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Research Proposal Design

*Exploring the Intersection of Zip Code,
Racial Demographics, and Auto Insurance Rates:
A Comprehensive Review of Research and
Challenges in Pursuit of Equity*

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Applied Research Design

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Exploring the Intersection of Zip Code, Racial Demographics, and Auto Insurance Rates: A Comprehensive Review of Research and Challenges in Pursuit of Equity

INTRODUCTION AND BACKGROUND:

Auto insurance rates varying significantly across different geographic areas, particularly in predominantly minority zip codes, presents a complex and pressing issue. For years, drivers in these neighborhoods have faced higher premiums compared to their counterparts in non-minority neighborhoods. The insurance industry has often justified these disparities by citing a perceived higher risk of accidents, loss ratio, traffic congestion, and crime statistics in minority urban neighborhoods. However, this explanation raises concerns about equity and fairness within the auto insurance industry. Despite regulatory oversight, research continues to reveal discrepancies in premiums, with factors such as population density, crime rates, loss ratio, traffic congestion, and credit scores influencing these disparities.

Central Research Problem and Purpose:

The central research problem revolves around the disparity in auto insurance rates based on zip codes, particularly in minority urban neighborhoods and the ensuing concerns about equity and fairness. The purpose of this proposed study is to delve into the intersectionality of zip code, racial demographics, and auto insurance rates, with the overarching goal of addressing equity challenges within the auto insurance industry. By examining the factors contributing to these disparities and evaluating their impact, the study aims to inform policy discussions and advocate for fairer pricing practices.

Theoretical Importance:

The theoretical importance lies in advancing our understanding of how geographic areas, represented by zip codes, and racial demographics intersect with auto insurance rates. This research contributes to theoretical frameworks by exploring the spatial distribution of risk factors and socioeconomic dynamics that influence insurance pricing. By uncovering systemic biases within the industry, the study addresses theoretical questions about fairness, equity, and justice in insurance practices.

Practical Importance:

Practically, this research has significant implications. By shedding light on disparities in auto insurance pricing and identifying factors contributing to these disparities, the study empowers policymakers, regulators, and industry stakeholders to implement evidence-based solutions. It provides actionable insights for developing policies that promote fairness and transparency in pricing practices. Additionally, by advocating for fairer pricing practices, the research aims to improve access to affordable auto insurance for residents of minority urban neighborhoods, thereby enhancing economic equity and social justice.

The Topic of Study:

The topic of study related to this problem is the intersectionality of zip code, racial demographics, and auto insurance rates. This research aims to shed light on systemic biases within the industry that may lead to disparities in auto insurance pricing. By exploring how zip code and racial demographics intersect with insurance rates, the study seeks to identify the underlying factors contributing to these disparities and propose strategies for promoting fairness and equity in auto insurance pricing.

Specific Research Questions:

1. How does the percentage of minority population in large cities correlate with auto insurance rates by zip code, after controlling for population density, crime rates, loss ratio, traffic congestion, and credit score?
2. To what extent do demographic factors, such as minority population percentages, contribute to variations in auto insurance rates compared to other variables like population density, crime rates, traffic congestion, loss ratio, and credit score?

Methods:

For this study, a combination of secondary data analysis and quantitative methods will be utilized. Secondary data sources, including government agencies, research institutions, insurance industry reports, and investigative journalism conducted by popular media outlets, will provide comprehensive data on factors influencing auto insurance rates. Quantitative analysis will involve statistical techniques such as correlation analysis to identify relationships between variables and regression analysis to control for confounding factors. The population of interest includes large cities in the United States. A sample of cities will be selected based on criteria such as population size, geographical diversity, and representation of minority populations. Zip codes within these cities will serve as the units of analysis, with each zip code representing a distinct geographic area for examining auto

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insurance disparities. Overall, this research method combines secondary data analysis, geographic analysis, and quantitative techniques to provide comprehensive insights into disparities in auto insurance rates.

Importance of Research:

This research is crucial for several reasons. Firstly, it addresses longstanding disparities in auto insurance pricing, particularly in minority urban neighborhoods, and advocates for fairness and equity within the industry. Secondly, by identifying the factors contributing to these disparities and evaluating their impact, the study provides valuable insights for policymakers, regulators, and industry stakeholders. Ultimately, this research has the potential to inform policy discussions, drive changes in industry practices, and promote greater fairness and equity in auto insurance pricing.

LITERATURE REVIEW:

Background and Development of Research:

The study of how zip codes influence auto insurance rates have garnered attention from scholars, policymakers, and industry stakeholders over the past few decades. Moreover, studies conducted by researchers and investigative journalists have consistently demonstrated significant variations in auto insurance premiums across different zip codes, with some areas experiencing disproportionately high rates compared to others. Concurrently, researchers have recognized the importance of considering racial demographics in understanding auto insurance disparities. Countless researchers assert that their studies have shown that racial and ethnic minorities often face higher insurance premiums compared to their white counterparts, even after controlling for factors such as driving record and vehicle type. This has raised concerns about systemic discrimination within the insurance industry and implications for social equity. Many researchers have focused primarily on geographic factors such as population density, crime rates, traffic patterns and credit scores within zip codes, highlighting their impact on insurance risk assessment and pricing.

Current Status of Research:

Recent research has expanded the scope of inquiry to examine the complex interplay between zip codes, racial demographics, and auto insurance rates. Scholars have employed advanced statistical methods to analyze data collected of individual characteristics (e.g., race, income) and zip code-level factors (e.g., crime rates, median household income) to determine how they jointly contribute to variations in auto insurance premiums. Moreover, qualitative studies have delved into the experiences of individuals affected by auto insurance discrimination, shedding light on the socio-economic and racial dynamics at play.

Perspectives on the Topic:

As published in the New Mexico Rio Rancho Observer, insurance providers consider the overall safety level of the location where a driver parks their vehicle. According to an online report from Yahoo! Finance, insurers treat your garaging address similar to your ZIP code. They assess various factors including the average claims history, population density, traffic flow, accident rates, road conditions, crime statistics, prevalence of uninsured motorists, and the cost of living in that area (Leacock, 2024). “A garaging ZIP code or address refers to where you park your car the majority of the time, whether it’s in a driveway, garage or along the street. Typically, that’s where you live, at your primary residence, and so the ZIP code in your address would be the garaging ZIP. Typically, insurers will determine your location as the first step in setting a base car insurance rate. Then the cost is adjusted up or down, depending on other variables” (Longero, (n.d.)).

Consumer Reports (CR), a nonprofit membership organization, collaborates closely with consumers to promote fairness, safety, and health. It delivers evidence-based product testing and ratings, conducts rigorous research, engages in investigative journalism, offers public education, and advocates for consumer interests through steadfast policy action (ProPublica and Consumer Affairs, 2017). CR partnered with ProPublica, an independent, non-profit newsroom that produces investigative journalism in the public’s interest, and they found a significant gap between the premiums charged in minority and non-minority neighborhoods with the same risk (ProPublica and Consumer Affairs, 2017). Moreover, “Consumers Union, the policy and mobilization division of Consumer Reports, has long opposed the use of non-driving factors for setting auto insurance rates because of the discriminatory impact they can have on premiums. Instead, Consumers Union has urged state insurance commissioners to require insurers to base their rates primarily on a policyholder’s driving record, miles driven, and years of driving experience” (ProPublica and Consumer Affairs, 2017).

“ProPublica submitted public records requests to all 50 states and the District of Columbia, aiming to obtain zip-code level information on liability claims payouts. Among the respondents, only California, Illinois, Missouri, and Texas confirmed the collection and provision of such data. These states exemplify the spectrum of government oversight within the U.S. insurance industry, with California having the most stringent regulations and Illinois representing one of the least regulated markets. Furthermore, many insurers identified for overcharging minority neighborhoods in these states operate nationally. This suggests a possibility that numerous minority neighborhoods nationwide might be facing inflated auto insurance costs” (Consumer Reports, 2017). In each of the states’ surveyed, Consumer Reports and ProPublica discovered a notable difference in insurance premiums between minority and non-minority neighborhoods with similar characteristics (ProPublica and Consumer Affairs, 2017). “In Illinois, 33 of the 34 companies analyzed charged average rates that were at least 10 percent higher for the same safe driver in minority zip codes than in comparably risky non-minority zip codes.

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Six Illinois insurers, including Allstate, which is the second largest insurer in the state, had average disparities higher than 30 percent. In Missouri and Texas, at least half of the companies evaluated were charging higher rates on average for the same safe driver in high-risk minority communities than in other comparably risky communities. Even in highly regulated California, eight companies were charging minority zip codes more than 10 percent higher premiums on average than similarly risky non-minority zip codes. While in Illinois the disparities remained about the same from the safest to the most dangerous zip codes, in the other three states the disparities were confined to the riskiest neighborhoods. In those instances, prices in whiter neighborhoods stayed about the same as risk increased, while premiums in minority neighborhoods went up” (Consumer Reports, 2017). In general, households residing in predominantly minority zip codes allocated over twice the proportion of their household income towards auto insurance (11 percent), in contrast to households in predominantly white neighborhoods (five percent), as per U.S. Census data and analysis conducted by ProPublica/Consumer Reports (Consumer Reports, 2017). “We investigated this claim by examining both public and private data pertaining to auto insurance risk and rates, as well as the algorithms utilized for pricing across various states. Our analysis involved assessing aggregate risk data at the zip code level, obtained from insurers by the insurance commissioners of California, Illinois, Missouri, and Texas. This data was then compared with liability insurance premiums, encompassing bodily injury and property damage quotes, charged by the leading companies in market share within each of the four states. Our findings indicated that certain insurers were imposing notably higher premiums in predominantly minority zip codes, on average, compared to similarly risky non-minority areas. Particularly striking differences in premiums were observed in Illinois, where nearly every insurer exhibited disparities across all risk levels. In California, Texas, and Missouri, disparities were identified primarily in the most high-risk zip codes” (Consumer Reports, 2017). The Consumer Federation of America (CFA) revealed that numerous responsible drivers across ten American cities are overpaying for auto insurance solely due to their residential ZIP code. According to CFA's findings, there are substantial premium gaps within each area, even among residents living within close proximity to each other, sometimes just across the street or next door. In every city examined, the pricier ZIP code typically correlated with lower median income and a higher proportion of non-white residents compared to its neighboring, lower-premium ZIP code (Consumer Federation of America, 2023). As an example of the research findings, CFA presents “two houses on either side of a Buffalo ZIP code boundary with the average premiums offered to a good driver at each address from five major auto insurers. Except for the address, the tested drivers were exactly the same in every way, and the coverage is for the state mandated minimum liability policy. The good driver in the lower-income, predominantly African American 14215 ZIP code was quoted 34% higher premiums on average than her counterpart next door, in the wealthier, majority white 14226 ZIP” (Consumer Federation of America, 2018). CFA “looks at auto insurers’ use of credit scores and ZIP codes in auto insurance pricing, and finds that their use of these factors harms consumers, resulting in unfair discrimination” (Consumer Federation of America, 2023). Pursuant to another report issued

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by CFA regarding auto insurance rating in New York, “good New York drivers must pay hundreds or even thousands of dollars more in premiums, and Black and Latino drivers are disproportionately harmed. The report concludes with several reforms: 1) ban credit information in auto insurance pricing, 2) reduce the use of geographic territorial/ZIP code in auto insurance pricing, and 3) requires auto insurers to test and make sure their use of data and models doesn’t result in unfair, harmful discrimination based on protected classes” (Consumer Federation of America, 2023).

The National Conference of Insurance Legislators (NCOIL) is a national legislative organization, boasting a membership encompassing all 50 states, with a predominant representation from legislators serving on their respective states’ insurance and financial institutions committees. Founded in 1969, NCOIL’s primary objectives include developing Model Laws in insurance and financial services, advocating for the preservation of state jurisdiction over insurance regulation as mandated by the McCarran-Ferguson Act established 75 years ago, and serving as an educational platform for policymakers and stakeholders. Model Laws are proposed legislative frameworks developed by organizations or authorities to serve as templates or guidelines for drafting actual laws or regulations. These models are often created to address specific issues or areas of governance, providing a structured framework that can be adapted and implemented by jurisdictions according to their needs and circumstances (Badenhausen, 2018). They aim to promote consistency and standardization in legal frameworks across different regions or jurisdictions (NAIC Model Laws, n.d.). With a commitment to empowering legislators in shaping state insurance policies, NCOIL endeavors to provide ongoing education to state lawmakers on pertinent and longstanding insurance issues (Badenhausen, 2020).

The NCOIL Model for state oversight of insurance scoring practices (2002) presented a framework intended to regulate auto insurance scoring methodologies. It delineated a set of prohibited uses and negative factors that insurers were barred from including in their scoring algorithms. Specifically, it addressed concerns regarding unfair discrimination by disallowing the consideration of “income, gender, address, ZIP Code, ethnic group, religion, marital status or nationality” (Model Act, (n.d.) in insurance scoring processes. Moreover, it prohibited insurers from using credit information as the sole determinant for denying, canceling, or non-renewing coverage, or for setting renewal rates. Additionally, insurers were obligated to submit their scoring methodologies to the state department of insurance for review, which may include providing loss experience data to justify the utilization of credit or scoring information (Model Act, (n.d.). The Model has been embraced by 30 or more states and has played a pivotal role in safeguarding consumers while fostering competitive insurance marketplaces (Badenhausen, 2020).

In 2020, NCOIL’s President Indiana Representative Matt Lehman, commented on federal legislation seeking to prevent credit score discrimination in auto insurance. He emphasized the longstanding

debate surrounding credit score discrimination in insurance, spanning two decades. He also underscored the states' jurisdiction to regulate insurance matters and asserted NCOIL's stance against federal intervention. Commissioner Tom Considine, NCOIL's CEO, also expressed his astonishment at the actuarial viability of credit scores as a determinant in auto insurance underwriting. He acknowledged the compelling statistical evidence supporting the use of credit scores, noting that the findings leave little room for dispute (Badenhausen, 2020).

The National Association of Mutual Insurance Companies (NAMIC) asserts how crucial it is to understand that insurance scores differ from credit scores. While credit scores forecast the probability of an individual defaulting or becoming delinquent in repaying a credit obligation, insurance scores predict the likely "loss ratio relativity" of an individual. The loss ratio, calculated by dividing the amount paid out by an insurance company in claims by the amount collected in premiums, assesses whether an individual is likely to experience more or fewer losses than average. Further, it's essential to note that a credit-based insurance score is just one of over two dozen factors used by insurers to make underwriting or rating decisions regarding an individual. Other factors typically considered include an individual's motor vehicle report and claims history (NAMIC, (n.d.)).

From a consumers' perspective, an investigative journalist at Consumer Reports Kaveh Waddell, conducted an analysis in 2023 of tens of thousands of car insurance quotes in New York which revealed stark disparities in premiums based on credit scores and ZIP codes. Drivers with clean driving records but low credit scores face an average increase of \$1,367 in insurance costs compared to those with excellent credit. Moreover, in zip codes predominantly inhabited by Black residents, this disparity widens, with the average cost of poor credit amounting to \$3,411 annually. The study, conducted by the Consumer Federation of America (CFA), examined nearly 100,000 insurance quotes from 10 major New York car insurance companies. These findings underscore how factors unrelated to driving behavior, such as credit scores and ZIP codes, significantly impact insurance premiums. Douglas Heller, the CFA Insurance expert leading the study, emphasizes the harmful effects of these inflated premiums on experienced drivers with clean records, highlighting the inequities within New York's insurance market (Waddell, 2023). Throughout the United States, with the exception of California, Hawaii and Massachusetts, insurance companies factor in drivers' credit scores and ZIP codes when determining premiums. These factors, assessed through a "credit-based insurance score," are utilized to gauge the riskiness of insuring a driver. Historically, discriminatory practices like redlining have limited opportunities for communities of color to build wealth, resulting in disparities in credit scores. This creates a compounded disadvantage for drivers of color, particularly in nonwhite ZIP codes. Moreover, relying on credit information for insurance pricing poses additional challenges, as credit reports often contain errors that can negatively impact financial decisions. In a 2021 survey conducted by Consumer Reports, one in three

participants identified errors in their credit reports, highlighting the potential inaccuracies in credit-based assessments (Waddell, 2023). Factors like education, job title, gender, marital status and credit scores influence insurance pricing, with drivers in lower socioeconomic brackets facing disproportionately higher premiums (Waddell, 2023). In response to these disparities, there's a growing movement to curb the use of socioeconomic factors in insurance pricing. In New York, the Department of Financial Services implemented a rule requiring insurers to demonstrate that factors like job and education levels are discriminatory. As a result, major car insurers ceased using these factors in New York. The NY Assembly Majority Leader, Crystal Peoples-Stokes, seeks to outlaw the use of socioeconomic factors that negatively impact premiums and coverage terms in certain zip codes in the state. Similar initiatives are underway in other states, with some imposing temporary bans on rate increases based on credit scores (Waddell, 2023).

Offering a broader perspective on the use of existing data and pricing trends, in January of 2023, the National Association of Insurance Commissioners (NAIC) published the 2019/2020 Database Auto Insurance Report. This report offers comprehensive statistical data across the country (except Texas). It provides valuable insights and sought-after information for the insurance industry as a whole. For decades, regulators and policymakers have shown significant interest in understanding the costs associated with personal automobile insurance. To assist states in evaluating their respective insurance markets, the NAIC developed this report to provide insurance regulators and the public with accessible information on cost factors in each state. This database encompasses various factors such as “auto insurance markets, traffic conditions, medical costs, crime rates, economic conditions, and state laws pertinent to automobile insurance” (2019/2020 Auto Insurance Database Report (n.d)).

The research highlights disparities in auto insurance rates across different states, with some states being more regulated than others. Further investigation could explore the reasons behind these regulatory variations and how they affect insurance pricing practices. Understanding the regulatory landscape more comprehensively could provide insights into the potential policy interventions to address disparities.

A PROPOSED RESEARCH DESIGN:

Refined Research Questions:

1. How do zip codes, racial demographics, and various socio-economic factors intersect to influence auto insurance rates in large cities in the United States?
2. To what extent do disparities in auto insurance rates between minority and non-minority zip codes persist after controlling for demographic, crime, traffic, and financial variables?

Research Hypotheses:

The following hypotheses provide a framework for testing the relationships between various factors and auto insurance rates, allowing for empirical analysis to determine their significance and directionality. Further discussion on the variables and their operationalization can help refine these hypotheses and guide the research methodology.

Hypothesis 1: Minority Population Percentage is Positively Correlated with Auto Insurance Rates

Hypothesis 2: Crime Rates are Positively Correlated with Auto Insurance Rates

Hypothesis 3: Traffic Congestion Levels are Positively Correlated with Auto Insurance Rates

Hypothesis 4: Loss Ratio is Positively Correlated with Auto Insurance Rates

Hypothesis 5: Credit Score is Negatively Correlated with Auto Insurance Rates

Methodology:

The research method proposed for investigating disparities in auto insurance rates involves a quantitative approach. This approach utilizes numerical data to analyze relationships between variables and draw statistical conclusions. Firstly, secondary data sources such as government agencies, research institutions, insurance industry reports, and investigative journalism will be utilized to gather relevant data. This approach ensures access to comprehensive and reliable information on factors influencing auto insurance rates. Secondly, the unit of analysis will be zip codes within large cities in the United States. Each zip code will serve as a distinct unit for examining disparities in auto insurance rates and analyzing factors such as population demographics, crime rates, traffic congestion levels, loss ratio, and credit score. By focusing on zip codes, the research aims to capture localized variations in auto insurance pricing within large urban areas, allowing for a more granular analysis of the factors contributing to disparities in insurance rates. Thirdly, the population of interest shall consist of large cities within the United States. The sampling approach for this study is purposive, meaning that it deliberately selects a sample of large cities in the United States based on specific criteria such as population size, geographical diversity, and representation of minority populations. This method aims to ensure that the chosen cities are representative of the diverse urban landscape in the country and provide insights into auto insurance disparities across various geographic and demographic contexts. While this approach allows for the targeted selection of cities aligned with the research objectives, it may not encompass the full diversity of urban areas nationwide. Consequently, the findings may be more applicable to the selected cities rather than being nationally representative. Fourthly, variables of interest encompass demographic factors, crime rates, traffic congestion, loss ratio, credit score, and auto insurance rates. By examining these variables, the research aims to

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identify correlations and relationships that shed light on the factors influencing auto insurance disparities. Finally, correlation analysis will be employed to identify relationships between variables, elucidating potential associations between factors such as zip codes, racial demographics, and insurance premiums. Quantitative data analysis provides a robust framework for uncovering patterns and trends within large datasets, informing evidence-based conclusions regarding the factors influencing auto insurance disparities. Overall, this research holds promise in advancing both theoretical understanding and practical solutions to address disparities in auto insurance pricing.

Study Design:

This study design entails a systematic approach to investigating disparities in auto insurance rates. The sampling strategy employs purposive sampling to select large cities based on criteria such as population size, geographical diversity, and representation of minority populations. Data collection involves gathering information from diverse sources, including government databases, research institutions, and industry reports, focusing on variables such as zip codes, racial demographics, crime rates, traffic congestion, loss ratios, credit scores, and auto insurance rates. Variable operationalization ensures consistency and accuracy in measurement, involving categorization and standardization of variables. Quantitative data analysis, including correlation and regression analysis, examines relationships between variables and tests hypotheses. The interpretation of results considers the research questions and theoretical framework, drawing conclusions on factors influencing auto insurance disparities and their implications for policy and practice. In essence, this study design aims to provide a rigorous investigation into auto insurance rate disparities, facilitating evidence-based conclusions and recommendations to address equity challenges within the industry.

Definition of Terms and Variables:

The following chart outlines the variables relevant to the study, along with their data descriptions and potential sources of data. Each variable contributes to understanding the relationship between minority population percentages, demographic factors, and auto insurance rates within large cities in the United States. The combination of quantitative and qualitative data sources enables a comprehensive analysis of the factors influencing variations in auto insurance rates across different zip codes.

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Variable	Data Description	Data Sources
Minority Population Percentage	The percentage of minority population within each zip code in large cities in the United States.	U.S. Census Bureau, local government demographic data
Auto Insurance Rates by Zip Code	The average auto insurance rates (premiums) for each zip code within large cities.	Insurance industry reports, state insurance regulatory agencies, online insurance quote comparison tools, insurance company websites
Population Density	The number of individuals per square mile within each zip code area.	U.S. Census Bureau, local government data
Crime Rates	The frequency or rate of reported crimes (e.g., theft, vandalism, auto theft) within each zip code.	Federal Bureau of Investigation (FBI) Uniform Crime Reporting (UCR) Program, local police department reports, crime mapping websites
Traffic Congestion	The level of traffic congestion within each zip code area (e.g., average commute time, traffic volume).	Department of Transportation (DOT) traffic data, traffic monitoring websites, GPS navigation data
Loss Ratio	The ratio of incurred losses (claims) to earned premiums, indicating the insurer's profitability.	Insurance industry reports, National Association of Insurance Commissioners (NAIC) data, insurance company financial statements
Credit Score	The creditworthiness of individuals residing within each zip code area, based on credit score data.	Credit reporting agencies (e.g., Equifax, Experian, TransUnion), consumer credit reports, financial institutions' data

Data Collection:

Data on auto insurance rates, population demographics, crime rates, population density, traffic congestion levels, loss ratio, and credit score will be collected from reputable sources such as the United States Census (U.S.Census), the Federal Bureau of Investigation (FBI), the U.S. Department of Transportation (USDOT), U.S. Department of Treasury (USDT), National Conference of State Legislators (NCSL), National Center for Education Statistics (NCES), The National Conference of Insurance Legislators (NCOIL), The

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National Association of Insurance Commissioners (NAIC) Database Auto Insurance Report, Consumer Federation of America (an association of non-profit consumer organizations to advance consumer interest), ProPublica (independent non-profit investigative journalism in the interest of the public), Consumer Reports, credit bureaus, and insurance industry reports.

Data Analysis:

Data Analysis: Quantitative data analysis will be conducted to examine relationships between variables and test hypotheses. This will involve employing statistical analysis techniques, including correlation analysis and multiple regression analysis, to assess the significance of the correlations and control for confounding factors. Descriptive statistics such as means, standard deviations, and frequency distributions will be utilized to summarize key variables. Additionally, graphical representations such as scatter plots and/or bar charts will be employed for data visualization and presentation, enhancing the clarity and accessibility of the findings.

Interpretation and Conclusion:

I will interpret the results of the data analysis in the context of the research questions and theoretical framework. Additionally, I shall draw conclusions regarding the factors influencing auto insurance disparities and their implications for policy and practice. Overall, the study design will aim to provide a systematic and rigorous approach to investigating disparities in auto insurance rates, allowing for evidence-based conclusions and recommendations for addressing equity challenges within the industry.

Data Presentation/Charts:

The graphs in the google link below and/or on pages 19-25 relate to the hypotheses 1 through 5 of my Research Proposal Design:

<https://docs.google.com/spreadsheets/d/16wx33VtfLAZOaXJbeqJrv39wPrESl2zc/edit#gid=1380050677>

Excel Spreadsheet #1: The Thousand Dollar Insurance Penalty: How Insurance Companies Credit Scoring and Zip Code Rating Push Up Premiums for Safe Driving in New York

Source: Consumer Federation of America (pages 19-23)

Report finds New York drivers pay far more for auto insurance solely based on their credit scores and black and Latino drivers face steepest price hikes · Consumer Federation of America. Consumer Federation of America. (2023a, May 8). https://consumerfed.org/press_release/report-finds-new-york-drivers-pay-far-more-for-auto-insurance-solely-based-on-their-credit-scores-and-black-and-latino-drivers-face-steepest-price-hikes/

Excel Spreadsheet #2: How Zip Codes Affect Auto Insurance Premium in Maryland

Source: Consumer Federation of America (pages 23-24)

How ZIP codes affect auto insurance premiums in Maryland. (n.d.-b). <https://econaction.org/wp-content/uploads/2022/11/PolicyBrief>

HowZipCodesImpactMarylandAutoInsurancePremiums.docx3_.pdf

Excel Spreadsheet #3: Consumers Insurance Premium in New Jersey Vary Dramatically by Zip Code Demographics

Source: Consumer's Federation of America (page 25)

Insurance premiums in New Jersey vary dramatically by ZIP code demographics · Consumer Federation of America. Consumer Federation of America. (2021, November 29). [https://consumerfed.org/reports/insurance-premiums-in-new-jersey-vary-dramatically-by-zip code-demographics/](https://consumerfed.org/reports/insurance-premiums-in-new-jersey-vary-dramatically-by-zip-code-demographics/)

Expected Findings:

From the proposed methodology utilizing quantitative research methods to investigate disparities in auto insurance rates, several key findings may be expected:

1. The analysis is likely to reveal the significant influence of various factors on auto insurance rates, including zip codes, racial demographics, crime rates, traffic congestion levels, loss ratios, and credit scores. It may highlight which factors have the strongest correlations with insurance premiums.
2. The research is expected to quantify the extent of disparities in auto insurance rates between minority and non-minority zip codes, controlling for other demographic, crime, traffic, and financial variables. It may reveal whether these disparities persist even after accounting for other factors.
3. By focusing on zip codes within large cities, the study may uncover localized variations in auto insurance pricing. It could identify specific areas within cities where insurance rates are significantly higher or lower compared to neighboring areas, providing insights into spatial patterns of insurance pricing.
4. The analysis may shed light on potential biases or discrimination within the auto insurance industry. It could reveal whether certain demographic groups, particularly minorities, are disproportionately affected by higher insurance premiums, even after controlling for other factors.

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The expected findings from the proposed methodology do indeed address my research questions, as the methodology aims to uncover correlations between the percentage of minority population in large cities and auto insurance rates by zip codes while controlling for other relevant factors. Additionally, the inclusion of credit score as a variable provides insights into its impact on insurance dynamics. The expected answer to my research questions is that there will likely be significant correlations between minority population percentages and auto insurance rates, even after accounting for other variables like population density, crime rates, and credit score. This suggests that minority populations may face higher auto insurance rates compared to non-minority populations, even when controlling for factors traditionally associated with insurance risk. The implications of my study for the government or nonprofit sector could be significant. If my findings confirm disparities in auto insurance rates, particularly for minority populations, it could highlight the need for policy interventions or regulatory reforms aimed at promoting fairness and equity in insurance pricing. Nonprofit organizations working in advocacy or consumer protection may also leverage my findings to raise awareness about insurance disparities and advocate for reforms to address them. Additionally, my study may inform the development of programs or initiatives aimed at improving financial literacy and credit access among underserved communities, potentially influencing insurance dynamics in the long term.

Conclusions:

My findings address my two key research questions, 1) How zip codes, racial demographics, and socioeconomic factors influence auto insurance rates, and 2) To what extent disparities in auto insurance rates persist between minority and non-minority zip codes after controlling for various variables, as it reveals that insurers consider factors such as claims history, population density, traffic flow, crime rates and credit scores in setting premiums. It highlights significant gaps in premiums charged between minority and non-minority neighborhoods with similar risk profiles, even in regulated states. Efforts to address these disparities include curbing the use of socioeconomic factors in pricing. It seems that the expected findings align with the results obtained from the research. I anticipated significant correlations between minority population percentages and auto insurance rates, even after controlling for other variables like population density, loss ratio, traffic flow, crime rates, and credit scores. The actual findings revealed such correlations and highlighted disparities in auto insurance rates faced by minority populations compared to non-minority populations. They confirm existing concerns about disparities in auto insurance rates based on zip codes, racial demographics, and socio-economic factors, while also providing insights into the impact of credit scores on insurance dynamics. These findings have important implications for government policymaking and nonprofit advocacy efforts, as they underscore the need for interventions to promote fairness and equity in insurance pricing to address disparities faced by minority communities.

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Studies on the plight of good drivers in affording auto insurance. Consumer Federation of America. (2023, August 1). <https://consumerfed.org/cfa-studies-on-the-plight-of-low-and%20moderate-income-good-drivers-in-affording-state-required-auto-insurance/>

Waddell, Kaveh. (2023, April 16). *How credit scores and ZIP codes can make car insurance much more* <https://www.consumerreports.org/money/car-insurance/credit-scores-zip-codes-makecarinsurance-pricier-in-ny-a8532785979/>

TABLES, FIGURES, NOTES:

Excel Spreadsheet #1: The Thousand Dollar Insurance Penalty: How Insurance Companies Credit Scoring and Zip Code Rating Push Up Premiums for Safe Driving in New York Source: Consumer Federation of America (Page 19-23)

Auto Insurer	Excellent Credit	Fair Credit	Poor Credit
Adirondack Insurance Exchange	650	1200	2344
Allmerica Financial Alliance Insurance Company	719	1280	3545
Allstate Fire & Casualty Insurance Company	1107	1813	2450
Erie Insurance Company	623	981	1853
GEICO General Insurance Company	721	928	1320
New York Central Mutual Fire Insurance Company	911	1528	2531
Progressive Casualty Insurance Company	242	756	3776
State Farm Mutual Auto Insurance Company	755	1241	2051
Travelers Personal Insurance Company	930	1547	2524
USAA Casualty Insurance Company	536	649	915

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Unweighted Average	719	1192	2331
Weighted Average	730	1148	2097

Auto Insurer	Percentage Increase— Excellent Credit to Fair Credit	Percentage Increase— Fair Credit to Poor Credit	Percentage Increase—Fair Credit to Poor Credit_1
Adirondack Insurance Exchange	0.85	0.95	2.61
Allmerica Financial Alliance Insurance Company	0.78	1.77	3.93
Allstate Fire & Casualty Insurance Company	0.64	0.35	1.21
Erie Insurance Company	0.58	0.89	1.97
GEICO General Insurance Company	0.29	0.42	0.83
New York Central Mutual Fire Insurance Company	0.68	0.66	1.78
Progressive Casualty	2.12	4	14.58

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Insurance Company			
State Farm Mutual Auto Insurance Company	0.64	0.65	1.72
Travelers Personal Insurance Company	0.66	0.63	1.71
USAA Casualty Insurance Company	0.21	0.41	0.71
Unweighted Average	0.66	0.95	2.24
Weighted Average	0.57	0.83	1.87

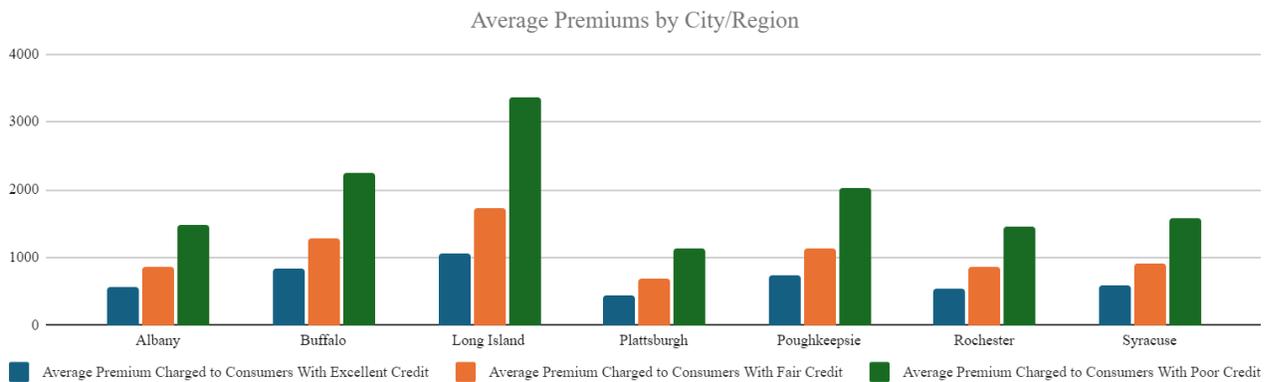
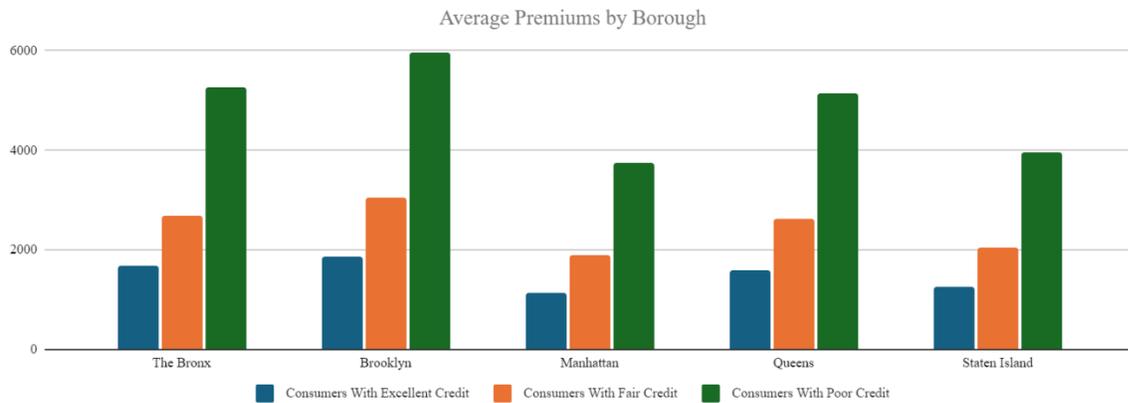
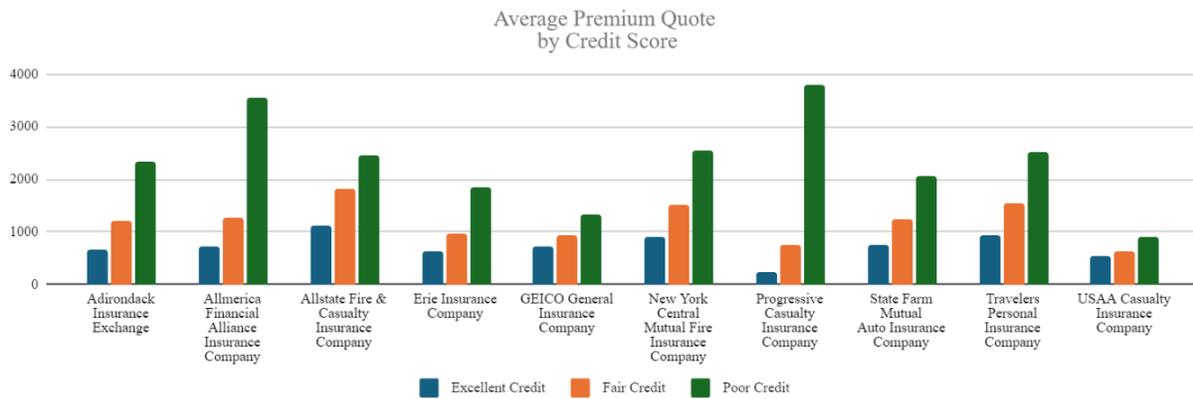
Borough	Consumers With Excellent Credit	Consumers With Fair Credit	Consumers With Poor Credit
The Bronx	1666	2694	5269
Brooklyn	1861	3046	5971
Manhattan	1141	1901	3743
Queens	1600	2619	5152
Staten Island	1253	2037	3944

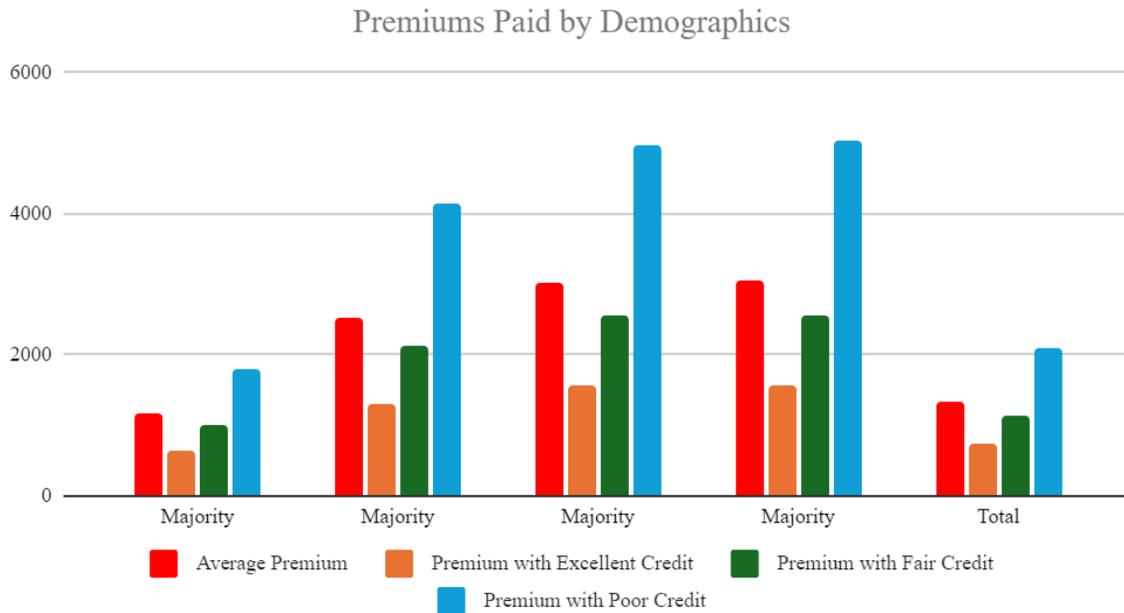
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City/Region	Average Premium Charged to Consumers With Excellent Credit	Average Premium Charged to Consumers With Fair Credit	Average Premium Charged to Consumers With Poor Credit
Albany	568	866	1486
Buffalo	826	1292	2259
Long Island	1073	1727	3350
Plattsburgh	453	678	1135
Poughkeepsie	731	1140	2017
Rochester	551	852	1445
Syracuse	594	918	1584

ZIP Code Demographics	# of ZIP Codes	Average Premium	Premium with Excellent Credit	Premium with Fair Credit	Premium with Poor Credit
Majority White	1514	1152	647	1006	1803
Majority People of Color	210	2529	1314	2131	4141
Majority Black	41	3027	1564	2543	4975
Majority Latino	32	3056	1573	2554	5042
Total Statewide Average	1724	1325	730	1148	2097

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Excel Spreadsheet #2: How Zip Codes Affect Auto Insurance Premium in Maryland

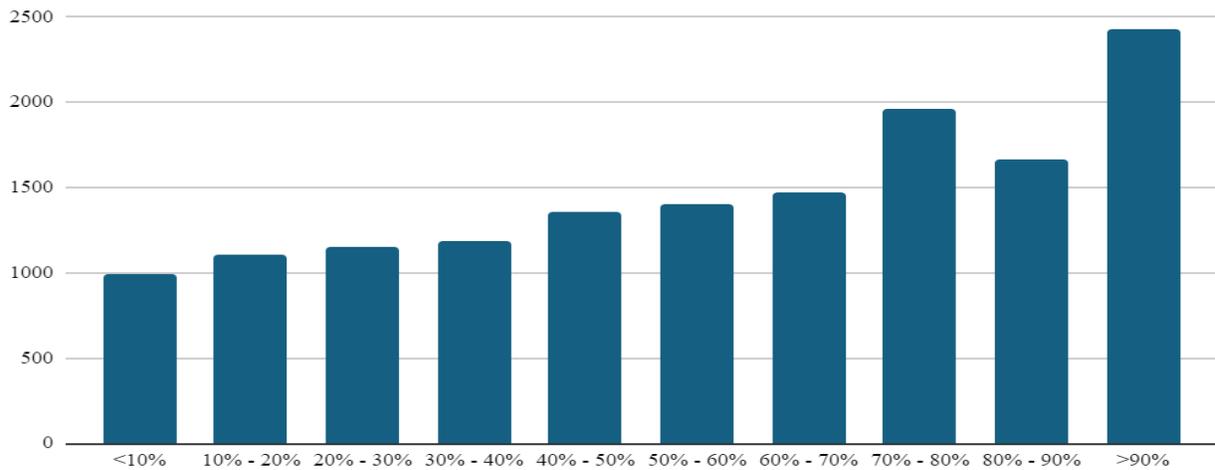
Source: Consumer Federation of America (Page 24-25)

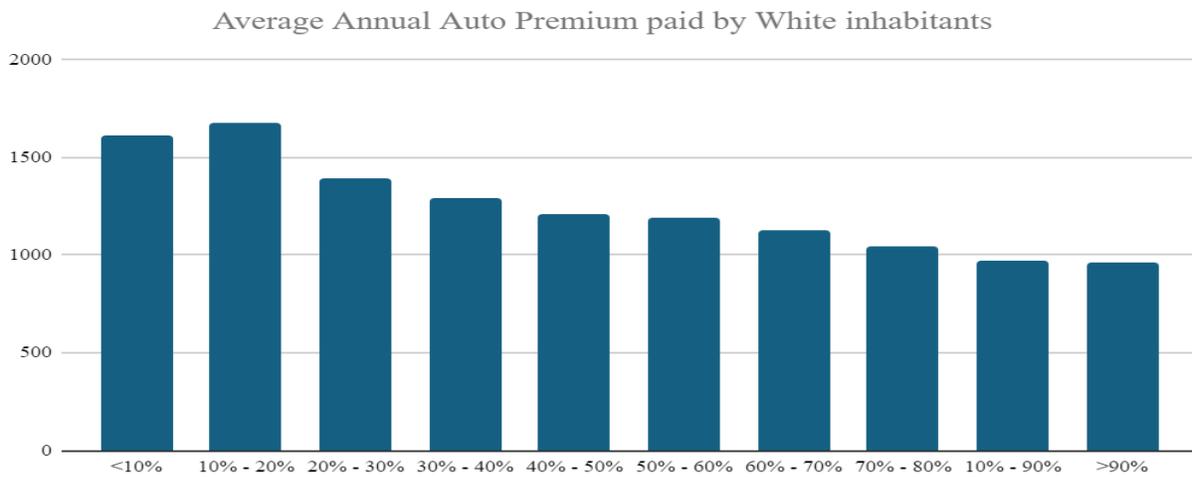
African American Population per ZIP Code	Average Annual Auto Premium	How Many Zip Codes	Sum of Total Population in Zip Codes	Percentage of Total Maryland Population in Zip Codes
<10%	987.77	240	1606469	0.2672
10% - 20%	1101.15	78	1362334	0.2266
20% - 30%	1149.44	51	1078968	0.1795
30% - 40%	1180.37	23	348807	0.058
40% - 50%	1360.54	13	322389	0.0536
50% - 60%	1406.73	15	266039	0.0443
60% - 70%	1472.74	12	257278	0.0428
70% - 80%	1962.19	8	329633	0.0548
80% - 90%	1664.36	12	409251	0.0681

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White Population of ZIP Code	Average Annual Auto Premium	How Many Zip Codes	Sum of Total Population in Zip Codes	Percentage of Total Maryland Population in Zip Codes
<10%	1611.36	20	684492	0.1139
10% - 20%	1675.51	19	462198	0.0769
20% - 30%	1389.97	18	558641	0.0929
30% - 40%	1288.07	20	470345	0.0782
40% - 50%	1212.54	20	518236	0.0862
50% - 60%	1191.33	35	673558	0.112
60% - 70%	1123.81	49	829731	0.138
70% - 80%	1040.79	61	667960	0.1111
10% - 90%	970	93	812539	0.1352
>90%	963.76	118	333647	0.0555

Average Annual Auto Premium paid by African-Americans





Excel Spreadsheet #3:

Consumers Insurance Premium in New Jersey Vary Dramatically by Zip Code Demographics (Page 25)

Source: Consumer’s Federation of America

Average Premium by Credit History				
ZIP Code Demographics	Excellent Credit	Fair Credit	Poor Credit	Average Premium
Majority Black	1125	1912	3038	2025
Majority Latino	1127	1918	3047	2031
Majority White	790	1287	1988	1355
Below \$50K Median Income	1093	1851	2934	1959
Above \$150K Median Income	760	1230	1890	1293
Total Statewide	842	1384	2153	1460

