practices, for example (Prince and Schwarcz 2020; O’Neil 2016). And, of course, the problem is far broader than AI; efforts to use zip code to discriminate against Black customers without explicitly naming race have long been prevalent in auto insurance, property insurance, and other industries (Fergus 2013).<sup>6</sup>

In 2020, the National Association of Insurance Commissioners launched a Special (EX) Committee on Race and Insurance to investigate racial disparities in insurance markets. The Committee will examine the extent to which current practices involve systemic barriers to access for people of color, focusing particularly on racial disparities in the underwriting process (National Association of Insurance Commissioners 2021). While it has not yet released its report, the Committee is an example of the continuing effort to research and combat the effects of racism in life insurance markets.

To provide further evidence on these issues, we turn to a review of previous work in section II and new empirical estimates in section III.

## II. Related Work

Despite the long history of race and life insurance, there is little empirical work on the topic to date. Hiltz (1971) presents evidence that, after controlling for income, Black households were roughly as likely as white households to hold insurance but tended to hold much smaller policies. Banning (2015) argues that cultural differences raise risk aversion and life insurance among Black individuals relative to white individuals. Using the SCF, Thompson and Suarez

---

<sup>6</sup> Researchers at the RAND Corporation have shown the ability to obtain a 90-96 percent match on race using a method called “Bayesian Indirect Surname Geocoding” which uses only a person’s surname and the racial/ethnic composition of their neighborhood to identify the probability that a given person belongs to one of a set of mutually exclusive ethnic groups. Thus, fairly reliable race data can be constructed from minimal amounts of already-public information. (Fremont et al. 2016).

(2015) show that, controlling for other observable characteristics and relative to white households, Black households exhibit more risk aversion (which presumably raises the demand for life insurance) and are less likely to have a longer investment horizon (which presumably reduces life insurance demand). It is unclear whether these differences reflect underlying preferences or different social and economic circumstances facing Black and white households.

Gutter and Hatcher (2008), using 2004 data from the Survey of Consumer Finances (SCF), find that, after controlling for other factors, married Black and white households were about equally likely to hold life insurance, but that white households insured a greater share of the human capital than Black households.

Harris and Yelowitz (2015) use data from several years of the Survey of Income and Program Participation (SIPP) and replicate the life insurance coverage result when restricting the sample to married couples. They also show, however, that family structure varies significantly across Black and white households. When including single as well as married people and controlling for other observable characteristics, they find that Black individuals are more likely—by about 3 percentage points—than white individuals to hold some type of life insurance, with larger values for employer-sponsored insurance and whole life insurance. They find no statistically significant difference in the face value of life insurance holdings, but caution that the survey question may not be well understood. Guillemette et al. (2015) provide additional evidence on how household size and life insurance choices vary between minority households (among which the largest group consists of black households) and white households.

Hartley, Paulson, and Powers (2017) show that Black and white households have similar likelihoods of owning life insurance, though both groups saw declines in coverage from 1989 to 2013. They highlight the contrast between small racial differences in life insurance compared to large racial differences in other assets and wealth. They speculate that the high rate of life insurance coverage among Black households is due either to the historical role of Black-owned insurance companies and/or the lower life expectancy of Black individuals relative to white individuals.

Bernheim et al. (2003), using the data from the Health and Retirement Study (HRS) and analysis from a sophisticated life cycle simulation model, find that among married households, Nonwhite couples face more financial vulnerabilities than white couples do, even after accounting for life insurance purchases.

There is a related literature on Black/white wealth gaps and the role of life insurance in bolstering that difference. The racial wealth gap is well documented and shows that Black households have lower wealth than white households, controlling for other observable household characteristics.<sup>7</sup> Jiakoplos and Menchik (1997) find that differences in inheritance account for 10-20 percent of the wealth gap between white and Black households, controlling for other factors. Harris and Yelowitz (2015) argue that their results imply that life insurance holdings do not play an important role in exacerbating wealth inequalities between races.

---

<sup>7</sup> See, for example, Altonji and Doraszelski (2005), Chetty et al. (2018), Gale, Gelfond, and Fichtner (2018), Gittleman and Wolff (2004), Hamilton and Darity, Jr., (2010), Scholz and Levine (2003), Shapiro, Meschede, and Osoro (2014), Smith (1992), Taylor et al. (2011), Thompson and Suarez (2015), and Wolff (2018).

A related issue is the role of expected lifespan on wealth accumulation and by extension life insurance purchases. Black individuals have on average experienced shorter lifespans and higher expected mortality rates than white individuals, though the mortality gap fell by almost half between 1990 and 2018 (Schwandt et al. 2021). As noted earlier, if life insurance pricing does not take race into account, then life insurance represents a better return for Black families than white families. Attanasio and Hoynes (2000) and De Giorgi and Gambetti (2020) show how shorter life expectancy can reduce wealth accumulation at all stages of the life cycle.

### III. Empirical Results

#### A. Data

We use data from the first wave of the 2014 panel of the Survey of Income and Program Participation (SIPP). SIPP is a nationally representative panel survey that is administered by the U.S. Census Bureau and collects information on individuals' participation in government programs and their demographic and economic characteristics. The key motivations for using SIPP data include the broad age range, substantial sample sizes, and data on an individual basis regarding life insurance and state of residence. The survey asks about life insurance coverage and the cash and face value of policies. We focus on coverage because of data concerns with the cash value and face value questions.<sup>8</sup>

We restrict the sample to white and Black adults aged 25-64 in order to focus on the working age population most likely to purchase life insurance. We limit our analysis to data for white and Black individuals in the interest of simplicity and in order to focus on the type of racial discrimination that has been most prevalent historically in the life insurance market.

We drop individuals with imputed life insurance values due to criticism of SIPP imputation methodology (Curtin, Juster, and Morgan 1989; Hoynes, Hurd, and Chand 1998).<sup>9</sup>

We merge SIPP data with a code developed by Avraham, Logue and Schwarcz (2014) that provides an ordinal ranking of how restrictive a political jurisdiction (each of the 50 states and Washington, DC) is in limiting the use of race as a determinant of life insurance premiums and payouts (as of 2012).<sup>10</sup> They split jurisdictions into seven qualitative categories, ranging from the most lenient (those with a statute allowing underwriters to take race into account), to the strictest (those with a law that expressly prohibit insurers from taking race into account). This information allows us to measure the impacts of anti-discrimination laws on life insurance

---

<sup>8</sup> Harris and Yelowitz (2015) use SIPP data from earlier years in their study. One limitation of the 2014 SIPP, the first panel to use the redesigned 2010 methodology, is that the survey no longer asks about employer sponsored life insurance. The 2010 methodology was created to combine core questions with the previously less frequently asked topical module questions into one survey. Approximately two-thirds of respondents misinterpreted questions because of confusion around the face value and cash value of life insurance (Gottschalk and Moore 2007) in the older survey methodology, and there is no evidence that this issue has been ameliorated.

<sup>9</sup> Dropped imputed observations represent approximately 16% of the sample.

<sup>10</sup> Because the ordinal rankings focus on the 50 states and Washington, DC, we drop individuals that do not reside in those areas, which reduces the sample by 0.08 percent.

ownership by race.

Exhibit 2 shows the distribution of the ordinal rankings across jurisdictions (Appendix Exhibit 2 provides details for each jurisdiction). Remarkably, as of 2012, only 17 jurisdictions specifically outlawed the use of race in determining life insurance premiums and payouts. Following the discussion in Avraham, Logue, and Schwarcz (2014), we distinguish in the regressions below between jurisdictions with the two strongest types of laws (forbidding or limiting the use of race in determining life insurance rates) and the other cases. For some summary data, we also distinguish between states with laws that are weak (express permission to discriminate, no mention, or general unfair discrimination limitation) and intermediate (limitation/prohibition only regarding issuance/cancellation/non-renewal or limitation/prohibition regarding rates).

Several features of the state laws are worth noting. There is no obvious geographical pattern as to which states have strong anti-discrimination laws (Exhibit 1). Of the original 11 states in the Confederacy, 4 have strong laws, 4 intermediate, and 3 weak, about the same relative proportions as the nation as a whole. States that banned discrimination by race in the 19<sup>th</sup> century continue to have strong anti-discrimination laws (Avraham, Logue, and Schwarcz 2014).<sup>11</sup> The presence of strong anti-discrimination laws is not correlated with Black population share, which averaged 14 percent in states in each category (Jones 2019).<sup>12</sup>

Turning to the SIPP data, it turns out that the 2014 SIPP records no Black respondents from 5 jurisdictions (Hawaii, Idaho, Maine, North Dakota, and South Dakota). In addition, in regressions we ran that included state dummies, dummies for 6 states (Alaska, Colorado, Florida, Georgia, Kansas, and New Mexico) were tossed out because of collinearity problems. Thus, our discussion of the SIPP data and regressions focuses on individuals in the remaining 40 political jurisdictions.

Exhibit 3 shows summary statistics for the remaining overall sample and by race. About 43 percent of the overall sample has life insurance, but Black individuals are about 11 percentage points less likely to have life insurance than white individuals.<sup>13</sup> About 62 percent of the sample

---

<sup>11</sup> Between 1884 and 1902, anti-discrimination laws regarding life insurance were enacted in Connecticut, Massachusetts, Michigan, Minnesota, New Jersey, New York, Ohio, and Rhode Island. Rhode Island repealed the law in 1906. Each of the other states is classified in the strong anti-racial discrimination category in the statistical analysis below, based on 2012 law (Avraham, Logue, Schwarcz 2014).

<sup>12</sup> To calculate this figure, we use weighted SIPP data to generate the Black population share within each state, and then take a simple (unweighted) average across states. There is some evidence that stronger anti-discrimination regulation is associated with more liberal political views. For example, in the 2012 election, President Obama won 13 of the 17 states with strong anti-discrimination laws. Also, in a Gallup survey (Jones 2019) that characterized political tendencies in each state, only 2 of the 19 “highly conservative” states had strong anti-discrimination laws, compared to about half of all other states.

<sup>13</sup> Hartley, Paulson, and Powers (2017) report that about 60 percent of households—not individuals—held life insurance in the 2013 SCF. Our results are broadly consistent with their finding since one would expect household coverage rates to be substantially higher than individual rates. While life insurance coverage has been declining over time (see Harris and Yelowitz 2015 and Harley, Paulson, and Powers 2017), the difference in life insurance coverage between Black individuals and white individuals has remained fairly constant. Harris and Yelowitz (2015)

lives in jurisdictions with strict anti-discrimination statutes. Black individuals have average lower income and average net worth and are less likely to have a college degree, be employed, own a home, or have a mortgage. As highlighted by Harris and Yelowitz (2015), Black individuals are less likely to be married and more likely to have children and not be married relative to white individuals. Conditional on being married, the probability of having a two-earner household is approximately equal across races.

Finally, to test whether the effects we find below for state-level anti-discrimination rules are correlated with stronger regulation in other areas, we use three additional variables. First, we develop an index for each state that equals the number of other insurance types (automobile, health, disability, and property/casualty) for which a political jurisdiction has strong racial anti-discrimination regulations using data from 2012 from Avraham, Logue, and Schwarz (2014).

Second, we use data from R Street’s 2012 Insurance Regulation Report Card, which measures fourteen different variables for 50 states to determine which states are effectively regulating insurance markets. We specifically use the rate regulation variable, which measures how much flexibility states provide insurance providers on how quickly rate premiums may rise. This ranges from state regulated rates (Florida) to no rate filing required at all (Illinois), with all other states falling somewhere in between. We create a dummy, with states that have no flexibility to moderate flexibility receiving a “1” for regulation, and those with above average flexibility to total flexibility receiving a “0”.

Lastly, we use data from the Mercatus Center’s StateReg project, which quantifies the number of regulatory restrictions each state’s regulations contain, as well as the industries (on a 3-digit NAIC level) these restrictions are likely to impact. Our measure uses the number of restrictions to insurance carriers and related businesses. For our purposes, the StateReg data has some limitations—the regressions are reported for 2020, whereas our analysis concerns the 2012-2014 period, and the data are only reported for 44 states and the District of Columbia.

## B. Regression Framework

We use a linear probability framework to analyze life insurance coverage and specify regressions in four forms. The first is simply a bivariate regression that controls for race:

$$LI_i = \alpha_0 + \alpha_1 * Black_i + \varepsilon_{1i} \quad (1)$$

where  $i$  indexes individuals,  $LI = 1$  if the individual has life insurance and 0 otherwise, and  $Black = 1$  for Black individuals and 0 otherwise.

The second specification controls for Census regional dummies and individual

---

report differences between Black and white individuals of 12, 10, and 11 percentage points in life insurance coverage by race from SIPP data in 2001, 2004, and 2010.

characteristics,  $X$ , and is given by

$$LI_i = \beta_0 + \beta_1 * Black_i + \beta_2 * X_i + \varepsilon_{2i} \quad (2)$$

The covariate vector  $X$  includes the variables listed in Exhibit 3: age, gender, household structure (marital status and the presence of children), income, net worth, education, home ownership, mortgage, employment, and whether the individual lives in a two-earner household. All these economic and demographic characteristics can be plausibly linked to the demand for life insurance (see, for example, the discussion in Harris and Yelowitz 2015). Our goal, however, is not so much to estimate these particular effects but to control for them so that we can discern impact of race, the state laws, and the interaction between those two variables. Accordingly, we generate categorical variables for ranges regarding age, education, income, net worth, and household structure. In the regressions, we omit the “lowest” value for each variable with multiple categories (that is, we omit 25-34 years in age, less than a high school diploma, \$0-20,000 in annual personal income, < \$10,000 in net worth, and single with no children).

In the third specification, we incorporate information about state anti-discrimination laws:

$$LI_i = \gamma_0 + \gamma_1 * Black_i + \gamma_2 * X_i + \gamma_3 * Law_i + \gamma_4 * Law * Black_i + \varepsilon_{3i} \quad (3)$$

where  $Law_i = 1$  if the individual lives in one of the 17 jurisdictions that explicitly prohibited or restricted discrimination in life insurance rates by race in 2012. Here, the coefficient  $\gamma_3$  measures how much life insurance coverage is higher in states with strict laws against racial discrimination in life insurance. The coefficient  $\gamma_4$  measures differential effect of the law on Black individuals’ life insurance coverage relative to white individuals, controlling for race and state law and other characteristics. If laws that restrict insurance companies from using race in determining life insurance premiums and payouts are effective in encouraging Black individuals to purchase insurance, the coefficient  $\gamma_4$  will be positive and significant. It merits emphasis that the regressions will not pick up any differences in the amount of life insurance that individuals hold, just whether they have any at all.

The fourth specification adds in a measure of the stringency of state regulations generally, and is given by

$$LI_i = \gamma_0 + \gamma_1 * Black_i + \gamma_2 * X_i + \gamma_3 * Law_i + \gamma_4 * Law * Black_i + \gamma_5 * REG + \varepsilon_{4i} \quad (4)$$

where REG is one of the indices described above.

In all of the regression, we cluster standard errors by state. This procedure substantially raises the estimated standard errors.

### C. Results

Exhibit 4 presents the main empirical results. The first column provides estimates of the bivariate regression in (1) and replicates the difference in life insurance coverage shown in Exhibit 2. Without controlling for any other factors, Black individuals are 10.8 percentage points less likely than white individuals to hold life insurance.

The results in the second column show that controlling for observable characteristics makes an enormous difference: with controls, Black individuals are *more* likely to hold life insurance by 3.75 percentage points. This is consistent with findings in Harris and Yelowitz (2015) that use earlier years of SIPP data.

The third column reports estimates that control for the X vector, race, the presence of strict anti-racial discrimination statutes, and the interaction between race and strict statutes. There are three results of interest, each of which more or less carries through to the subsequent specifications. First, controlling for observable characteristics, Black individuals continue to be more likely than white individuals to hold life insurance—in this specification, by 3.56 percentage points. Second, the interaction term between the indicator for Black individuals and the indicator for strong anti-discrimination laws is generally small and imprecisely estimated, and in particular, is not different from zero. There is one exception to this finding, discussed below.

Third, and perhaps most interesting, having a strong anti-discrimination law in place appears to reduce overall life insurance coverage rates. In the third column, individuals in states with strong anti-discrimination laws have overall life insurance coverage rates 3.4 percentage points ( $p=.0508$ ) below other states, controlling for observable characteristics. Because this result appears in all of the remaining regressions (with  $p$ -values  $\leq .101$ ), it is worth exploring further.

One potential explanation of this result is that, in the absence of anti-discrimination laws, insurance markets would develop a separating equilibrium where white individuals paid lower rates and Black individuals paid higher rates (reflecting, say, differences in estimated life expectancy) and each policy broke even on average for the insurance companies. In this context, an anti-discrimination law would create a pooling equilibrium, with premiums that would be higher than in the white separating equilibrium and lower than in the Black separating equilibrium. One would expect coverage rates to fall for white individuals and to rise for Black individuals. Given the larger majority of the population that is white, this pooling equilibrium could plausibly involve lower overall rates of coverage.

Before turning to the other specifications, we note that Appendix Exhibit 3 shows that the coefficients on components of X in the third column equation are consistent with intuition and previous research. Controlling for other observables, life insurance coverage rises with age, education, income, and net worth. It is higher among married individuals than unmarried individuals and higher for parents than those without children. Coverage is also higher for individuals who are employed, are in two-earner households, own their home, or have a

mortgage. Similar results (not shown) hold in the other regressions reported in Exhibit 4.

We ran a variety of sensitivity tests (not shown). First, one hypothesis is that the increasing prevalence of employer-provided life insurance should help mitigate discrimination in life insurance. While that claim seems plausible, we found no evidence that the state anti-racial discrimination laws had any differential impact on employer-based or other life insurance coverage rates using data from the 2011 SIPP, which distinguishes type of insurance policy. Second, specifications with alternative characterizations of which states had weak or strong policies did not yield different results. Third, a falsification test “passed:” relative to white individuals, black individuals in states with strong anti-discrimination laws relative to those with weak laws are not more likely to own 401(k)s or IRAs.

Fourth, we split the sample in different ways—by strength of anti-discrimination laws, by marital status, and by income (not shown). The most interesting pattern to emerge from these regressions is that the impact of strong anti-discrimination laws on overall coverage rates was consistently negative. The effect ranged from 2.8 to 4.8 percentage points. Given that with policy variation by state and clustering of standard errors by state, the effective sample size is quite small, the p-values of .101 or less suggest looking into this effect further.

In particular, an interesting question is the extent to strong anti-discrimination laws are having an independent effect on coverage versus proxying for a more stringent or onerous state insurance regulatory system more generally. To test this possibility, we show in the fourth column of Table 3 the results of adding as an explanatory variable the index we created based on the strength of anti-racial discrimination laws in other forms of insurance (automobile, health, etc.) based on Avraham, Logue, and Schwarcz (2014). Inclusion of this variable decreases the impact of the anti-racial discrimination life insurance laws (the coefficient loses significance and decreases); however, the regulatory index itself is not significant. Results using the R-Street and Mercatus variables (not shown) were in the same direction but not as precisely estimated. We also find that the regulatory index and strong anti-discrimination laws in life insurance are strongly (and significantly) correlated. This suggests that the estimated impact of the anti-discrimination laws on life insurance coverage in the third column may be proxying for the role of more stringent regulation generally in limiting life insurance coverage.

#### **IV. Conclusion**

The history of race and life insurance reflects more general trends in American society—including slave insurance before the Civil War, rampant discrimination during the Jim Crow period, and a virtual elimination of explicit racial discrimination in recent years. Whether discrimination continues to exist is less certain due to the fragmented and limited state-level regulation of the use of race, as well as potential proxies for race, in insurance underwriting and the uncertainty about the extent to which long-standing pricing algorithms—and more recently, modern AI methods—build in implicit bias and/or use proxies for race to approximate racial identity.

Against this backdrop, we examine the impact of modern anti-racial discrimination statutes (as of 2012) on life insurance coverage of different racial groups. Our most interesting finding is that individuals in states with strong anti-discrimination laws tend to have lower life

insurance coverage rates than those living in other states. We also confirm prior findings that Black individuals are somewhat more likely than white individuals to hold life insurance, controlling for observable factors.

We do not find, however, that Black individuals have lower rates of insurance coverage, relative to white individuals, in states with strong anti-discrimination laws. On the one hand, this result is plausible—we know of no major life insurer that explicitly discriminates on the basis of race. On the other hand, the result is not definitive because the variation in policies occurs at the state level, which essentially limits the number of effective observations, despite the large sample size in the SIPP.

We also find, in states with strong anti-discrimination laws in life insurance, population life insurance coverage rates tend to be somewhat smaller—by about 3 percentage points. But we also show that this effect disappears after controlling for proxies for the stringency of insurance regulations generally.

The findings leave many fruitful directions for future research. First, we do not examine the amount of life insurance that households purchase. Discrimination could conceivably impact the level of life insurance even if it does not influence the choice of whether to purchase a policy at all.

A broader issue is understanding why there is such a stark difference between the approximate equality of life insurance coverage between Black and white individuals, controlling for other characteristics, compared to the substantial differences in wealth across the groups, controlling for the same characteristics. As noted above, there is a long literature documenting pervasive and persistent Black-white differences in wealth. Hartley, Paulson, and Powers (2021) speculate that the historical role of Black-owned insurance companies may be an important factor. Recent work on wealth accumulation among minority households may also provide clues (Clark et al. 2021, Yakaboski, Lusardi, and Hasler 2020, and Hou and Sanzenbacher 2021).

A third key issue is developing a better understanding of the mechanisms behind how life insurance is bought and sold. Some life insurance is provided through employer-sponsored plans, which might raise issues about discrimination in the provision of fringe benefits (Mok and Siddique 2011). More traditional forms of life insurance are often said to be “sold, not bought.” That saying suggests that the role of the agent, and the amount of trust the policy holder has in the agent and the company, may matter a great deal. Given the history of racial discrimination in life insurance, it is not hard to see how Black individuals may have concerns over the trustworthiness of insurance companies. Similar issues, for example, arise with health insurance companies (Alsan and Wanamaker 2017; Finkelstein and McGarry 2006) or with realtors that subtly steer Black buyers to certain neighborhoods.

Finally, a more normative set of concerns relates to the issues involved in determining how to define the appropriate level of discrimination, in the broad sense of identifying differences across people. For example, in the Introduction, we identified two types of discrimination in life insurance: invidious stereotypes and actuarially based distinctions. And we said that both are causes for concern. Why is that so?

To the extent discrimination in life insurance is based explicitly on racial stereotypes, the problem is obvious. But even when such discrimination can be attributed to actuarial data, the practice is problematic for several reasons. First, racial discrimination in insurance markets, to the extent Black individuals are charged more life insurance or find it more difficult to secure coverage on account of differences in statistical life expectancy, can be seen as reproducing and reinforcing racial inequality that is, at least in part, the result of past and present racial oppression and subordination in society more broadly.<sup>14</sup> Second, the life expectancy data may not be accurate. It is, in other words, difficult to know the extent to which differences in life expectancies at a given point in time accurately reflect true patterns, since life expectancy necessarily involves projections well into the future. Third, there are reasons to worry about the unbiased nature of these particular actuarial data. As Avraham, Logue and Schwarcz (2014) note, correlations between characteristics and actuarial risk can depend on social constructs and reflect “existing norms, assumptions, and biases that frame both the collection and analysis of the data that produces risk assessments.” Or, as Glenn (2003) observes, “almost every aspect of the insurance industry is predicated on stories first, then numbers.”

Resolving these issues is clearly beyond the scope of the paper but remains an animating force for future policy analysis and research.

---

<sup>14</sup> This point is emphasized in Avraham, Logue, and Schwarcz (2014) and Abraham (1985).

## References

- Abraham, Kenneth S. 1985. "Efficiency and Fairness in Insurance Risk Classification." *Virginia Law Review*. 71: 403-451.
- Agesa, Jacqueline; Agesa, Richard; and Berry, Woodrow. 2011. "A History of Exploitation in Life Insurance." *Franklin Business & Law Journal* 2011 (3).
- Alabama Department of Insurance. 2014. "Report of Examination of Mutual Savings Life Insurance Company." *State of Alabama*.  
<https://www.aldoi.gov/PDF/Companies/Mutual%20Savings%20Life%20Insurance%20Company%2012-31-14.pdf>.
- Alsan, Marcella; and Marianne Wanamaker. 2018. "Tuskegee and the Health of Black Men." *The Quarterly Journal of Economics* 133 (1): 407-455.  
<https://doi.org/10.1093/qje/qjx029>.
- Altonji, Joseph; & Ulrich Doraszelski. 2005. "The Role of Permanent Income and Demographics in Black/White Differences in Wealth." *The Journal of Human Resources*, 40 (1), 1–30.  
<http://www.jstor.org/stable/4129562>.
- Attanasio, O., and Hoynes, H. 2000. "Differential Mortality and Wealth Accumulation." *Journal of Human Resources*, 35 (1): 1-29.
- Avraham, Ronen. 2018. "Discrimination and Insurance." In *The Routledge Handbook to Discrimination*. Routledge. <http://dx.doi.org/10.2139/ssrn.3089946>.
- Avraham, Ronen; Logue, Kyle; and Schwarcz, Daniel. 2014. "Understanding Insurance Anti-Discrimination Laws." *Southern California Law Review*, 87.  
[https://scholarship.law.umn.edu/faculty\\_articles/576](https://scholarship.law.umn.edu/faculty_articles/576).
- Banning, Kevin. "How Race and Ethnicity Affect Demand for Life Insurance." *The Southern Business Journal* 38 (1): 75-87.
- Bay, Mia. 2021. "Traveling Black: A Story of Race and Resistance." Harvard University Press.
- Belle v. Jefferson-Pilot Life Ins. Co.*, 438 F.3d 376, 445 F.3d 311 (4th Cir. 2006).
- Bernheim, B.D. 1991. "How Strong are Bequest Motives? Evidence Based on Estimated of the Demand for Life Insurance and Annuities." *Journal of Political Economy*, 99(5), 899-927. <https://doi.org/10.1086/261783>.
- Bernheim, B.D.; Forni, Lorenzo; Gokhale, Jagadeesh; and Kotlikoff, Laurence J. 2003. "The Mismatch Between Life Insurance Holdings and Financial Vulnerabilities: Evidence from the Health and Retirement Study." *American Economic Review*, 93 (1): 354-365.

- Carnegie v. Mutual Savings Life Insurance Co.*, Civil Action No. CV-99-S-3292-NE (N.D. Ala. Nov. 1, 2002).
- Centers for Disease Control. 2017. "Life expectancy at birth, at age 65, and at age 75, by sex, race, and Hispanic origin: United States, selected years 1900–2016." Centers for Disease Control. <https://www.cdc.gov/nchs/data/hus/2017/015.pdf>.
- Chapin, Christy Ford. 2012. "Going Behind with that Fifteen Cent Policy": Black-Owned Insurance Companies and the State." *Journal of Policy History*, 24 (4): 644-674. <http://doi.org/10.1017/S0898030612000231>.
- Chetty, Raj; Nathaniel Hendren; Maggie Jones; and Sonya Porter. 2018. "Race and Economic Opportunity in the United States: An Intergenerational Perspective." NBER Working Paper No. 24441. <http://www.nber.org/papers/w24441>.
- Clark, Robert; Lusardi, Annamaria; Mitchell, Olivia S.; and Davis, Hallie. 2021. "Factor Contributing to Financial Well-Being among Black and Hispanic Women." *The Journal of Retirement Summer 2021*, 9 (1), 71-97. <https://doi.org/10.3905/jor.2021.1.088>.
- "Cost and Coverage of Industrial Life Insurance." 1952. *The Yale Law Journal*, 61 (1): 46-75. <https://www.jstor.org/stable/793800>.
- Curtin, Richard T.; Juster, F.T.; and Morgan, James N. 1989. "10 Survey Estimates of Wealth: An Assessment of Quality." *The Measurement of Saving, Investment, and Wealth*: 473-548.
- Darity, William Jr. 1994. "Many Roads to Extinction: Early AEA Economists and the Black Disappearance Hypothesis." *History of Economics Review* 21 (1): 47-64. <http://dx.doi.org/10.1080/10370196.1994.11733149>.
- De Giorgi, Giacomo; and Gambetti, Luca. 2020. "Life Cycle Inequality: Blacks and Whites Differentials in Life Expectancy, Savings, Income, and Consumption." *CEPR Discussion Paper* no. DP15182.
- Donn, Jeff. 2004. "Insurance industry facing lawsuits, restitution." *NBC News*, October 11, 2004. <https://www.nbcnews.com/id/wbna6227370>.
- Eckholm, Erik. 2006. "Burial Insurance, at \$2 Per Week, Survives Skeptics." *New York Times*, December 3, 2006. <https://www.nytimes.com/2006/12/03/us/03bury.html>.
- Fergus, Devin. 2013. "The Ghetto Tax: Auto Insurance, Postal Code Profiling, and the Hidden History of Wealth Transfer." In *Beyond Discrimination: Racial Inequality in a Post-racist Era*, edited by Fredrick Harris and Robert Lieberman, 277-317. New York: Russell Sage Foundation.
- Finkelstein, Amy; McGarry, Kathleen. 2006. "Multiple Dimensions of Private Information: Evidence from the Long-Term Care Insurance Market." *American Economic Review*, 96(4): 938-958.

- Fremont, Allen; Joel Weissman; Emily Hoch; and Marc Elliot. 2016. "When Race/Ethnicity Data Are Lacking: Using Advanced Indirect Estimation Methods to Measure Disparities." *RAND Health Quarterly*, 6 (1): 16.  
<https://www.rand.org/pubs/periodicals/health-quarterly/issues/v6/n1/16.html>.
- Gale, William G.; Hilary Gelfond; and Jason Fichtner. 2018. "How Will Retirement Saving Change By 2050? Prospects for the Millennial Generation." Brookings Institution.  
<https://dx.doi.org/10.2139/ssrn.3385522>.
- Gale, William G.; Scholtz, John K. 1994. "Intergenerational Transfers and the Accumulation of Wealth." *Journal of Economic Perspectives*, 8(4): 145-160.
- Garrett-Scott, Shennette. 2016. "To Do a Work That Would Be Very Far Reaching: Minnie Geddings Cox, the Mississippi Life Insurance Company, and the Challenges of Black Women's Business Leadership in the Early Twentieth-Century United States." *Enterprise & Society* 17 (3): 473-514. doi:10.1017/eso.2015.66.
- Gaulding, Jill. 1994. "Race, Sex, and Genetic Discrimination in Life Insurance: What's Fair." *Cornell Law Review*, 80 (6): 1646-1694.
- Gittleman, Maury; and Wolff, Edward N. 2004. "Racial Differences in Patterns of Wealth Accumulation." *The Journal of Human Resources*, 39(1): 193-227.
- Glenn, BJ. 2003. "Postmodernism: the basis of insurance." *Risk Management and Insurance Review*, 6: 131-43.
- Gottschalk, Alfred O.; and Moore, Jeffrey C. 2007. "Evaluation of Questionnaire Design Changes on Life Insurance Policy Data." *U.S Census Bureau Research Report Series, Survey Methodology #2007-14*.
- Guidry v. Pellerin Life Ins. Co.*, 364 F. Supp. 2d 592 (W.D. La. 2005).
- Guillemette, Michael; Hussein, Monica; Phillips, G. Michael; and Martin, Terrance. 2015. "Minority Households and the Life Insurance Purchase Decision." *Financial Services Review*, 24\_(1): 37-50.
- Gutter, Michael S.; and Hatcher, Charles B. "Racial Differences in the Demand for Life Insurance." *Journal of Risk and Insurance*, 75\_(3): 677-689.  
<http://dx.doi.org/10.1111/j.1539-6975.2008.00279.x>.
- Haller, John Jr. 1970. "Race, Mortality, and Life Insurance: Negro Vital Statistics in the Late Nineteenth Century." *Journal of the History of Medicine and Allied Sciences*, 25 (3): 247-261. <https://www.jstor.org/stable/24622126>.
- Hamilton, Darrick; and William Darity, Jr. 2010. "Can 'Baby Bonds' Eliminate the Racial Wealth Gap in Putative Post-Racial America?" *The Review of Black Political Economy* 37 (3): 207-216. <http://dx.doi.org/10.1007/s12114-010-9063-1>.

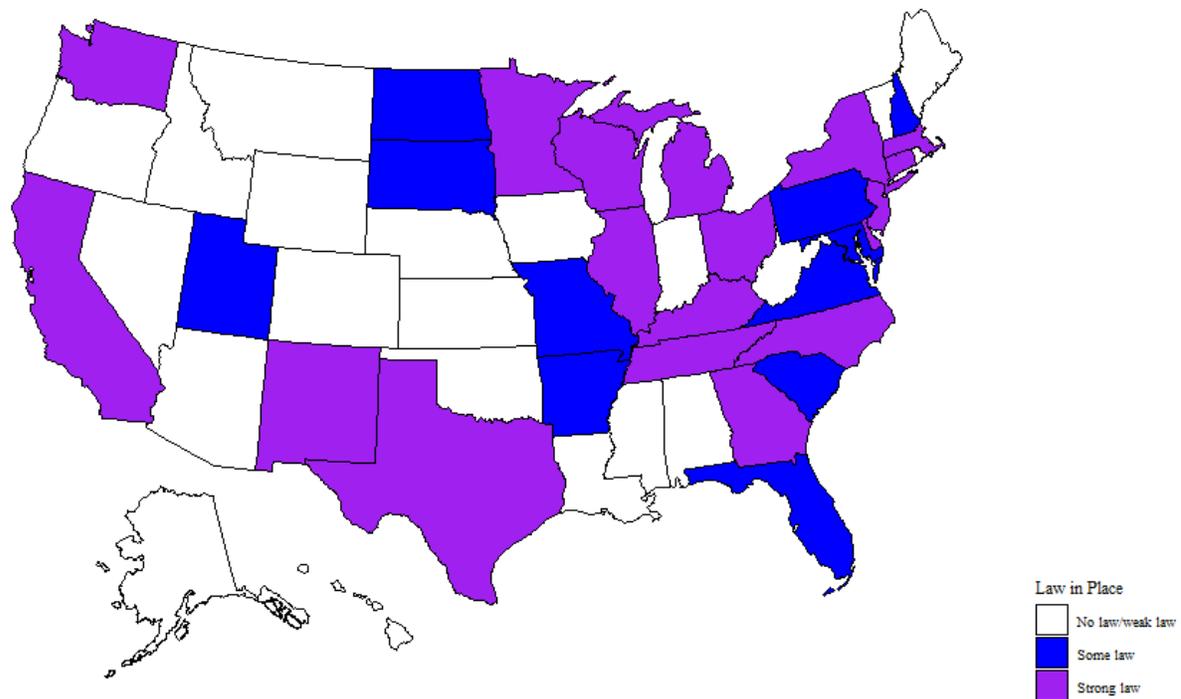
- Harris, Timothy; and Yelowitz, Aaron. 2015. "Racial Disparities in Life Insurance Coverage." *Applied Economics*, 50 (1): 94-107.  
<https://doi.org/10.1080/00036846.2017.1319562>.
- Hartley, Daniel; Paulson, Anna; and Powers, Katerina. 2017. "What Explains the Decline in Life Insurance Ownership?" *Federal Reserve Bank of Chicago Economic Perspectives*, 41(8).
- Harper, Sam; John Lynch; Scott Burris; and George Davey Smith. 2007. "Trends in the Life Expectancy Gap Between Blacks and Whites in the United States, 1983-2003." Temple Law School Working Paper.
- Hartford Courant. 2002. "\$1 Million Donated to Settle Bias Lawsuit." *Hartford Courant*, December 21, 2002.
- Heen, Mary. 2009. "Ending Jim Crow Life Insurance Rates." *Northwestern Journal of Law & Social Policy* 4 (2): 359-399.  
<https://scholarlycommons.law.northwestern.edu/njlsp/vol4/iss2/3>.
- Hiltz, Starr R. 1971. "Why Black Families Own Less Life Insurance." *The Journal of Risk and Insurance*, 38(2): 225-235
- Hou, Wenliang; and Sanzenbacher, Geoffery T. 2021. "Measuring Racial/Ethnic Retirement Wealth Inequality." *The Journal of Retirement* Winter 2021, 8 (3): 12-28.  
<https://doi.org/10.3905/jor.2020.1.079>.
- Hoynes, Hilary; Hurd, Michael; and Chand, Harish. 1998. "Household Wealth of the Elderly under Alternative Imputation Procedures." In *Inquiries in the Economics of Aging*. National Bureau of Economic Research.
- James, Marquis. 1947. *The Metropolitan Life: A Study in Business Growth*. New York: Viking Press.
- Jiakoplos, Nancy A.; and Menchik, Paul L. 1997. "Wealth Mobility." *The Review of Economics and Statistics*, 79 (1): 18-31.
- Jones, Jeffrey M. 2019. "Conservatives Greatly Outnumber Liberals in 19 US States." *Gallup*, February 22, 2019. <https://news.gallup.com/poll/247016/conservatives-greatly-outnumber-liberals-states.aspx>
- Lurvink, Karin. 2020. "The Insurance of Mass Murder: The Development of Slave Life Insurance Policies of Dutch Private Slave Ships, 1720–1780." *Enterprise & Society* 21 (1): 210–38. <http://doi.org/10.1017/eso.2019.33>.
- McGlamery, J. Gabriel. 2009. "Race Based Underwriting and the Death of Burial Insurance." *Connecticut Insurance Law Journal*, 15 (2): 532-570.  
<https://opencommons.uconn.edu/cgi/viewcontent.cgi?article=1052&context=cilj>.

- Mirowsky, John. 1999. "Subjective life expectancy in the US: correspondence to actuarial estimates by age, sex and race." *Social Science and Medicine*, 49 (1999): 967-979. [https://doi.org/10.1016/s0277-9536\(99\)00193-8](https://doi.org/10.1016/s0277-9536(99)00193-8).
- Mitchem, J.E. 1939. "Insurance Companies Lead Race Businesses." *New York Amsterdam News*, November 11, 1939.
- Mok, Wallace; Siddique, Zahra. 2011. "Racial and Ethnic Inequality in Employer Provided Fringe Benefits." *Institute of Labor Economics*, Discussion Paper 6255.
- Moore v. Liberty National Life Insurance Company*, 108 F. Supp. 2d 1266 (N.D. Ala. 2000).
- Murphy, Sharon Ann. 2005. "Securing Human Property: Slavery, Life Insurance, and Industrialization in the Upper South." *Journal of the Early Republic* 25 (4): 615-652. <http://dx.doi.org/10.1353/jer.2005.0081>.
- National Association Of Insurance Commissioners. 2021. "Special (EX) Committee on Race and Insurance." [https://content.naic.org/cmte\\_ex\\_race\\_and\\_insurance.htm](https://content.naic.org/cmte_ex_race_and_insurance.htm)
- New York Age. 1938. "State Commission to Investigate New Policy of Metropolitan Life Insurance Co. On Negro Business." *New York Age*, October 15, 1938.
- New York Amsterdam News. 1938. "Metropolitan Life Stops Selling Insurance Policies to Negroes." *New York Amsterdam News*, September 24, 1938.
- New York Amsterdam News. 1939. "Metropolitan Life Insurance Co. Is Indicted Before State Commission." *New York Amsterdam News*, January 28, 1939.
- Norflet v. John Hancock Life Insurance Company*, 658 F. Supp. 2d 350 (D. Conn. 2009).
- O'Neil, Cathy. 2016. *"Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Inequality."* Penguin Books.
- Paltrow, Scot J. 2000a. "Life Insurers' Race Bias in the Past Affects Policyholders Even Now." *Wall Street Journal*, December 26, 2000. <https://www.wsj.com/articles/SB977788312194872367>.
- Paltrow, Scot. 2000b. "Old Notion of Black Mortality May Have Influenced Insurers." *Wall Street Journal*, December 26, 2000. <https://www.wsj.com/articles/SB977788852647718215>.
- Paltrow, Scot. 2000c. "Insurers Stopped Offering Dual Rates in the '60s But Didn't Tell Customers." *The Wall Street Journal*, April 27, 2000. <https://www.wsj.com/articles/SB956793999358472506>
- Paltrow, Scot J. 2002. "MetLife Agrees to Pay Nonwhites Up to \$160 Million in Settlement." *The Wall Street Journal*, August 30, 2002. <https://www.wsj.com/articles/SB1030657497912071555>.

- Prince, Anya E.R.; and Schwarcz, Daniel. 2020. "Proxy Discrimination in the Age of Artificial Intelligence and Big Data." *Iowa Law Review* 105: 1257-1318. <https://ilr.law.uiowa.edu/assets/Uploads/ILR-105-3-Prince-Schwarcz-6.pdf>.
- Rothstein, Richard. 2017. *A Forgotten History of How Our Government Segregated America*. New York: Liveright.
- Savitt, Todd. 1977. "Slave Life Insurance in Virginia and North Carolina." *The Journal of Southern History* 43 (4): 583-600.
- Scholz, John Karl; and Kara Levine. 2003. "U.S. Black-White Inequality: A Survey." Institute for Research on Poverty, University of Wisconsin—Madison.
- Schwandt, Hannes; Janet Currie; Marlies Bär; James Banks; Paola Bertoli; Aline Bütikofer; Sarah Cattan; Beatrice Zong-Ying Chao; Claudia Costa; Libertad González; Veronica Grembi; Kristiina Huttunen; René Karadakic; Lucy Kraftman; Sonya Krutikova; Stefano Lombardi; Peter Redler; Carlos Riumallo-Herl; Ana Rodríguez-González; Kjell G. Salvanes; Paula Santana; Josselin Thuilliez; Eddy van Doorslaer; Tom Van Ourti; Joachim K. Winter; Bram Wouterse; Amelie Wuppermann. 2021. "Inequality in mortality between Black and White Americans by age, place, and cause and in comparison to Europe, 1990 to 2018." *Proceedings of the National Academy of Sciences*, 118 (40). <https://doi.org/10.1073/pnas.2104684118>.
- Shapiro, Thomas; Tatjana Meschede; and Laura Sullivan. 2014. "The Widening Racial Wealth Gap: Why Wealth Is Not Color Blind." In *The Assets Perspective*, edited by R. Cramer and T.R.W. Shanks. New York: Palgrave Macmillan. [https://doi.org/10.1057/9781137384881\\_5](https://doi.org/10.1057/9781137384881_5).
- Smith, James. 1995. "Racial and Ethnic Differences in Wealth in the Health Retirement Study." *The Journal of Human Resources*, 30 (4): S158-S183. <https://doi.org/10.2307/146282>.
- Spencer, C.A. 1985. "Black Benevolent Societies and the Development of Black Insurance Companies in Nineteenth Century Alabama." *Phylon*, 46 (3): 251-261. <https://www.jstor.org/stable/274833>
- Taylor, Paul; Rakesh Kochhar; Richard Fry; Gabriel Velasco; and Seth Motel. 2011. "Wealth Gap Rises to Record Highs between Whites, Blacks, and Hispanics." *Pew Research Center Social & Demographic Trends*. [http://pewsocialtrends.org/files/2011/07/SDT-Wealth-Report\\_7-26-11\\_FINAL.pdf](http://pewsocialtrends.org/files/2011/07/SDT-Wealth-Report_7-26-11_FINAL.pdf).
- Thompson v. Metropolitan Life Ins. Co.*, 216 F.R.D. 55 (S.D.N.Y. 2003).
- Thompson, Jeffrey P.; and Suarez, Gustavo. 2015. "Updating the Racial Wealth Gap." *FEDS Working Paper* No. 2015-76.
- Treaster, Joseph. 2000a. "Class-Action Bias Suits Name Two Insurers." *The New York Times*, July 14, 2000. <https://www.nytimes.com/2000/07/14/business/class-action-bias-suits-name-two-insurers.html>.

- Treaster, Joseph. 2000b. "Insurer Agrees It Overcharged Black Clients." *The New York Times*, June 22, 2000. <https://timesmachine.nytimes.com/timesmachine/2000/06/22/884081.html?zoom=15.99&pageNumber=1>.
- Wiggins, Benjamin Alan. 2013. "Managing Risk, Managing Race: Racialized Actuarial Science in the United States, 1881-1948." *University of Minnesota*. [https://conservancy.umn.edu/bitstream/handle/11299/159587/Wiggins\\_umn\\_0130E\\_13840.pdf?sequence=1&isAllowed=y](https://conservancy.umn.edu/bitstream/handle/11299/159587/Wiggins_umn_0130E_13840.pdf?sequence=1&isAllowed=y).
- Wolff, Edward. 2018. "The Decline of African-American and Hispanic Wealth since the Great Recession." NBER Working Paper No. 25198. <https://doi.org/10.3386/w25198>.
- Wolff, Megan. 2006. "The Myth of the Actuary: Life Insurance and Frederick L. Hoffman's *Race Traits and Tendencies of the American Negro*." *Public Health Reports* 121 (1): 84-91. <https://dx.doi.org/10.1177%2F003335490612100115>.
- Yakoboski, Paul J.; Lusardi, Annamaria; and Hasler, Andrea. 2020. "Financial Literacy and Wellness among African-Americans: New Insights from the Personal Finance (P-Fin) Index." *The Journal of Retirement Summer 2020*, 8 (1): 22-31. <https://doi.org/10.3905/jor.2020.1.070>.
- Young, James. 1976. "Consumer Problems with Industrial Life Insurance." *The Journal of Consumer Affairs* 10 (2): 255-60. <http://www.jstor.org/stable/23858700>.

Exhibit 1: State Anti-Discrimination Statutes



No law/weak law refers to jurisdictions with explicit permission to discrimination or general unfair discrimination limitations. Some law refers to jurisdictions that limit or prohibit the use of race regarding issuance/cancellation/non-renewal. Strong law refers to jurisdictions that limit or prohibit the use of race regarding rates.

## Exhibit 2: Distribution of Anti-Discrimination Statutes Across Political Jurisdictions

Score	50 States and Washington DC	Jurisdictions with no Black respondents dropped	States with Collinearity dropped
Express permission to discriminate	1	1	1
No mention	0	0	0
General unfair discrimination limitation	20	17	14
Limitation for race only regarding issuance/cancellation/non-renewal	7	5	4
Prohibition for race only regarding issuance/cancellation/non-renewal	5	5	5
Limitation for race, only regarding rates	1	1	1
Prohibition for race, only regarding rates	17	17	15

Source: Avram, Logue, and Schwarz (2014)

Hawaii, Maine, North Dakota, and South Dakota are excluded because the sample did not include Black individuals from these states; Alaska, Colorado, Florida, Georgia, Kansas, New Mexico are excluded due to collinearity.

## Exhibit 3: Sample Characteristics (Mean Value)

	White	Black	All
<i>Life Insurance</i>			
Owens Life Insurance	0.45	0.34***	0.43
Reside in State with Anti-Discrimination Statute	0.62	0.60	0.62
<i>Demographics</i>			
Male	0.49	0.45***	0.48
Age	45.57	43.93***	45.31
<i>Education</i>			
< 12 <sup>th</sup> Grade	0.06	0.11***	0.07
High School Degree	0.27	0.31***	0.28
Some College	0.29	0.34***	0.30
College Degree	0.38	0.24***	0.36
<i>Finances</i>			
Personal Income (\$)	4327	2847***	4099
Net Worth (\$1,000s)	219	59 ***	194
Owens House	0.60	0.31***	0.56
Has Mortgage	0.53	0.27***	0.49
<i>Household Characteristics</i>			
Married & Has Children	0.16	0.12***	0.16
Married & No Children	0.55	0.32***	0.51
Not Married & Has Children	0.05	0.15***	0.06
Not Married & No Children	0.25	0.42***	0.27
Employed	0.65	0.61***	0.65
Two Earner Household	0.33	0.19***	0.32
Observations	17,386	3,607	20,933

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1, denoting significance of the differences between the Black and white populations

Source: 2014 Survey of Income and Program Participation, Demographic and Asset Modules. Sample is restricted to Black and white individuals between the ages of 25 and 64 with non-imputed life insurance ownership values living in the 50 US States or Washington, DC (Alaska, Colorado, Florida, Georgia, Kansas, New Mexico are excluded due to collinearity; Hawaii, Maine, North Dakota, and South Dakota are excluded because the sample did not include Black individuals from these states). Individual weights are used in calculations.

## Exhibit 4: Regression Results

	Equation 1	Equation 2	Equation 3	Equation 4
<b>Black</b>	-0.108*** (0.0001)	0.0375*** (0.00258)	0.0356* (0.0968)	0.0342 (0.109)
<b>Law in Place</b>	-	-	-0.0340* (0.0508)	-0.0136 (0.503)
<b>Black * Law in place</b>	-	-	0.00393 (0.876)	0.0068 (0.787)
<b>Regulation Index</b>	-	-	-	-0.0072 (0.182)
<b>Covariate Vector Included?</b>	No	Yes	Yes	Yes
<b>N</b>	20,993	20,993	20,993	20, 993
<b>R-squared</b>	0.006	0.211	0.212	0.212

Robust pval in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: 2014 Survey of Income and Program Participation, Demographic and Asset Modules. Sample is restricted to Black and white individuals between the ages of 25 and 64 with non-imputed life insurance ownership values living in the 50 US States or Washington, DC (Alaska, Colorado, Florida, Georgia, Kansas, New Mexico are excluded due to collinearity; Hawaii, Maine, North Dakota, and South Dakota are excluded because the sample did not include Black individuals from these states). Individual weights are used in calculations

## Appendix Exhibit 1: Lawsuits Against Major Insurers, 2000-2009

Company, Year	Description	Decision	Amount of settlement or restitution
American General, 2000	American General bought smaller companies in the '70s and '80s that charged Black policyholders up to 33% more for the same policies. Some policyholders had to pay more in premiums than the policy was worth.	Settlement	\$206M
Liberty National, 2001	Starting in 1940, Liberty National discriminated against Black customers in its policies. After the company ended that discrimination in the 1970s, it continued to collect premiums on existing racist policies until the end of the '90s.	Dismissed	N/A
Mutual Savings, 2002	Mutual Savings had separate sets of plans for white and Black customers, and the Black customers paid higher premiums. These plans were sold between 1945 (essentially when it began selling life insurance) and 1967, and after the company stopped selling race-based plans, existing ones remained in force.	Settlement	\$11.6M
Prudential, 2002	Prudential stopped selling race-based policies in 1950, but many policies never got updated and Prudential kept collecting premiums. Prudential donated \$500k each to NAACP Legal Fund and the United Negro College Fund, as well as \$200k in payments to policyholders.	Settlement	\$1.2M
Metropolitan Life, 2003	Between 1901 and 1972, MetLife sold discriminatory life insurance policies to Black customers and other customers of color. Black policyholders also faced more stringent medical exams and background checks.	Settlement	\$160M
Pellerin Life, 2005	Pellerin Life routinely charged Black policyholders higher premiums than white ones. They defended this practice by claiming that the discrimination was based only on mortality rates, not on racism.	In favor of Pellerin. Judge found that discrimination was based on risk, not bias.	N/A
Jefferson-Pilot, 2006	Between 1911 and 1973, Jefferson-Pilot Life sold industrial policies to both Black and white customers but charged Black policyholders higher premiums. The company said that the different rates were not discriminatory because of different mortality rates, and that the statute of limitations had run out on some members of the class that filed, undermining the suit.	Courts found that the statute of limitations defense was legitimate and denied certification of the class-action suit.	N/A
Hancock, 2009	Policies sold before 1959 were based on racist calculations, and Hancock did not pay commissions to agents who sold policies to Black buyers. Customers filed a class-action suit on behalf of Black policyholders who had bought a policy before 1959.	Settlement	\$24.4M

Sources: Alabama Department of Insurance (2014); Belle v. Jefferson-Pilot Life (2006); Carnegie v. Mutual Savings (2002); Guidry v. Pellerin Life (2005); Hartford Courant (2002); McGlamery (2009); Moore v. Liberty National (2001); Norflet v. Hancock Life (2009); Paltrow (2000b, 2002); Thompson v. Metropolitan Life (2003); and Treaster (2000a; 2000b).

## Appendix Exhibit 2: Statutes for Discrimination by Race in Life Insurance by Jurisdiction

<b>Statutes for Discrimination by Race in Life Insurance</b>	<b>Jurisdictions</b>
Express permission to discriminate	Louisiana
No mention	-
General unfair discrimination limitation	Alabama, Alaska, Arizona, Colorado, Hawaii, Idaho, Indiana, Iowa, Kansas, Maine, Mississippi, Montana, Nebraska, Nevada, Oklahoma, Oregon, Rhode Island, Vermont, West Virginia, Wyoming
Limitation for race only regarding issuance/cancellation/non-renewal	Arkansas, Florida, Missouri New Hampshire, North Dakota South Dakota, Virginia
Prohibition for race only regarding issuance/cancellation/non-renewal	DC, Maryland, Pennsylvania, South Carolina, Utah
Limitation for race, only regarding rates	Kentucky
Prohibition for race, only regarding rates	California, Connecticut, Delaware, Georgia, Illinois, Massachusetts, Michigan, Minnesota, New Jersey, New Mexico, New York, North Carolina, Ohio, Tennessee, Texas, Washington, Wisconsin

Source: Avraham, Logue, and Schwarz (2014)

## Appendix Exhibit 3: Covariate Estimates (Specification (3) Estimated on Whole Sample)

---



---

Black	0.0356*
State Anti Discrimination Law	-0.0340*
Black # State Anti Discrimination Law	0.00393
Male	-0.00164
Age: 35-44	0.0561***
Age: 45-54	0.0836***
Age: 55-64	0.0909***
High School Degree	0.0735***
Some College	0.0984***
College Degree	0.133***
Personal Income: \$20-50k	0.0891***
Personal Income: \$50k-100k	0.173***
Personal Income: \$100k+	0.201***
Net worth: 10-50k	0.112***
Net worth: 50-100k	0.155***
Net worth: 100-500k	0.200***
Net worth: 500k+	0.236***
Owns House	0.0322**
Has Mortgage	0.0722***
Married & Has Children	0.131***
Married & No Children	0.0942***
Not Married & Has Children	0.0439**
Two Earner Household	0.0214**
Employed	0.0744***
Constant	-0.157***
Observations	20,993
R-squared	0.212

---

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1