Exploring Financial Knowledge and Consumer Confidence in Disability Insurance Decisions

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Abstract
This study examines the factors that affect the uptake of disability income insurance in the United States, specifically focusing on consumer confidence, financial knowledge, and human capital.

Background: Disability income insurance is essential for maintaining financial stability as it provides income for individuals who are unable to work due to health issues. Despite its importance, the adoption of disability income insurance remains low, particularly among certain racial and demographic groups.

Methods: Logistic regression analysis was conducted using data from the 2022 Survey of Consumer Finance to assess the relationships between consumer confidence, financial knowledge, human capital, and various sociodemographic factors. Controls for age, employment status, marital status, and race were included.

Results: The analysis revealed significant racial disparities in insurance uptake. Asian participants exhibited the highest level of reluctance, while financial knowledge was found to positively correlate with insurance acquisition among Black individuals. Generational differences were also observed, with older White and Latino individuals demonstrating a lower inclination towards obtaining insurance.

Conclusion: The findings underscore the importance of culturally sensitive financial education and policies tailored to diverse communities. Improving consumer confidence and financial literacy is crucial for increasing the uptake of disability income insurance, which can enhance economic resilience and well-being across various demographic groups in the United States.

Keywords: health insurance, disability income, financial knowledge, race, consumer confidence, human capital

1. Introduction
Financial well-being in the United States is closely tied to various insurance policies, and disability income insurance is a crucial component of this system. It serves as a financial safety net for individuals who are unable to work due to health issues or injuries, ensuring that they continue to receive a portion of their regular earnings, including salary and additional income such as bonuses. While many people have long-term disability insurance through their employer, this coverage often falls short of meeting all their financial needs. Therefore, it is essential to thoroughly understand and potentially enhance their insurance coverage (Blostin, Burke, and Lovejoy, 1988). Disability income insurance goes beyond personal protection; it also has a significant impact on the overall economy. By providing support to individuals who would otherwise face financial challenges due to their inability to work, it helps to maintain economic stability (Gelber, 2015). This research delves into the financial and economic aspects of the demand for disability income insurance in the United States, with the aim of highlighting its critical role in our modern economy.

Navigating the complex landscape of disability income insurance in the United States reveals the critical role it plays in ensuring financial security and implementing public health strategies. Disability income insurance offers crucial financial assistance to those who cannot work due to illness or injury, by supplementing their income during their period of incapacitation. This insurance is available in two forms: short-term and long-term coverage. Short-term policies offer financial relief for a few weeks, while long-term policies provide support for several years, potentially until retirement (Haag, Kalina, and Tourigian, 2003).

Understanding the importance of disability income insurance goes beyond the individual level and extends to the
foundational economic and public health levels. Income does more than just cover day-to-day expenses; it secures a person’s future, allowing for savings and investments. The prevalence of disabilities, often resulting from common illnesses rather than accidents, underscores the critical nature of this insurance (Thomas, 2015; Pope and Tarlov, 1991). Despite the availability of employer-sponsored plans, there may be a need to increase coverage, which requires a deeper understanding of individual policies that offer more comprehensive protection, including tax-free benefits and coverage for bonus income (Stepner, 2019).

This research examines the factors that drive demand for disability income insurance in the United States. It specifically focuses on consumer confidence, financial knowledge, and generational influence, while also conducting a detailed analysis of different racial groups. The study analyzes socioeconomic variables such as education level, marital status, age, and income, using data from the 2022 Survey of Consumer Finance. Its goal is to provide insights into how demographic and economic factors impact the uptake of disability income insurance. The study does not include the Family Medical Leave Act (FMLA), Social Security Disability Income (SSDI), or Supplemental Security Income (SSI). Instead, it concentrates on the disability income insurance programs offered by state governments, both private and public. The research highlights the essential role of these policies in safeguarding income and providing financial security for individuals unable to work due to health issues. It also stresses their significance in comprehensive financial planning strategies and safeguarding retirement assets at different stages of life.

Building on the examination of key factors such as consumer confidence, financial knowledge, and generational influences, this study investigates how these components affect the demand for disability income insurance among different racial groups in the United States. The objective is to comprehend the complex interaction of sociodemographic factors, emphasizing the importance of financial education and customized policies for diverse communities. The research identifies effective policy interventions to improve the accessibility and benefits of disability income insurance for underserved populations, proposing strategies to expand its coverage and ensure it serves as a comprehensive safety net. By utilizing data from the 2022 Survey of Consumer Finance, the study provides insights to guide the development of more inclusive and efficient disability income insurance policies, ultimately promoting greater economic resilience and well-being for individuals facing disability risks.

2. Background

2.1 Historical Context of Disability Insurance

During the late 1800s, the insurance industry saw the emergence of modern disability insurance, which was initially called "accident insurance." The Railway Passengers Assurance Company, founded in England in 1848, was a trailblazer in this area. The company’s goal was to offer financial protection against the rising number of fatal and non-fatal accidents related to the growing railway system. Originally known as the Universal Casualty Compensation Company, it provided financial compensation for injuries sustained while traveling by rail, ensuring support in case of non-fatal accidents (Glynn, 1984; Goodeve, 1885). The company’s collaboration with railway operators allowed them to include basic accident insurance as part of the travel ticket package, which was an innovative approach. Insurance premiums were determined by the class of travel, with higher rates for second and third-class tickets due to the higher risk associated with less-protected carriages. This development laid the foundation for modern disability insurance and underscored the intersection of economic, financial, and public health considerations in the design and delivery of insurance products (Stadlin, 2015; Kramer et al., 2023).

2.2 Overview and Regulation

The history of disability income legislation in the United States includes significant milestones in providing financial support and equal opportunities for individuals with disabilities. The journey began with the Social Security Act of 1935, which initially did not include disability insurance (Quadagno, 1984; Epstein, 1935). In 1956, the Social Security Disability Insurance (SSDI) program was established to assist disabled workers and their families (Kearney, 2005; Goodman and Waidmann, 2003). In 1972, the Supplemental Security Income (SSI) program was established to assist disabled individuals with minimal or no income, offering cash to cover basic needs (Social Security Administration, 2022; Daly and Burkhauer, 2003). SSDI and SSI are managed by the Social Security Administration (Goodman-Bacon and Schmidt, 2020).

Disability income insurance ensures financial stability for individuals unable to work due to disabilities. Those not covered by employer-provided benefits or self-employed individuals can purchase individual policies. Costs and benefits vary widely across insurance companies, job roles, states, and demographics (Cox and Gustavson, 1995; Low and Pistaferri, 2015). More comprehensive coverage, including higher monthly benefits, longer
benefit durations, and quicker claim payments, commands higher premiums. Policies with broader definitions of disability also generally cost more (Contreary, Ben-Shalom, and Gifford, 2018).

In the U.S., disability income insurance now includes employer-sponsored policies that offer long-term or short-term coverage. Employer-sponsored plans often include short-term disability insurance, which provides a fraction of an employee’s salary for up to six months. Long-term disability insurance provides continued financial support, covering a portion of the employee’s income for extended periods, sometimes until retirement (Autor, Duggan, and Gruber, 2014; Low and Pistaferri, 2015).

2.3 Short-term Disability Income Insurance

Short-term disability insurance (SDI) offers financial aid to individuals temporarily unable to work due to medical conditions like illness, injury, or pregnancy. This insurance can be obtained through state programs, private policies, or employer-provided plans (Benson and Dbeis, 2022; Bourbonniere and Mann, 2018). SDI benefits usually replace around 60% of an individual’s regular income for a period of three to six months (Atticus, 2024), with a typical waiting period of one week.

Five states in the U.S.—California, New Jersey, Hawaii, New York, and Rhode Island—offer specific short-term disability programs, each with its own unique qualifications and benefits. For example, in California, benefits can last up to a year, paying 60% to 70% of previous wages, with a maximum weekly amount of $1,620 (California Employment Development Department, 2024). Hawaii provides 26 weeks of benefits at 58% wage replacement for individuals who meet specific work requirements (Hawaii Department of Labor and Industrial Relations, 2024). In New Jersey, benefits can last up to 26 weeks and cover up to 85% of wages (New Jersey Department of Labor and Workforce Development, 2024). New York’s program offers up to 50% of the last eight weeks’ wages, with a weekly cap of $170 (New York State Workers’ Compensation Board, 2024). Rhode Island offers benefits for up to 30 weeks, with a maximum weekly amount of $1,007. (Rhode Island Department of Labor and Training, 2024).

Eligibility for SDI is based on contributions to the program, usually through payroll deductions. Freelancers and independent contractors who do not have these deductions may not qualify. It is important to understand and navigate the complexities of disability income insurance to ensure financial stability and health security (Contreary, Ben-Shalom, and Gifford, 2018).

2.4 Long-term Disability Income Insurance

Long-term disability insurance in the U.S. offers financial assistance to individuals unable to work for extended periods due to illness or injury. It ensures financial stability by covering a portion of their income during challenging times, thus preventing economic hardship. However, obtaining coverage can be challenging due to strict eligibility requirements and the cost of premiums (Stepner, 2019). Policies vary based on one’s ability to perform their current job or any job they are qualified for. Benefits typically range from 50–80% of monthly income, and they are tax-free if the premiums are paid personally. Policies also differ in terms of premium structure, waiting periods, and benefit duration, with some providing coverage until retirement. Additional features may include residual benefits, assistance for job re-entry, and cost-of-living adjustments (Brown, 2015; Nunns, 2016).

2.5 Factors Affecting Pricing

The cost of disability income insurance is influenced by factors such as age, income replacement amount, coverage length, health conditions, and policy terms. Younger individuals enjoy lower rates due to lower perceived risk, while higher replacement rates result in higher premiums. The specifics of disability definitions within the policy also affect the price. Discounts might apply to group policies or those managed through employers. Additional options like inflation adjustments further refine the cost. Gender, tobacco use, and profession also impact premiums, with riskier jobs leading to higher costs (Brown, 2015). Long-term disability insurance costs generally fall between 1% and 3% of an individual’s yearly earnings. For example, an individual with an annual income of $50,000 may pay between $500 and $1,500 per year for coverage. The intricacies of disability insurance pricing underscore the importance of considering personal circumstances when selecting a policy (Chandra & Samwick, 2009; Brown, 2015). Age significantly influences the demand for life, health, and disability income insurance due to variations in risk, financial needs, and coverage requirements across life stages. Younger individuals pay lower premiums, but as individuals age, the risk of chronic diseases and potential disabilities increases, leading to higher demand and costs for health and disability insurance. Life events such as marriage, parenthood, and retirement planning also shape insurance demand (Cox & Gustavson, 1995). Figure 1 from the 2022 Survey of Consumer Finances shows enrollment patterns for disability insurance
across different generational cohorts. Generation X has the highest engagement with disability income services at 37.36%, followed by Millennials at 36.13%, Baby Boomers at 32.28%, the Silent Generation at 20.46%, and Generation Z at 19.51%. This highlights the variances in securing disability income across different life stages, with a peak among Generation X individuals.

Figure 1. Relative proportion of disability income insurance by age generation and group

Source. Author’s Analysis of the 2022 Survey of Consumer Finance.

2.6 Racial Demographics and Engagement in Disability Income Insurance

An in-depth analysis of the 2022 Survey of Consumer Finances data reveals significant differences in the levels of engagement with disability income insurance among different racial demographics in the United States. Figure 2 provides a detailed overview of these disparities, indicating that White individuals have the highest engagement rate at 37.17%, closely followed by the Asian community at 34.44%. The participation rate for the Black population is noted at 30.23%, while the Latino community has the lowest rate at 24.11%. These findings highlight the nuanced variations in the participation of each racial group in the disability income insurance market. The data suggests that White and Asian individuals are more inclined to invest in disability income insurance compared to their Black and Latino counterparts. This discrepancy underscores the broader trend observed within the insurance sector, indicating that only a modest segment of the American population chooses to invest in disability income insurance, regardless of race or generation. The engagement levels specific to each demographic shed light on the different priorities or potential access barriers within various communities. This insight emphasizes the overarching challenge of increasing the penetration rate of disability income insurance nationwide, highlighting the need for targeted strategies to address these disparities and improve overall participation.

Figure 2. Relative proportion of disability income insurance by race

Source. Author’s Analysis of the 2022 Survey of Consumer Finance.
3. Theory

This research examines the psychological and sociodemographic factors that influence individuals’ decisions to purchase disability income insurance. Specifically, it focuses on how factors such as consumer confidence, perceived financial knowledge, educational attainment, and income level impact the likelihood of choosing disability income insurance. The study aims to understand the complex interplay between psychological mindset, demographic profile, and the inclination to obtain financial protection against disability-related income loss.

3.1 Consumer Confidence

Consumer confidence theory seeks to understand consumers’ optimism or pessimism about their financial futures and the overall state of the economy. This concept is crucial as it directly affects spending and saving behaviors, which are vital for economic stability. Surveys like the Consumer Confidence Index (CCI) are used to assess public sentiment (Investopedia, 2024). These surveys evaluate consumers’ financial situations, future expectations, and willingness to make significant purchases (The Conference Board, 2024).

Measuring consumer confidence is based on the belief that when consumers are optimistic about the economy and their personal finances, they are more likely to spend money, thus stimulating economic growth. Conversely, if they are pessimistic, they may save more and spend less, potentially leading to economic contraction (Acemoglu and Scott, 1994; De Boef and Kellstedt, 2004; Ou et al., 2014). Therefore, measuring consumer confidence serves as an indicator of economic health, providing insights into future economic activity based on current perceptions and past trends (Corporate Finance Institute, 2024). Economists can predict consumer spending patterns by analyzing past data, current conditions, and future expectations, which is essential for informed policy and business decisions (Curtin, 2019).

The research hypothesis suggests a positive correlation between consumer confidence and the demand for disability income insurance. This relationship is crucial for understanding how perceptions of economic stability and future financial prospects influence individuals’ decisions to obtain disability income insurance, which serves as a safety net during periods of work incapacity due to health issues.

The selected survey questions are effective measures of consumer confidence for several reasons:

Income vs. Inflation: The question of whether an individual’s income has increased more, less, or the same as inflation over the past five years assesses the respondent’s perception of financial progress. If someone believes their income has grown more than inflation, it suggests a positive economic outlook and a greater inclination towards investing in disability income insurance for added security (Vaitilingam, 2002).

Future Income Expectations: Asking about expectations for income relative to inflation in the upcoming year gauges optimism about future financial stability. If someone anticipates their income to surpass inflation, it reflects confidence in personal economic advancement and may increase the likelihood of acquiring disability income insurance to cover premiums comfortably (Smith, 2009).

Borrowing and Credit: Asking individuals about their opinion on purchasing on credit or through borrowing evaluates their comfort with assuming financial risk under current and anticipated economic conditions. A positive view on credit use may indicate broader confidence in financial stability, influencing the decision to purchase disability income insurance as part of a comprehensive financial planning strategy (Lusardi and Mitchell, 2014a).

In summary, these questions collectively provide insights into individuals’ economic perceptions and their influence on investing in disability income insurance. Understanding that past income growth relative to inflation, optimistic future income projections, and comfort with credit use are positively associated with the demand for disability income insurance underscores the significance of consumer confidence as a determinant in financial planning and risk management decisions (Yao and Hanna, 2011).

3.2 Perceived Financial Knowledge

Financial literacy encompasses the essential skills, knowledge, and behaviors required for making prudent financial decisions, managing money efficiently, and understanding the complexities of the financial world (Consumer Financial Protection Bureau, 2024). This literacy equips individuals with the ability to navigate the financial system, making informed choices about savings, investments, and borrowing, ultimately enhancing their economic well-being (Lusardi and Mitchell, 2017). It is a crucial component of personal financial management, enabling individuals to plan for the future, avoid high-cost debt, and achieve financial stability (Government of Ontario, 2022).

Perceived financial knowledge refers to an individual’s self-assessment of their understanding of financial
matters. It is an important metric because it reflects a person’s confidence in their financial decision-making abilities. This subjective measure can often influence financial behaviors as much as, or even more than, actual financial knowledge. People who perceive themselves as financially knowledgeable are more likely to engage in positive financial behaviors, such as investing wisely and saving for retirement (Lusardi and Mitchell, 2014b; Lusardi and Mitchell, 2011).

Using perceived financial knowledge to measure financial literacy is valuable for several reasons. It provides insight into an individual’s confidence in managing finances and making financial decisions. High-perceived financial knowledge can motivate individuals to improve their financial situation, whereas low-perceived financial knowledge may indicate a need for financial education and support (U.S. Department of the Treasury, 2024).

Recognizing the significance of perceived financial knowledge is essential in financial literacy initiatives. Programs aimed at enhancing financial literacy should provide factual knowledge and boost individuals’ confidence in their financial capabilities. This approach ensures that individuals are informed about financial concepts and feel empowered to apply this knowledge in their lives (Hastings, Madrian, and Skimmyhorn, 2013).

Based on the understanding of financial literacy and the role of perceived financial knowledge, the research hypothesis posits that there is a positive relationship between perceived financial knowledge and the demand for disability income insurance. This hypothesis suggests that individuals who perceive themselves as knowledgeable about financial matters are more likely to recognize the value of and invest in disability income insurance, seeing it as a prudent component of their overall financial planning strategy. This relationship underscores the importance of perceived financial knowledge in financial decision-making and its potential impact on securing financial protection against unforeseen health-related work incapacities (Mandell, 2012).

3.3 Human Capital

The concept of human capital traces back to Adam Smith’s notion of “acquired and useful abilities” as a form of capital and has evolved significantly over centuries (Goldin, 2014). It was initially recognized as an investment in one’s productive capacity by economists like Irving Fisher and Arthur Cecil Pigou. The term gained traction with the work of Chicago School economists, most notably Gary Becker and Jacob Mincer (Lemke, 2011). Their research emphasized the importance of investing in education, training, and health to enhance productivity, similar to investing in physical capital like machinery (Mincer, 1958). Human capital theory expanded to include formal education, innate abilities, and health, highlighting its role in economic growth and personal economic welfare. This broader understanding acknowledges that skills specific to certain tasks or jobs increase an individual’s value to employers, creating a dynamic where human capital investment is vital for individual prosperity and broader economic development.

Human capital represents the economic value of an individual’s abilities, including skills, knowledge, and experiences. It is an intangible asset crucial for both personal and societal prosperity, rooted in education, health, and on-the-job training. This concept emphasizes that investing in people—through education, healthcare, and other means—enhances their productivity and their ability to contribute to the economy (Deming, 2022). Human capital theory argues that such investments yield returns similar to investing in physical capital, such as machinery or technology, showcasing the potential of human resources to drive economic growth and development (Van Hiel et al., 2018).

Levels of education and income serve as primary indicators of human capital. Education equips individuals with skills and knowledge, increasing their employability and potential to earn higher wages. In turn, income level reflects the economic return on this educational investment and an individual’s capacity to engage in further wealth-generating activities. These measures are interconnected; higher education often leads to better job opportunities, which result in higher income, creating a cycle of increasing human capital. This relationship underscores the importance of accessible and quality education as a foundation for improving human capital and economic prosperity. Moreover, high human capital is positively correlated with consumption patterns, including the demand for insurance products. Educated individuals with higher incomes are more likely to understand the benefits of insurance, recognizing it as a means to safeguard against financial uncertainties. This understanding translates into a greater propensity to invest in various forms of insurance, including disability income insurance. Such insurance provides a safety net, ensuring financial stability in the event of an inability to work due to health issues. Therefore, the level of education and income, as measures of human capital, are directly linked to the demand for disability income insurance. This relationship underscores the significance of human capital in enhancing individual and societal economic conditions and promoting financial security through informed
insurance decisions (Friedman, 2012). Analysis from the 2022 Survey of Consumer Finance (Figure 3) highlights the distribution of individuals with and without disability income insurance across different income levels. It reveals a notable pattern: those with disability income insurance generally have higher incomes than their uninsured counterparts, a trend consistent across all racial demographics. This observation leads to a deeper understanding of how human capital—embodied in education and income levels—plays a pivotal role in shaping consumer behaviors, particularly in the context of insurance acquisition. Through higher education and income, individuals with greater human capital have a heightened awareness of the value that insurance holds as a protective measure against unforeseen financial adversities. This awareness fosters an increased likelihood among these individuals to allocate resources towards insurance products, including disability income insurance, as a proactive strategy to maintain financial equilibrium in the face of potential health-related work disruptions. Thus, the connection between human capital attributes, such as education and income, and the inclination towards securing disability income insurance highlights the critical role of human capital in fortifying financial resilience and security, and emphasizes its broader implications on personal and collective economic well-being. Human capital refers to the collective knowledge, skills, abilities, and experiences of individuals. It can be utilized to achieve societal or organizational goals. It comprises knowledge capital (information and understanding possessed by people), social capital (networks and relationships), and emotional capital (personal and social competencies). The significance of human capital in economic development, productivity, and innovation is widely recognized. This recognition often leads to government investments in education and job training (Abel & Deitz, 2012; Gendron, 2004; O’sullivan, Sheffrin, & Swan, 2003). Initially, the concept viewed labor as one of the primary factors of production, but it has evolved into a more nuanced understanding that emphasizes the role of individual and collective human resources in driving growth and development. Moreover, employment status is a critical aspect of human capital theory. It suggests that individuals who are employed are more apt to invest in disability income insurance. This reflects the influence of economic stability and risk management strategies guided by human capital (Becker, 1993).

Figure 3. Disability income insurance by income & race

Source. Author’s Analysis of the 2022 Survey of Consumer Finances Data.

4. Objectives and Hypotheses
The aim of this research is to analyze how consumer confidence, perceived financial knowledge, and sociodemographic factors, such as age, generation, and racial group disparities, affect the demand for disability income insurance in the United States. Using data from the 2022 Survey of Consumer Finance, the study
examines how different groups perceive and engage with disability income insurance policies, taking into consideration socioeconomic factors, such as education, marital status, and income levels. The study proposes the following hypotheses:

**Hypothesis I:** Consumer confidence is positively correlated with the demand for disability income insurance, indicating that individuals who are more optimistic about the economy are more likely to invest in this type of insurance.

**Hypothesis II:** Perceived financial knowledge positively influences the demand for disability income insurance, suggesting that those who have a better understanding of financial products are more likely to secure disability coverage.

**Hypothesis III:** Higher income and education levels (human capital) are associated with an increased demand for disability income insurance, reflecting the role of economic stability and awareness in insurance decision making.

By addressing these hypotheses, the research aims to provide insights for policymakers and insurance providers to improve the accessibility and effectiveness of disability income insurance, especially for underserved populations in the U.S., ensuring that it serves as a reliable safety net for all citizens.

5. Methodology

5.1 Data Description

The data used in this research come from the 2022 Survey of Consumer Finances (SCF), accessible through the Federal Reserve’s website. The Survey of Consumer Finances (SCF) uses a complex weighting system to ensure accurate representation of the entire population. This method adjusts for the likelihood of individuals being selected and refines the data with information from the Current Population Survey. Although there may be skewness due to rare or extreme values, logarithmic adjustments help balance variables such as income (Kennickell, McManus, & Woodburn, 1996; Kennickell, 1998).

To address missing information, the SCF employs multiple imputations, creating five versions of the data for each missing value, expanding the dataset from 4,602 responses to 23,010. This enhances the depth and reliability of the analysis. The R "survey" package, along with "mitools," manages the complexities of this expanded dataset, ensuring accurate weighting and minimizing bias (Katitas, Resche-Rigon, & Chevret, 2019).

The 2022 SCF, conducted by the Board of Governors and executed by the National Opinion Research Center (NORC) at the University of Chicago, covered various financial aspects with 4,602 observations. Multiple imputation procedures addressed missing data, resulting in a robust dataset of 23,010 observations. Weights accounted for unequal probabilities of selection and nonresponse, ensuring representative and reliable results despite the skewed nature of financial variables. However, the 2022 SCF lacked detailed information on insurance selection factors, limiting certain analyses. The survey aimed to capture diverse market segments, including various income levels, wealth brackets, and demographic groups, to provide a comprehensive picture of U.S. households’ financial conditions and behaviors.

5.2 Main Variables

5.2.1 Dependent Variable

This research examines the factors that influence the decision to acquire disability income insurance in the United States. The main focus is on a binary dependent variable that distinguishes individuals who have disability income insurance (coded as 1) from those who do not (coded as 0). The data is derived from the 2022 Survey of Consumer Finances, which includes a specific question to determine whether respondents have any form of insurance, other than Social Security benefits, that provides financial support in case of disability. The question is designed to capture comprehensive information by asking if the respondent or any family member has arranged an insurance plan to provide financial assistance during disability, ensuring an alternative income stream apart from Social Security.

5.2.2 Independent Variables

The study examines several independent variables to understand their influence on the decision to obtain disability income insurance, with a primary focus on consumer confidence and perceived financial knowledge. Consumer confidence is measured through three specific questions:
Respondents are asked if their total family income over the past five years has increased, decreased, or remained consistent with the inflation rate.

They are asked about their expectations for their total family income over the next year relative to inflation.

They are asked for their opinions on the advisability of making purchases using credit or borrowing.

These questions aim to capture the respondents’ economic outlook and attitudes toward debt, which could influence their decision-making regarding insurance coverage.

Perceived financial knowledge is another crucial variable, assessed by asking respondents to rate their understanding of personal finance on a scale from zero (no knowledge) to ten (highly knowledgeable). This self-assessment provides insight into how individuals’ confidence in their financial literacy might affect their insurance choices.

Additionally, the study considers measures of human capital, such as education level and income, to further understand how these factors might contribute to the likelihood of purchasing disability income insurance. These variables offer a comprehensive view of the socioeconomic factors influencing financial decisions, providing insights into the dynamics behind the demand for disability income insurance.

The research examines the impact of these key variables on disability income insurance uptake and investigates how these effects differ across racial groups by disaggregating the data by race. The study incorporates controls for various sociodemographic factors to ensure a thorough analysis. Employment status is quantified as ‘1’ for unemployed individuals and ‘0’ for those who are employed. Marital status is also considered a significant variable, along with the age of participants, categorized by generation. This approach allows for a detailed examination of how each variable influences the outcome while considering the complex interplay of sociodemographic characteristics across different racial groups.

5.3 Data Analysis

This study delves into the determinants of demand for disability income insurance, drawing on cross-sectional data from the 2022 Survey of Consumer Finance. Participants were queried on their possession of disability income insurance, excluding any related to Social Security Disability Income or Social Security Income. This led to the creation of a dichotomous variable, where a response of "Yes" (coded as 1) indicates the presence of disability income insurance, while "No" (coded as 0) indicates its absence. To analyze this data, logistic regression was employed—a statistical approach ideally suited for predicting binary outcomes based on a range of predictors (Nam & Hanna, 2019). This method excels in calculating the likelihood of choosing various insurance options by considering consumer confidence, perceived financial knowledge, human capital, and demographic influences.

Incorporating weights within the logistic regression model is pivotal to ensure the sample accurately represents the demographic distribution of the broader population, thus correcting any sampling biases and providing a more accurate portrayal of attitudes towards health insurance. The “survey” package in R significantly aids this process, furnishing the tools necessary for weighting application and enhancing the research’s precision and trustworthiness. When conducting multiple logistic regression analyses, addressing multicollinearity—a situation where predictors are highly interrelated—is crucial for the model’s validity and interpretability. A guideline is to monitor the Pearson correlation coefficient, with values exceeding 0.7 indicating a strong interconnection between variables (Frost, 2017). Adopting this 0.7 threshold assists in identifying significant correlations that might inaccurately influence the dependent variable while avoiding the exclusion of variables that contribute meaningful insights. This balance prevents multicollinearity from causing undue variations in regression coefficients, ensuring the model remains robust without forsaking essential data that could amplify its predictive power and insights (Dormann et al., 2013; Tomasel, Hendrix, and Baayen, 2018).

The logistic regression model can be expressed as:

\[
\log \left( \frac{p}{1-p} \right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_n x_n
\]

Where:

- \( p \) is the probability of the dependent variable equaling a case (e.g., 1),
- \( \beta_0, \beta_1, \ldots, \beta_n \) are the coefficients,
- \( x_1, x_2, \ldots, x_n \) are the independent variables.

The probability \( p \) can be expressed as:
Logistic regression models prioritize the overall predictive accuracy of the model over the individual contribution of predictor variables. If the model successfully forecasts outcomes, predictors with correlation values up to 0.7 typically do not detract from its efficacy or interpretability (Figure 4).

![Figure 4. Correlation matrix explanatory variables](image)

Source. Author’s analysis of the 2022 Survey of Consumer Finances data

6. Result

Table 1 presents the results of a logistic regression analysis investigating the effects of the Consumer Confidence Index and Risk Tolerance on the likelihood of having disability income insurance, segmented by racial groups. The coefficients (with their standard errors in parentheses) reflect the impact of each predictor variable across different populations.

The comprehensive model analysis examining consumer confidence’s impact on the demand for disability income insurance across different racial groups reveals significant variations. The intercepts across all groups indicate a baseline propensity towards not having disability income insurance, with Asian individuals showing the highest reluctance (-24.89), followed by Latinos (-16.40), Black people (-14.01), and White people (-7.32). These intercepts were statistically significant, suggesting a baseline racial disparity in insurance uptake.

Consumer confidence over the past five years regarding income compared to inflation positively impacted the full model (0.15) and White (0.19), indicating that as confidence in income growth over inflation increases, so does the likelihood of having disability income insurance. However, this effect was not significant for Black, Asian, and Latino groups.

Expectations for income relative to inflation in the next year negatively influenced the likelihood of having insurance in the full model (-0.14), more so among White (-0.19) and Black (-0.21) groups. This suggests an optimistic outlook on short-term future financial stability decreases the propensity to acquire disability income insurance. Perceptions of debt have a mixed impact, with a slightly positive effect in the full model (0.08) and among White people (0.15), implying that seeing debt as beneficial marginally increases the likelihood of having disability income insurance. However, this perception did not significantly impact Black, Latino, and Asian groups.

Transitioning to the impact of financial knowledge, the analysis revealed significant diversity in the effects of perceived financial knowledge on the likelihood of possessing disability income insurance across different racial groups. Overall, the full model showed a marginal increase (coefficient = 0.03, p<0.05) in the probability of having disability income insurance with each unit increase in perceived financial knowledge. However, when dissecting this effect by race, notable differences emerged. A strong positive relationship (coefficient = 0.16, p<0.001) is observed for Black individuals, indicating that higher levels of perceived financial knowledge significantly increase the likelihood of having disability income insurance within this group. In contrast, among Asian individuals, the effect is significantly negative (coefficient = -0.15, p<0.001), suggesting that as perceived financial knowledge increases, the probability of having disability income insurance decreases. White and Latino groups show no significant change (coefficient = 0.001) in the likelihood of possessing disability income insurance relative to their perceived financial knowledge.
A detailed analysis is needed to examine the impact of generational age on insurance decisions across different racial demographics. Table 1 provides an intricate breakdown of the effects of age generation on the inclination to invest in disability income insurance among various racial groups compared to the youngest group of 18-25-year-olds (Gen Z). The analysis is presented in the following manner:

- For Gen Y (26-41), a significant slight positive association is noted for Latinos (0.85, p<0.05) and especially for Asians (17.53, p<0.001) compared to Gen Z, suggesting a stark contrast in perceptions or financial planning strategies between these groups.

- Gen X (42-57) shows a flat effect across most groups. However, a similar substantial effect in Gen Y Asians persists (17.15, p<0.001), indicating a consistent trend across these older generations within the Asian demographic.

- The Baby Boomers (58-76) exhibit a negative tendency (-0.31, p<0.05) in the full model, with a more pronounced effect among White individuals (-0.46, p<0.01), suggesting a decreased inclination towards disability income insurance with advancing age, while remaining positive among Asians (17.12, p<0.001).

- The Silent Generation (78-94) demonstrates a significant negative trend (-0.93, p<0.01) in the full model, which is especially dramatic for Latinos (-14.29, p<0.001) and still markedly positive and high for Asians (16.88, p<0.001).

Further, examining marital status’ influence on insurance acquisition paints a detailed picture of disparities and tendencies. Table 1 presents a nuanced view of how marital status influences the likelihood of securing disability income insurance across different racial groups, with the baseline being never-married individuals. In the full model, being married or living with a partner shows a slight overall positive effect (0.07), though not significant, but varies significantly across racial lines: Latinos demonstrate a notably higher propensity (0.75, p<0.01) toward securing insurance under these conditions, whereas Asians show a strong aversion (-1.00, p<0.001).

Table 1. Logistic regression: disability income insurance

<table>
<thead>
<tr>
<th></th>
<th>Full Model</th>
<th>White people</th>
<th>Black people</th>
<th>Latino</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(Intercept)</strong></td>
<td>-8.56***</td>
<td>-7.32***</td>
<td>-14.03**</td>
<td>-16.40***</td>
<td>-24.89***</td>
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<td>(0.33)</td>
<td>(0.37)</td>
<td>(1.12)</td>
<td>(1.23)</td>
<td>(1.14)</td>
</tr>
<tr>
<td><strong>Consumer Confidence Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past 5 years: Income by inflation</td>
<td>0.15***</td>
<td>0.19***</td>
<td>-0.03</td>
<td>0.06</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.09)</td>
<td>(0.10)</td>
<td>(0.13)</td>
</tr>
<tr>
<td>Future 1 year: Income by inflation</td>
<td>-0.14***</td>
<td>-0.10***</td>
<td>-0.21*</td>
<td>0.18</td>
<td>-0.07</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.08)</td>
<td>(0.11)</td>
<td>(0.12)</td>
</tr>
<tr>
<td><strong>Perception of debt</strong></td>
<td>0.08*</td>
<td>0.15***</td>
<td>-0.06</td>
<td>-0.07</td>
<td>-0.11</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.08)</td>
<td>(0.10)</td>
<td>(0.12)</td>
</tr>
<tr>
<td><strong>Perceived financial knowledge</strong></td>
<td>0.03**</td>
<td>0.001</td>
<td>0.16***</td>
<td>0.001</td>
<td>-0.13***</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.02)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.04)</td>
</tr>
<tr>
<td><strong>Age generation &amp; group-comparison group: 18-25 (Gen Z)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-41 (Gen Y)</td>
<td>0.15</td>
<td>-0.04</td>
<td>0.16</td>
<td>0.85</td>
<td>17.53***</td>
</tr>
<tr>
<td></td>
<td>(0.13)</td>
<td>(0.17)</td>
<td>(0.31)</td>
<td>(0.36)</td>
<td>(0.40)</td>
</tr>
<tr>
<td>42-57 (Gen X)</td>
<td>0.03</td>
<td>-0.01</td>
<td>-0.27</td>
<td>0.10</td>
<td>17.13***</td>
</tr>
<tr>
<td></td>
<td>(0.13)</td>
<td>(0.17)</td>
<td>(0.32)</td>
<td>(0.36)</td>
<td>(0.43)</td>
</tr>
<tr>
<td>58-76 (Baby boomers)</td>
<td>-0.31*</td>
<td>-0.46**</td>
<td>-0.08</td>
<td>-0.01</td>
<td>17.12***</td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td>(0.18)</td>
<td>(0.33)</td>
<td>(0.39)</td>
<td>(0.45)</td>
</tr>
<tr>
<td>78-94 (Silent generation)</td>
<td>-0.93**</td>
<td>-1.01***</td>
<td>-0.80</td>
<td>-14.29**</td>
<td>16.88***</td>
</tr>
<tr>
<td></td>
<td>(0.29)</td>
<td>(0.32)</td>
<td>(0.73)</td>
<td>(0.61)</td>
<td>(0.87)</td>
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<tr>
<td><strong>Marital status-comparison group: Never married</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married or living with partner</td>
<td>0.07</td>
<td>0.05</td>
<td>-0.23</td>
<td>0.75**</td>
<td>-1.00***</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.09)</td>
<td>(0.16)</td>
<td>(0.26)</td>
<td>(0.27)</td>
</tr>
<tr>
<td>Separated or windowed</td>
<td>0.40***</td>
<td>0.27*</td>
<td>0.56**</td>
<td>1.41***</td>
<td>-0.68</td>
</tr>
<tr>
<td></td>
<td>(0.08)</td>
<td>(0.11)</td>
<td>(0.18)</td>
<td>(0.29)</td>
<td>(0.43)</td>
</tr>
<tr>
<td>Level of Education</td>
<td>0.12***</td>
<td>0.11***</td>
<td>0.01</td>
<td>0.19***</td>
<td>-0.06</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.03)</td>
<td>(0.02)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Income (Log value)</td>
<td>0.55***</td>
<td>0.46***</td>
<td>1.15***</td>
<td>1.09***</td>
<td>0.8**</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.11)</td>
<td>(0.12)</td>
<td>(0.10)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>-0.62***</td>
<td>-0.49***</td>
<td>-0.92***</td>
<td>-0.43</td>
<td>-0.14</td>
</tr>
<tr>
<td></td>
<td>(0.10)</td>
<td>(0.13)</td>
<td>(0.23)</td>
<td>(0.26)</td>
<td>(0.31)</td>
</tr>
<tr>
<td>Race-comparison group: White people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black people</td>
<td>0.12</td>
<td>(0.07)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latino</td>
<td>-0.11</td>
<td>(0.07)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>-0.37***</td>
<td>(0.09)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0.27</td>
<td>(0.21)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.001, ** p < 0.01, *** p < 0.05, **** p < 0.1
For those who are separated or widowed, there’s a substantial increase in the likelihood of having insurance (0.40, p < 0.001) in the full model, with the effect being particularly pronounced among Latinos (1.41, p < 0.001). Interestingly, while this group also shows a positive inclination among White (0.27, p < 0.05) and Black individuals (0.56, p < 0.01), Asians diverge with a negative trend, though it’s not statistically significant.

Conclusively, the investigation into human capital variables—education, income, and employment status—unveils significant insights into their relationship with disability income insurance across racial groups.

- Education: A positive association with having disability income insurance is observed across the full model and within White and Latino groups, indicated by coefficients of 0.12, 0.11, and 0.19, respectively, all statistically significant at the p < 0.001 level. However, this effect is negligible among Black individuals and slightly negative (though not statistically significant) for Asians.

- Income: The logarithm of income shows a strong positive correlation with the likelihood of having disability income insurance across all racial categories. The coefficient in the full model is 0.55, with notable increases to 1.15 for Black individuals and 1.09 for Latinos, highlighting a more pronounced effect within these groups.

- Unemployment: Being unemployed significantly reduces the likelihood of having disability income insurance across the full model and particularly within White and Black populations, with coefficients of -0.62 and -0.92, respectively. The negative effect is less pronounced and not statistically significant for Latinos and Asians.

7. Discussion

The research delves into the intricacies of consumer confidence and its influence on the acquisition of disability income insurance, uncovering how economic outlook shapes financial decisions across diverse racial groups. The analysis identifies a foundational reluctance across all examined groups to pursue disability income insurance, with the most significant resistance observed among Asian individuals, followed by Latino, Black, and White demographics, thereby highlighting a fundamental racial disparity in the uptake of such insurance. This finding aligns with consumer confidence theory, which suggests that an individual’s optimism or pessimism about their economic situation directly impacts their financial behaviors, notably, the decision to safeguard against potential future income disruptions due to disability.

The research further underscores how positive consumer confidence regarding financial stability relative to inflation in recent years is associated with a heightened propensity towards obtaining disability income insurance, particularly among White individuals. This observation supports the theory’s assertion that confidence in one’s financial trajectory encourages proactive financial protections. However, the expectation of near-term economic improvement, particularly within White and Black populations, inversely affects this propensity, suggesting a perceived diminished need for insurance amid anticipated financial stability.

The study also sheds light on diverse reactions to debt perceptions. Among White people, a generally positive view of leveraging debt correlates with an increased likelihood of securing disability income insurance. This trend does not hold across other racial groups, hinting at the complex interplay between cultural and socioeconomic factors and debt perceptions on insurance decisions.

Further dissecting the impact of perceived financial knowledge reveals a complex relationship with insurance uptake. A pronounced positive correlation among Black individuals emphasizes the role of heightened financial self-awareness in fostering a protective approach toward financial risks. Conversely, the negative correlation observed among Asians suggests varying cultural or socioeconomic influences that diminish the perceived value or necessity of disability income insurance despite higher levels of self-assessed financial knowledge. This variation underscores the nuanced effect of financial literacy on insurance decisions, emphasizing the importance of contextualizing financial education within diverse demographic realities.

In exploring the generational impact on insurance propensity, the analysis highlights stark contrasts in financial planning and risk mitigation strategies across racial lines and age groups. The consistently high likelihood of insurance investment among Asians across all age generations points to cultural or systemic influences that prioritize financial security. However, the decreasing inclination to invest in disability income insurance with advancing age, especially notable among White individuals and Latinos of the Baby Boomers and Silent Generation, suggests a complex matrix of factors, including accrued savings and perceived needs, that influence these decisions.

Examining marital status’s role reveals how societal and cultural norms shape financial security pursuits through disability income insurance. The positive association for married or cohabitating individuals, especially among
Latinos, might reflect communal financial planning norms. In contrast, the strong aversion observed among Asians to investing in disability income insurance highlights the diverse implications of cultural or structural differences in financial protection strategies.

The pronounced inclination towards insurance among separated or widowed individuals, especially among Latinos, points to a proactive approach to mitigating the financial vulnerabilities associated with such life transitions. This trend, however, varies significantly across racial groups, suggesting that demographic factors, in tandem with cultural attitudes towards marriage and widowhood, significantly influence financial protection strategies.

Finally, the findings on human capital—comprising education, income, and employment status—reiterate its crucial role in facilitating or hindering the acquisition of disability income insurance. While education and income generally bolster the propensity for such insurance, particularly among Latinos, the varied impacts across racial groups highlight the nuanced role of systemic, cultural, and policy factors in shaping access to and perceptions of financial security measures.

This comprehensive analysis, therefore, reaffirms the relevance of consumer confidence theory in understanding financial behaviors and emphasizes the critical need for nuanced, culturally informed financial education and policy-making that addresses the heterogeneous needs and preferences across and within diverse populations.

8. Conclusion

The comprehensive exploration of the multifaceted influences on disability income insurance acquisition in the United States sheds light on significant behavioral economics principles. It underscores the complexity of financial decision-making across different racial and socioeconomic groups. By examining consumer confidence, financial literacy, and various demographic factors, this research elucidates the dynamic interplay between personal financial perceptions and the broader economic landscape’s impact on insurance uptake.

At its core, the study reveals a pronounced reluctance among individuals, particularly within Asian and Latino communities, to opt for disability income insurance, thereby highlighting an underlying racial disparity in insurance participation. This reluctance is intricately linked to consumer confidence, with findings indicating that positive economic outlooks over the past five years have bolstered insurance uptake among White individuals. This phenomenon aligns with consumer confidence theory, suggesting that optimism about one’s financial future can drive proactive financial behavior, such as securing disability income insurance. Conversely, expectations of near-term financial improvement appear to dampen the perceived necessity for such insurance, especially among White and Black populations, reflecting a belief in reduced economic risk and, thus, a diminished urgency for protective measures.

The nuanced analysis extends to perceptions of debt, revealing a positive correlation between favorable views on leveraging debt and the likelihood of securing disability income insurance among White respondents. However, similar effects are absent in other racial groups, which points to the intricate ways cultural and socioeconomic factors influence financial decision-making processes.

A notable aspect of the study involves the relationship between self-assessed financial knowledge and insurance acquisition. The research identifies a strong positive correlation among Black individuals, suggesting that enhanced financial awareness can lead to more informed and proactive financial decisions. In contrast, a negative association among Asians highlights the diverse cultural and socioeconomic variables that shape perceptions of disability income insurance’s value and necessity.

Further dissecting the impact of generational differences and marital status on insurance decisions, the research underscores the varying financial planning and risk mitigation strategies across racial and age demographics.

The stark generational contrast in insurance uptake, particularly among Asians, Baby Boomers, and the Silent Generation, emphasizes cultural values and perceived vulnerabilities. Similarly, marital status analysis illuminates how societal norms influence financial protection pursuits, with notable disparities among married or cohabitating individuals and those who are separated or widowed.

Central to the discussion is the role of human capital—education, income, and employment status—in determining insurance acquisition. The study highlights the strategic importance of education and income in fostering insurance participation, especially among Latinos, and points to employment status as a critical factor influencing insurance decisions.

In conclusion, this research affirms the significance of consumer confidence and financial literacy in shaping disability income insurance decisions and advocates for culturally sensitive, demographic-specific financial
education and policy interventions. By offering a nuanced understanding of the diverse factors influencing insurance uptake, this study paves the way for more inclusive and effective strategies to enhance financial security and economic resilience across the U.S. population, ensuring that disability income insurance serves as a robust safety net for all, irrespective of racial, economic, or demographic distinctions.

9. Future Research
The exploration of disability income insurance in the U.S. has uncovered pivotal areas for future investigation:

• The influence of specialized financial education on insurance literacy and confidence, particularly in marginalized populations.
• The evolution of insurance engagement over time relative to socioeconomic fluctuations.
• A comparison of the financial outcomes for those with employer-provided versus personal disability insurance plans.
• An in-depth look at how cultural values shape attitudes and behaviors towards insurance.
• An assessment of policy reforms aimed at improving the reach and affordability of disability insurance.

Research in these areas will enrich our understanding of insurance practices and help create policies that bolster the economic security of individuals with disabilities.

Conflict of Interest Statement
The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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