
Report on EDA Findings and Insights

Premium Pricing Attributes for Home Insurance

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INTRODUCTION

Any industry, the price is subject to the law of demand and supply. Since getting the best price is the top priority for insurance customers, even a small percentage change in premium prices causes many customers to switch providers. The premium is set by the insurer in advance of any claims, and hence it is vital for the company to predict the risks of their customers in order to set a profitable premium.

Objective of the Study

To find out Premium Pricing Attributes for Home Insurance

Research Methodology

Research design:

The study conducted here is mainly descriptive.

Collection of the data:

The Dataset for the given Internship is provided by Mentor Mind.

Tools and Technology:

R-Studio and R packages dplyr, ggplot2, naniar, patchwork, eeptools .

Type of Premium Pricing Attributes for Home Insurance

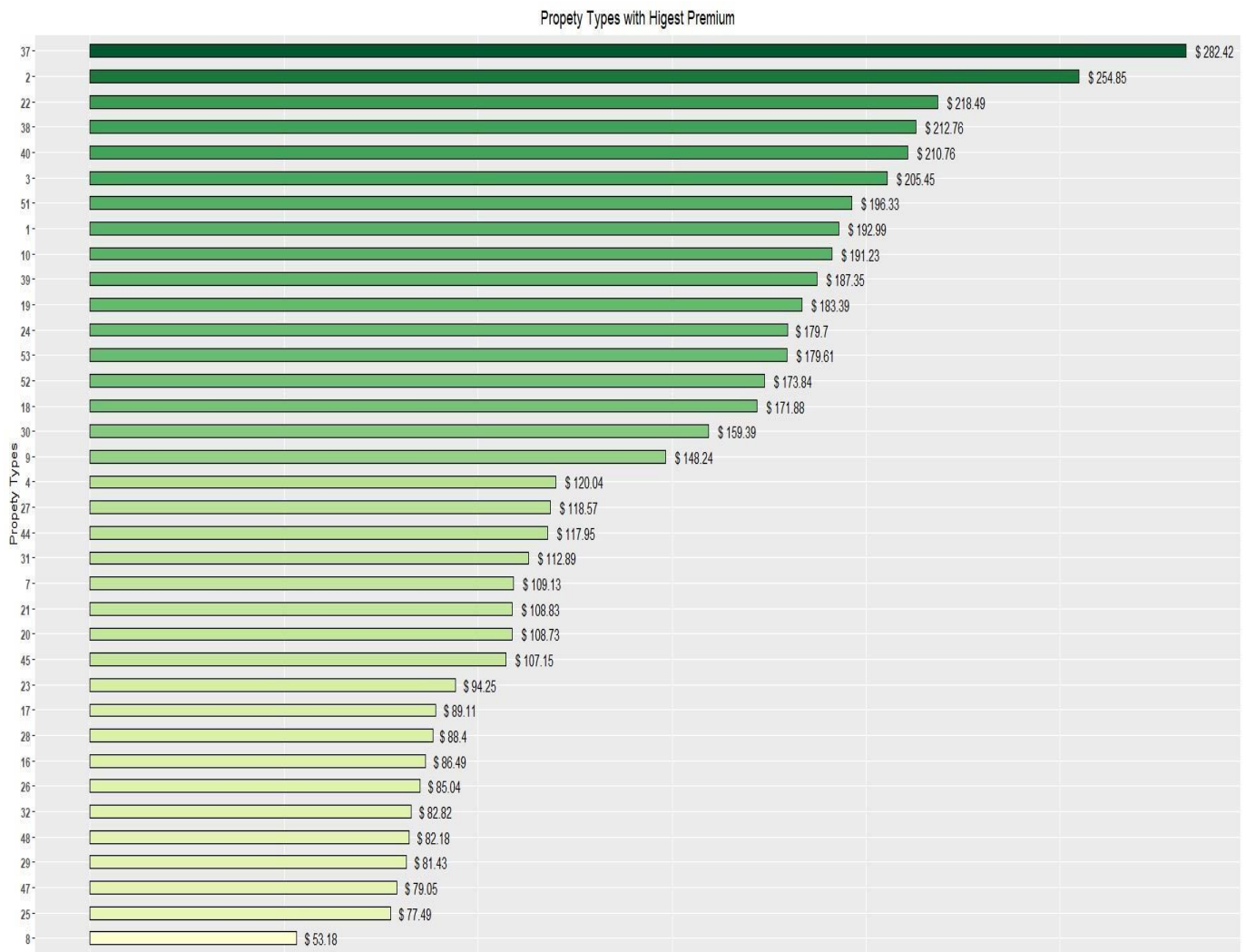
The most crucial factor for identifying premium pricing attribute are:

1. Characteristics of a house that can drive up the price of premium
2. Characteristics of customers who are likelier to default on their payments.

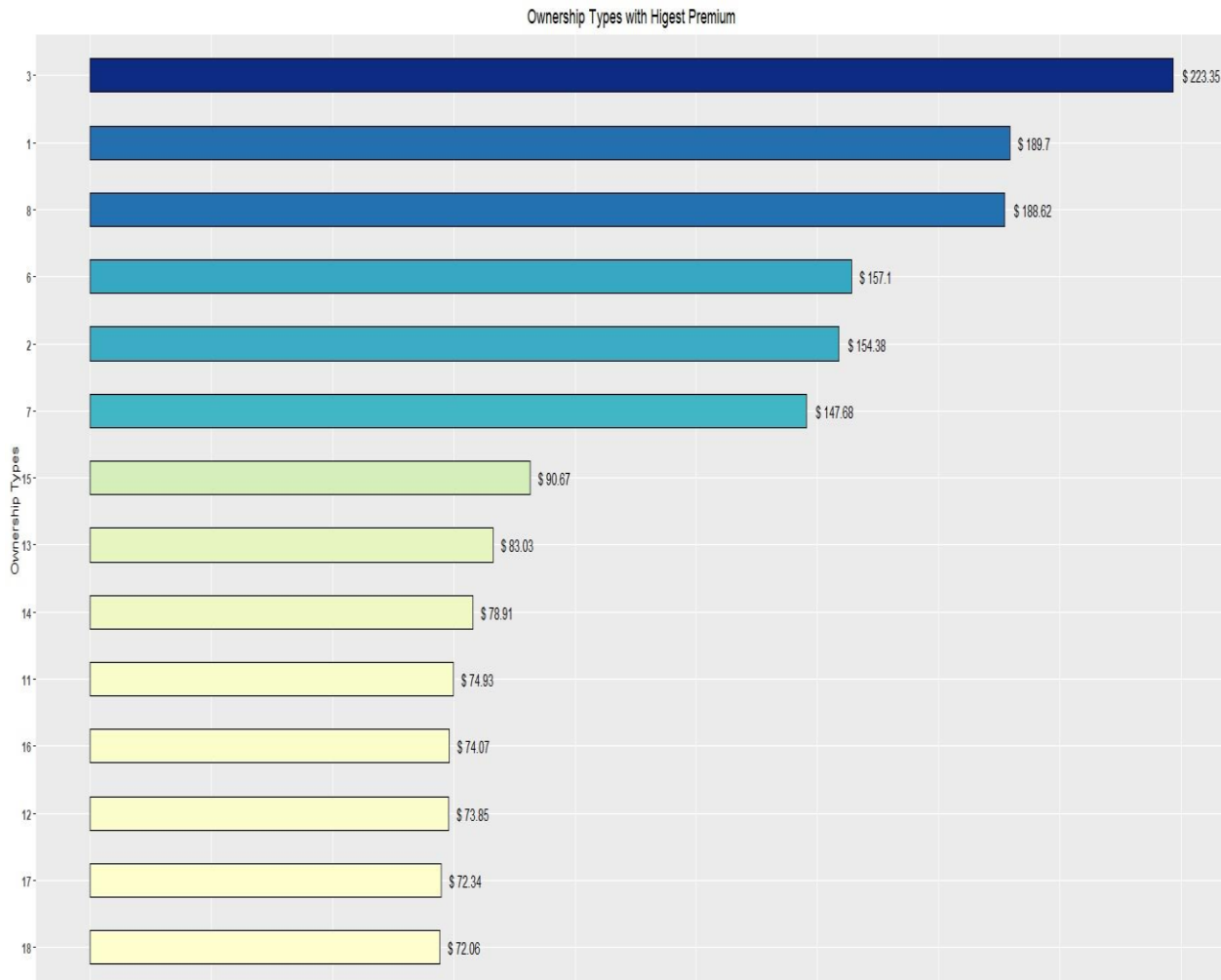
Characteristics of a house that can drive up the price of premium:

There are different characteristics of house that can lead to increase the premium price let's see those characteristics in details:

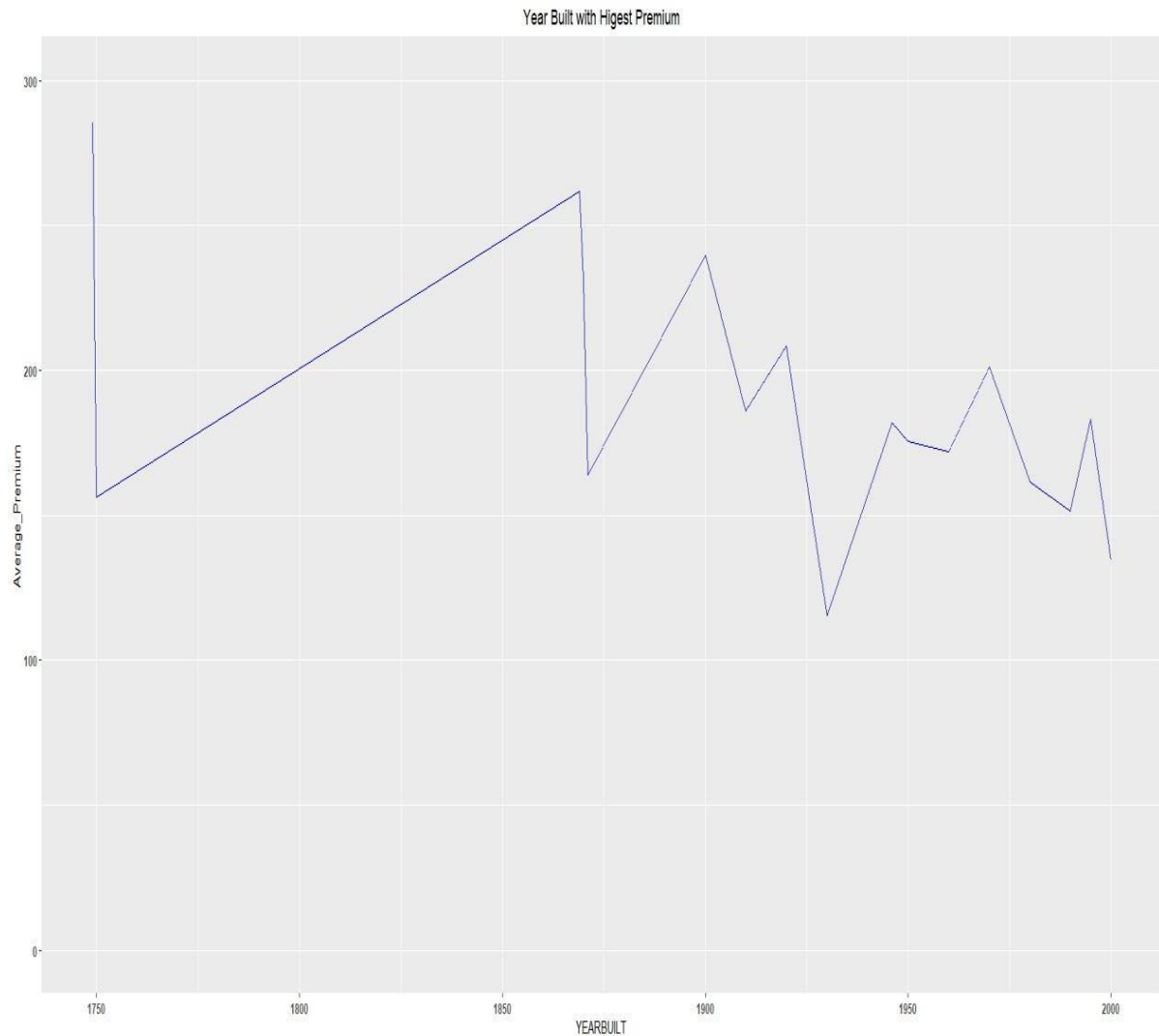
1. Property Type: Different Property have different premium, some property type having high premium and some having low. In the following char we find out property type 37 have the high premium while property type 37 and Property type 8 have lowest. So Client are having property which is type 37 are going pay high premium amount compare to other property type.



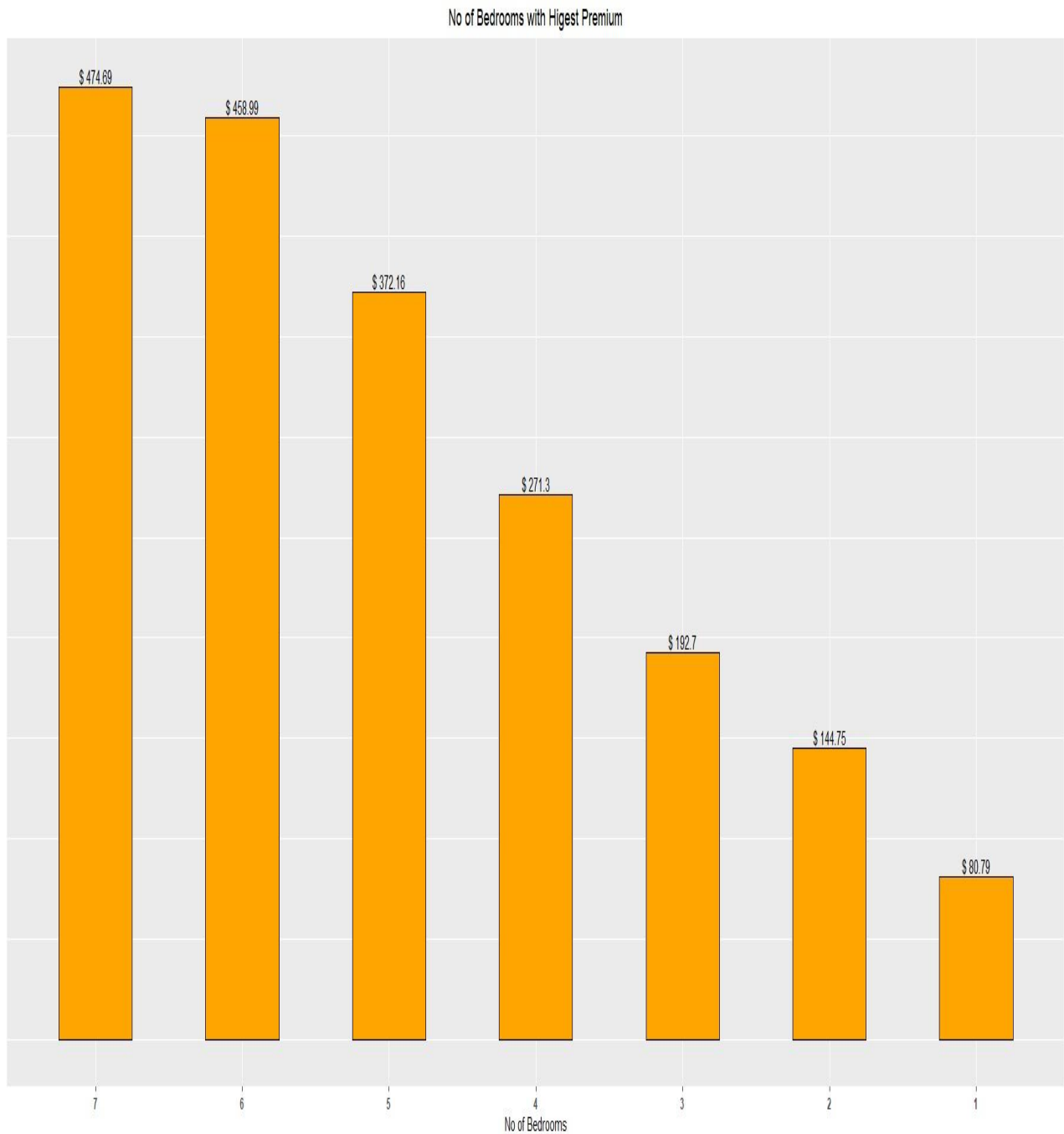
2. Ownership Type: Ownership is the state or fact of legal possession and control over property. Ownership can involve multiple rights, collectively referred to as title, which may be separated and held by different parties. Client who having Ownership Type 3 are going to pay highest premium.



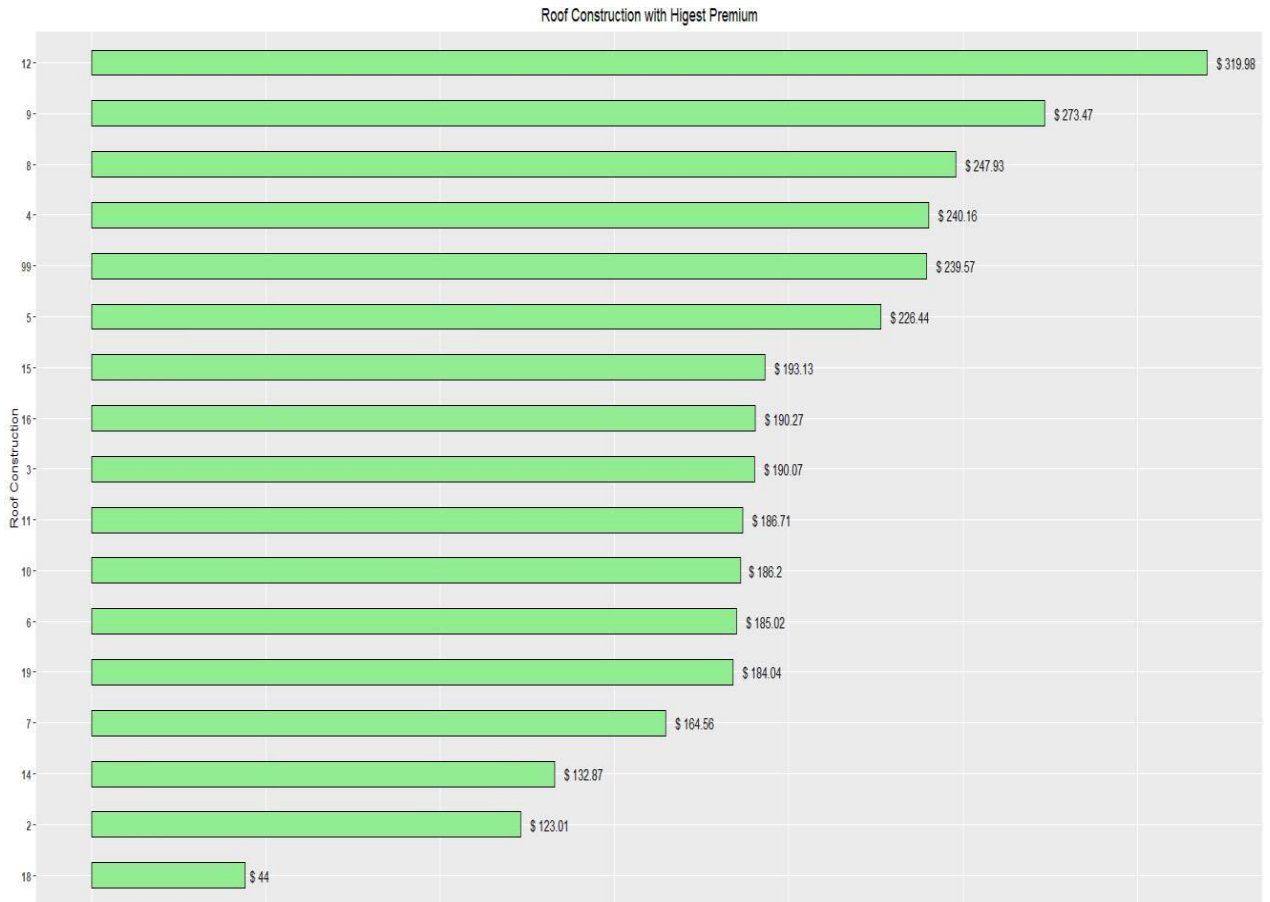
3. Year built: Year built is basically the year property is built. In the Following chart we out older Property have the higher premium. The Client who are having the property just before 1750 and between 1800 -1850 are going to paid Highest premium.



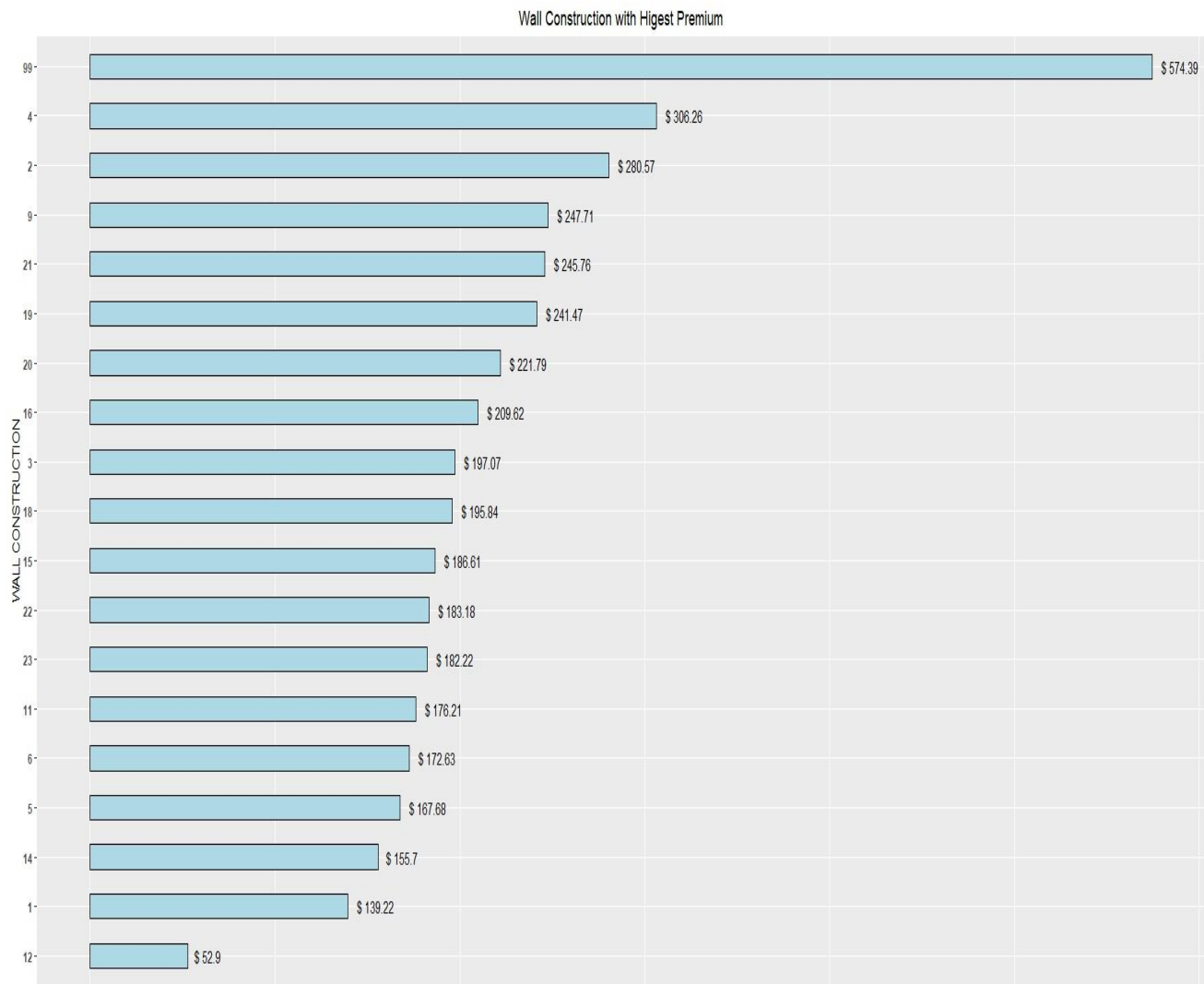
4. Bedroom Count: Bedroom count is total number of bedroom in a house. In the given chart we see the as bedroom count increase premium amount also increase. The Client are having 7 Bedrooms are going to pay highest premium.



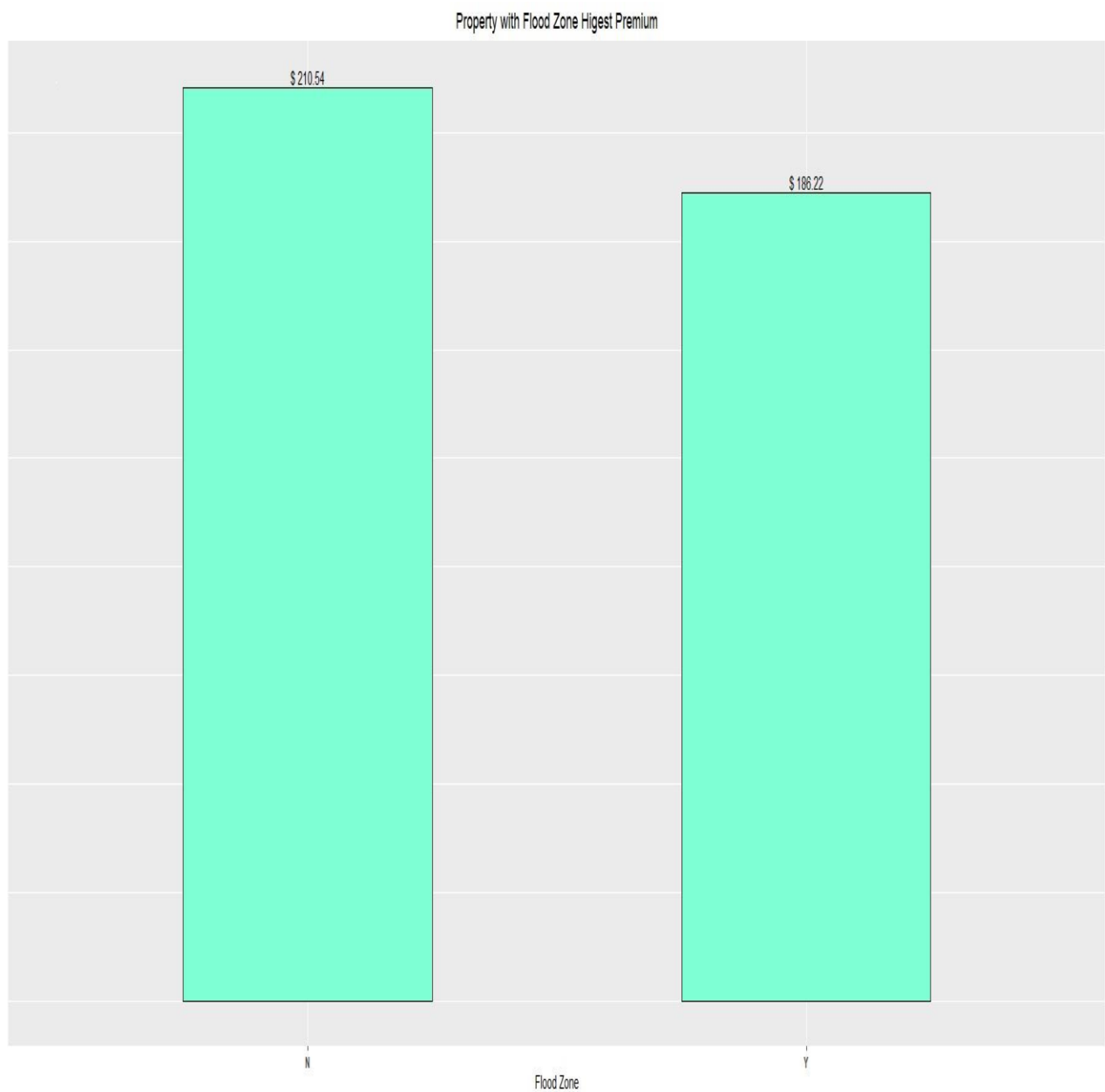
5. ROOF CONSTRUCTION: A roof is the top covering of a building. Constructions necessary to support it on the walls of the building or on uprights, providing protection against rain, snow, sunlight, extremes of temperature, and wind. The Client who having roof construction 12 are going to paid Highest Premium.



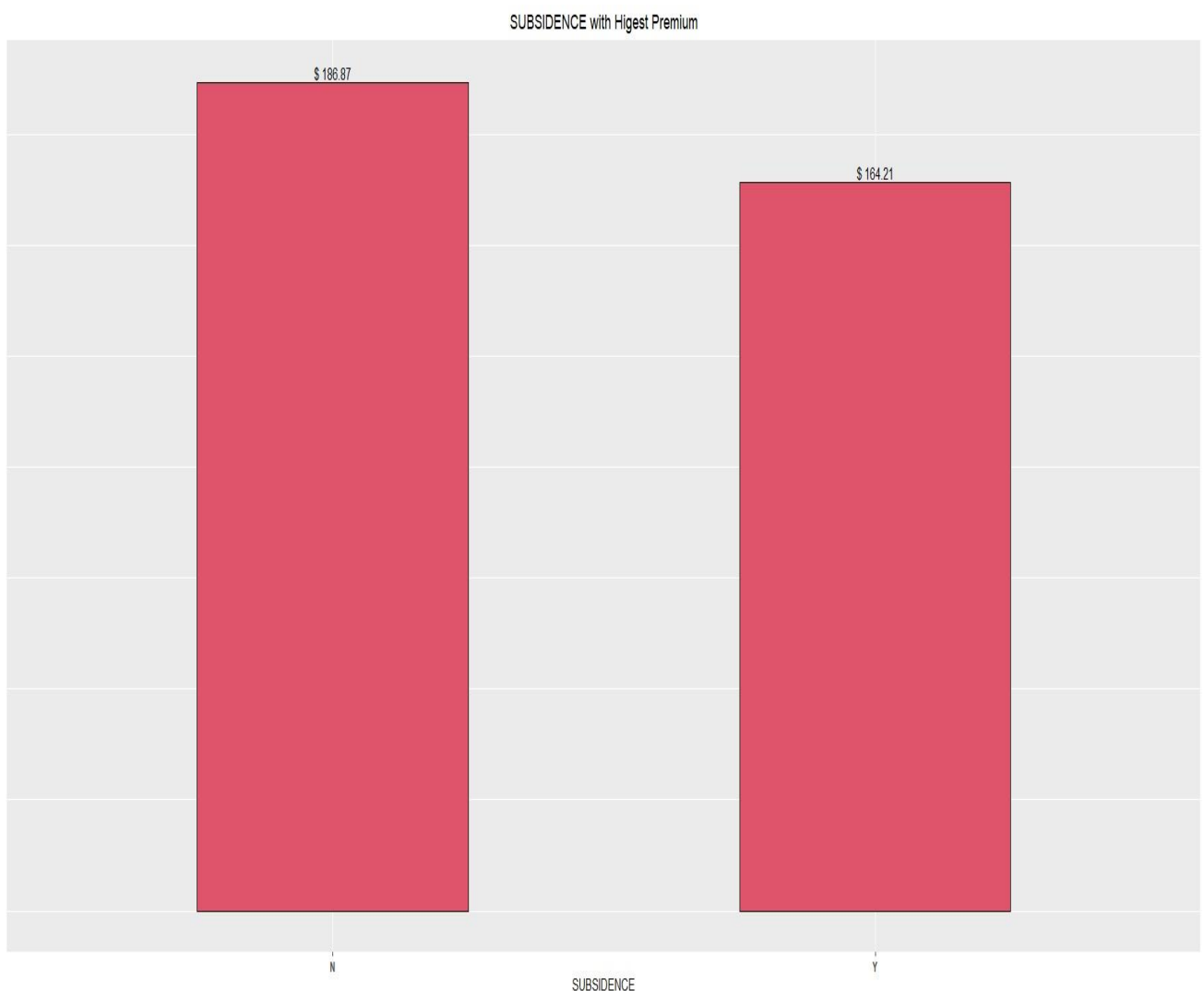
6. Wall CONSTRUCTION: wall is a structure and a surface that defines an area that carries a load, provides security, shelter, or soundproofing. Construction of concrete walls is a crucial phase in building construction. Client who having Wall Construction 99 are going to paid highest premium.



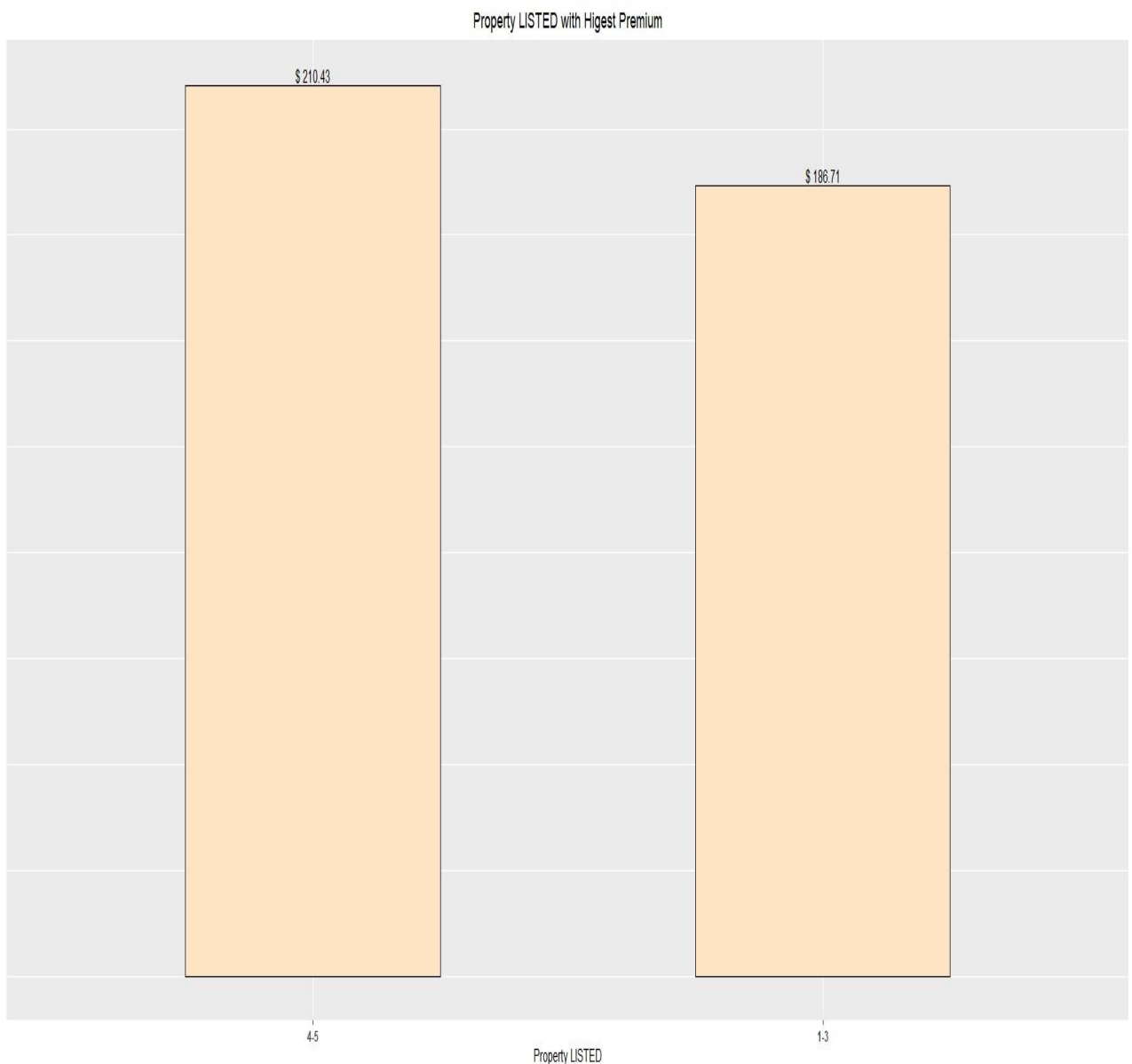
7.Flood Zone: Flood Zones are the land area that could be covered by the floodwaters. Floods often cause damage to house. The Client whose property not in a part of Flood Zone are going to paid highest premium.



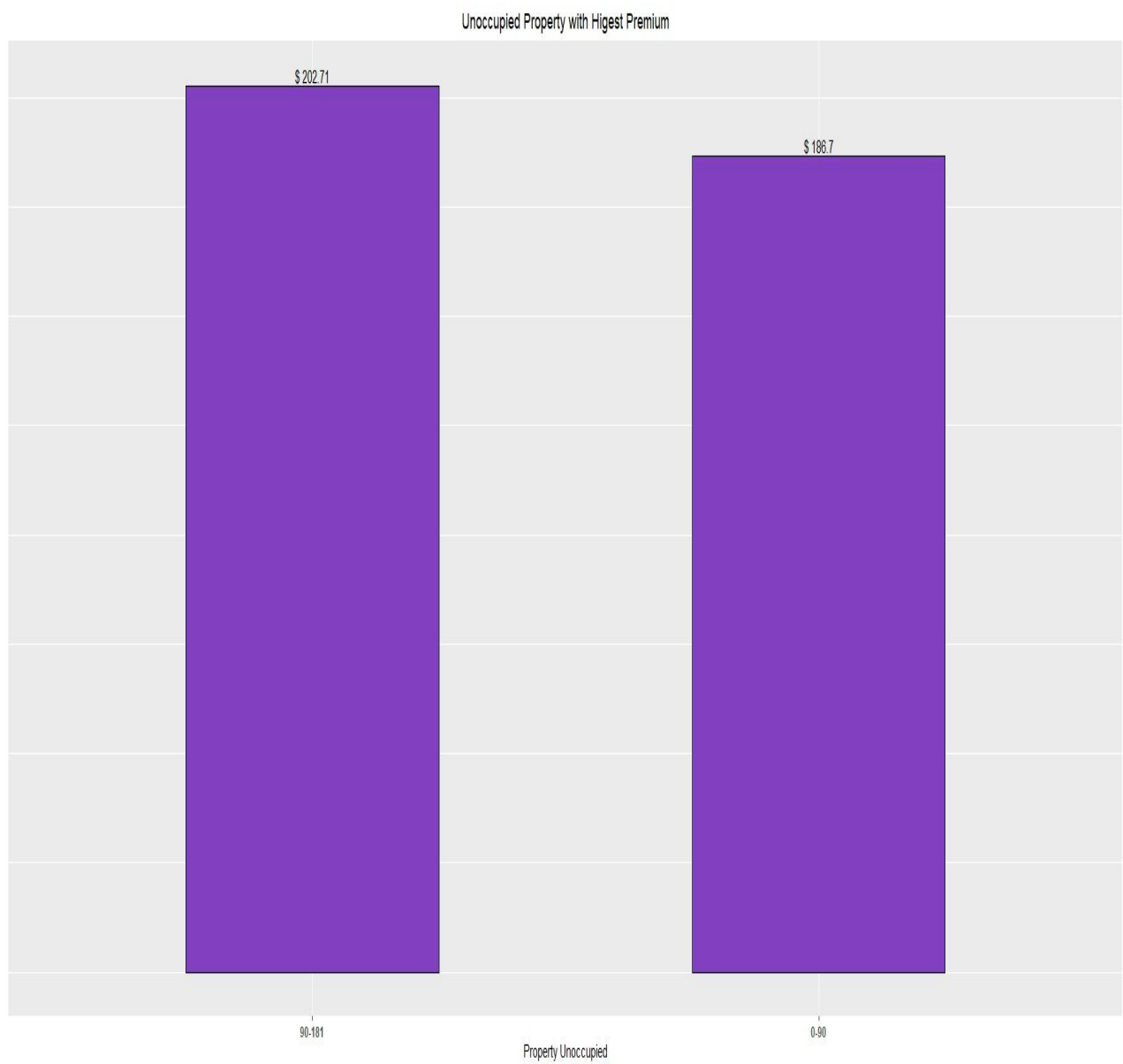
8. Subsidence: Subsidence is a general term for downward vertical movement of the Earth's surface. Ground subsidence is of global concern to geologists, geotechnical engineers, surveyors, engineers, urban planners, landowners, and the public in general. The Client whose property not in a part of Subsidence are going to paid highest premium.



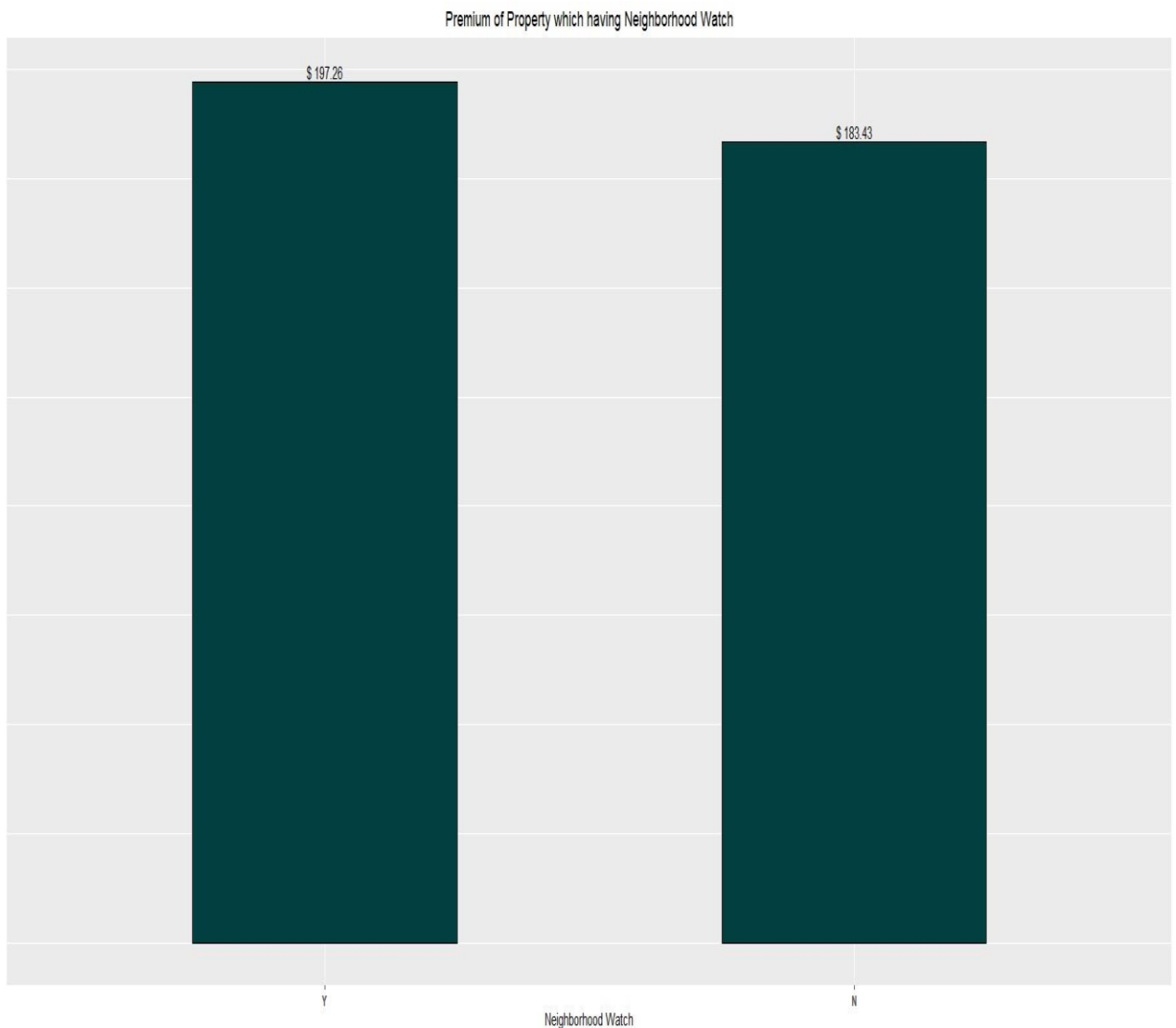
9. Property Listing: Property listings means listing of homes for sale. Property listings include listing a home for sale by a property owner or by a licensed real estate agent. Property listings also include any printed advertisement, internet posting, or publicly displayed sign. Client whose property listed 4-5 times are going to paid highest premium compare to property listed 1 to 3 times.



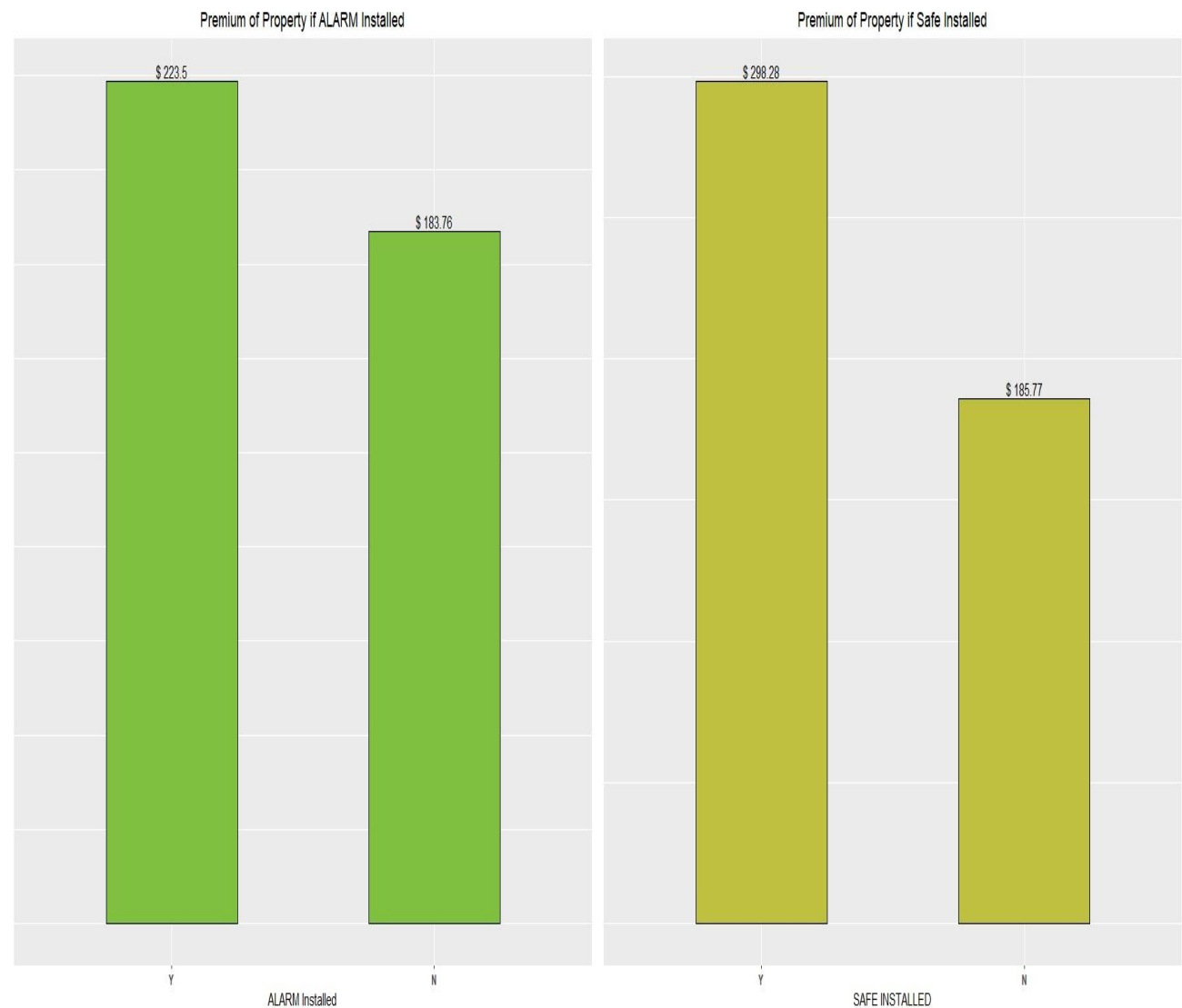
10. Property Unoccupied: Unoccupied properties are those which have personal possessions in them, but where nobody has lived. Property which Unoccupied more then 90 days having highest premium.



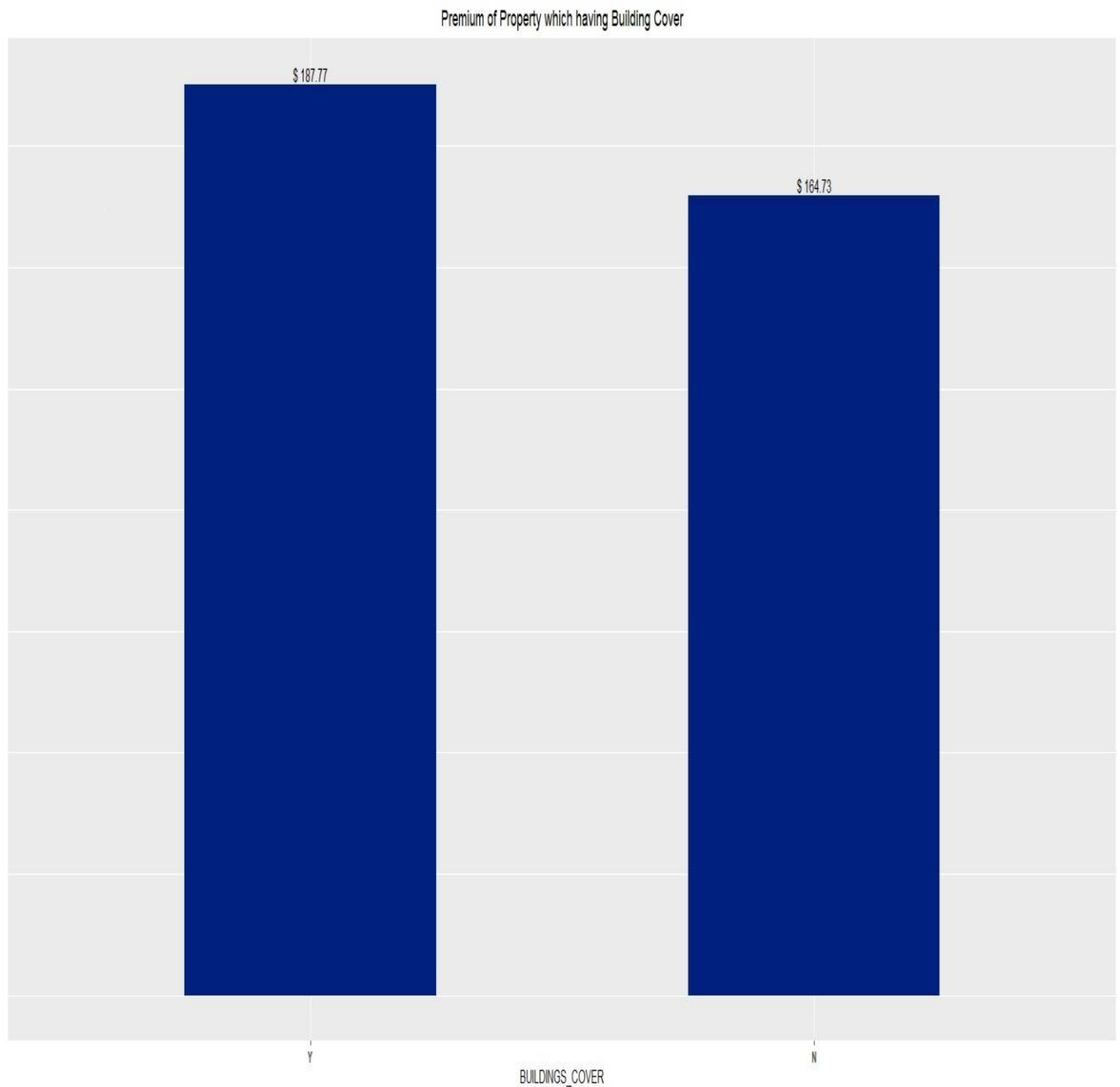
11. Neighborhood watch: A neighborhood watch or also called a crime watch or neighborhood crime watch, is an organized group of civilians devoted to crime and vandalism prevention within a neighborhood. The aim of neighborhood watch includes educating residents of a community on security and safety and achieving safe and secure neighborhoods. The Client who are having Neighborhood watch are going to pay highest premium.



11. Security alarm and Safe: It is important to have a security alarm system and Safe because it keeps home secure. The Client whose property have installed both safe and alarm are going to paid Highest premium.



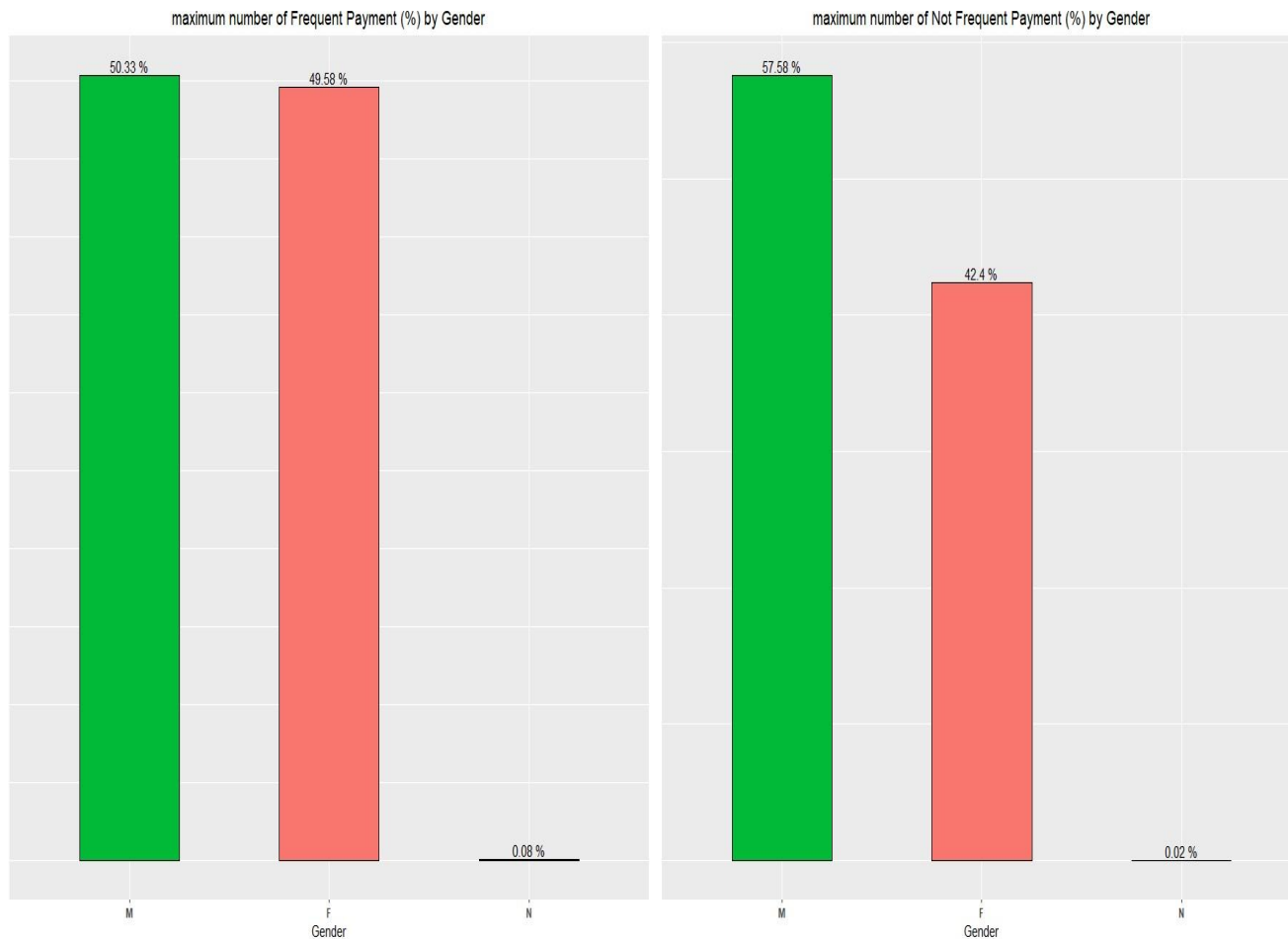
12. Building Cover: Building coverage is a broad term that refers to a group of policies that provide property owners with either property protection or liability coverage. Cost of repair, actual cash value, as well as extended replacement costs are the part of building insurance coverage.



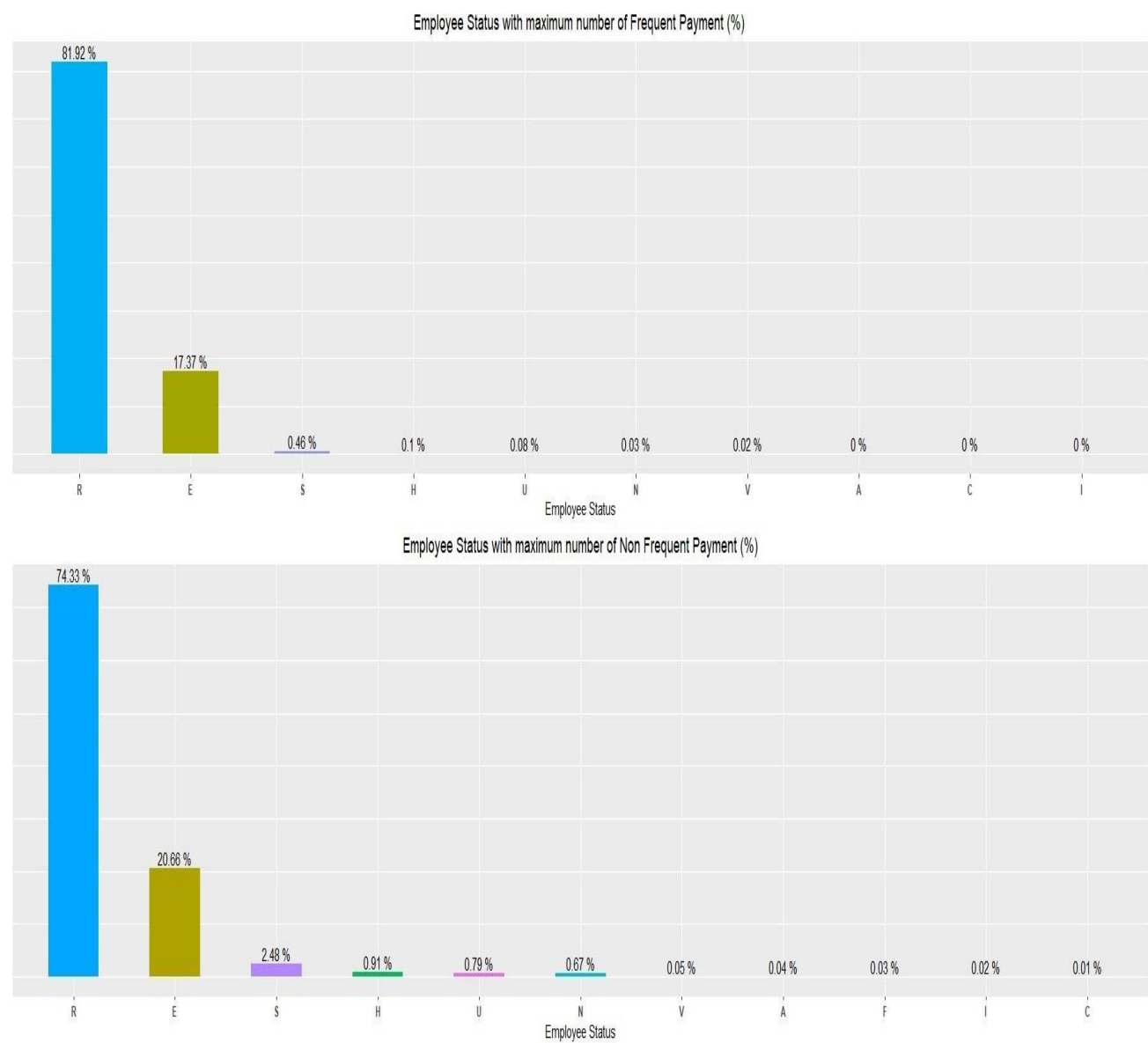
Characteristics of customers who are likelier to default on their payments:

Characteristics of customers include various factor such as age, gender, marital status etc. let's explore in details:

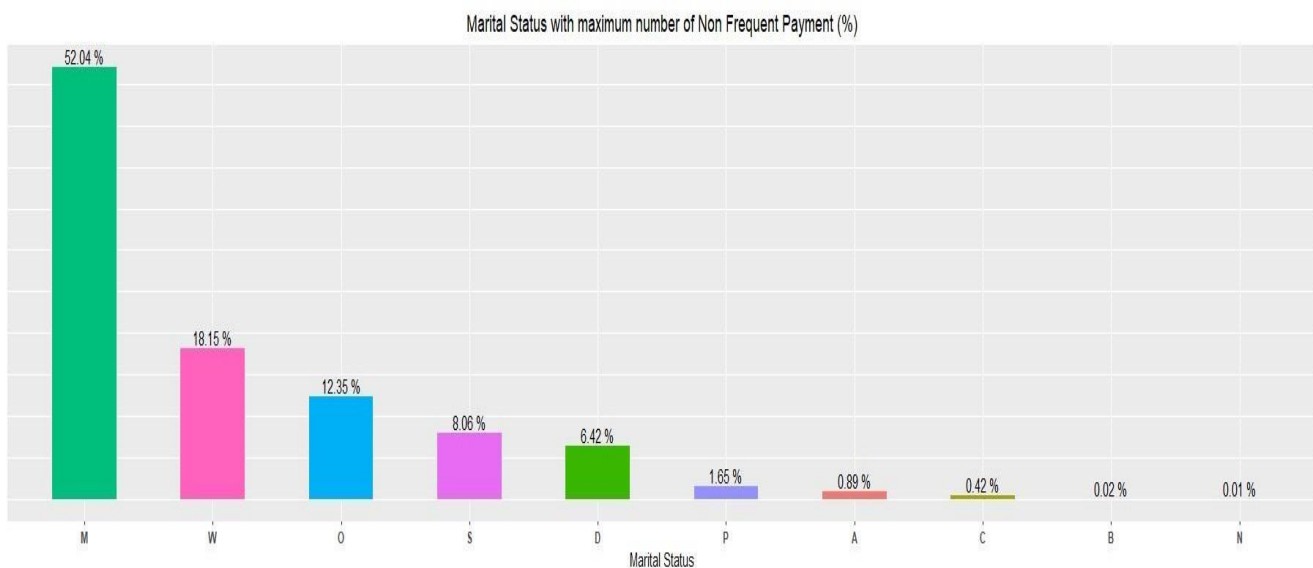
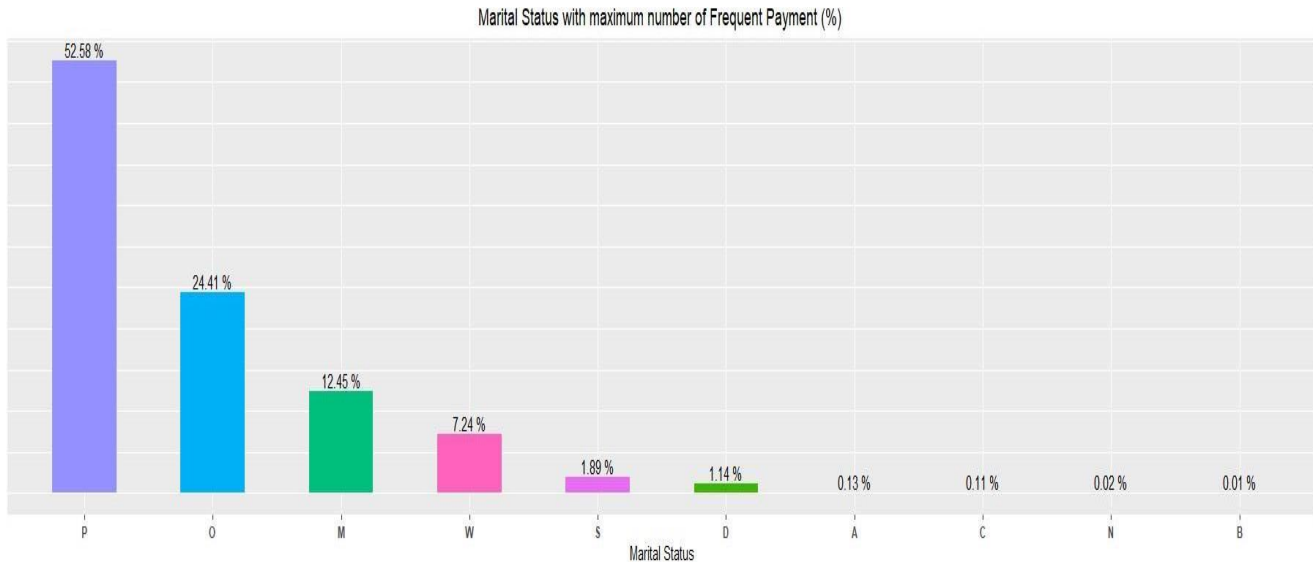
1. Gender: In the Following chart we find out for frequent payer there is not much of difference between male and female, while for non- frequent Payer percentage of male is higher comparing with Female and N (Not Provided).



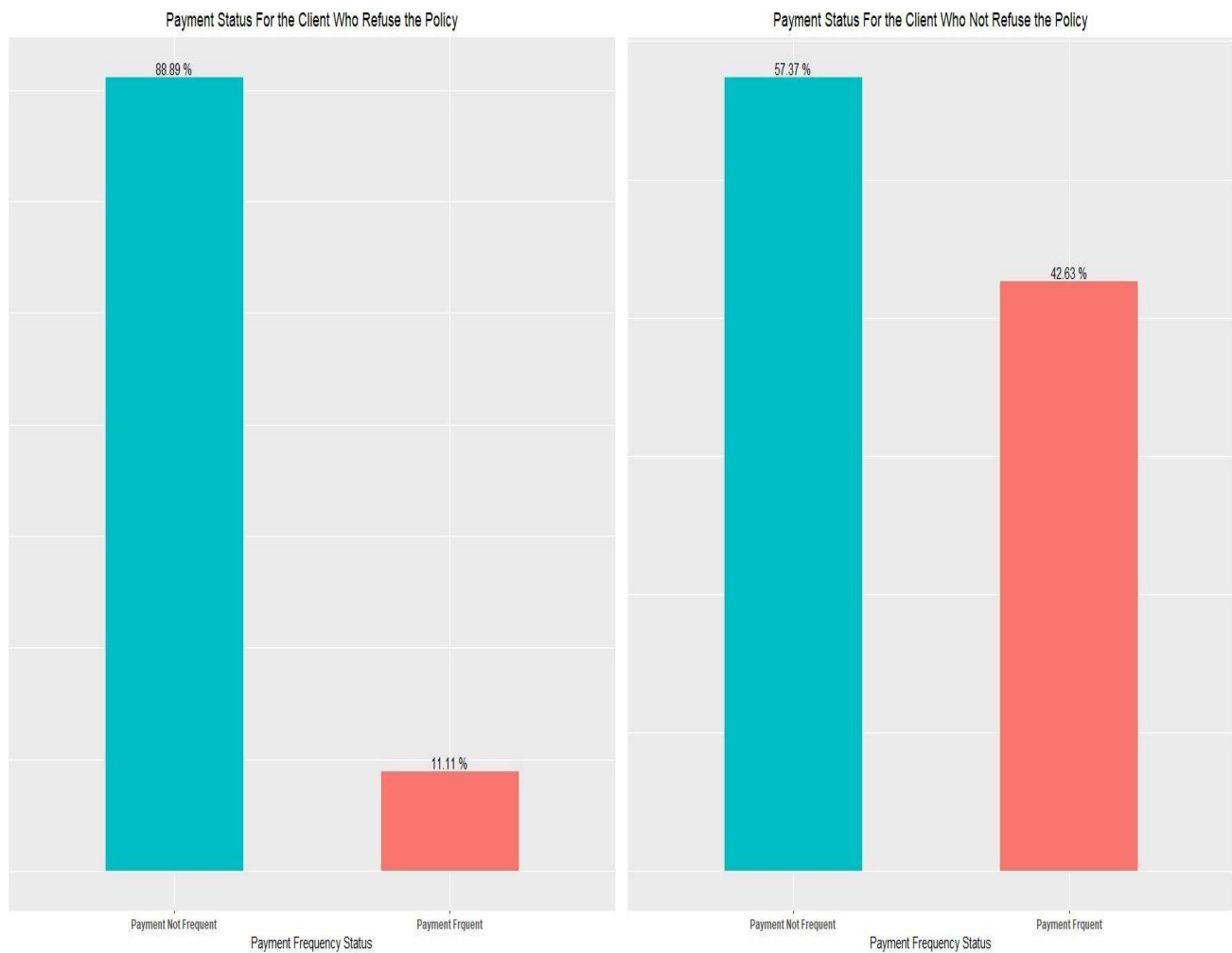
2. Employee Status: In the Following chart we find out Retired client are pay payment more frequently while percentage of non- frequent Payer are also very high for retired Client followed by employed and Others.



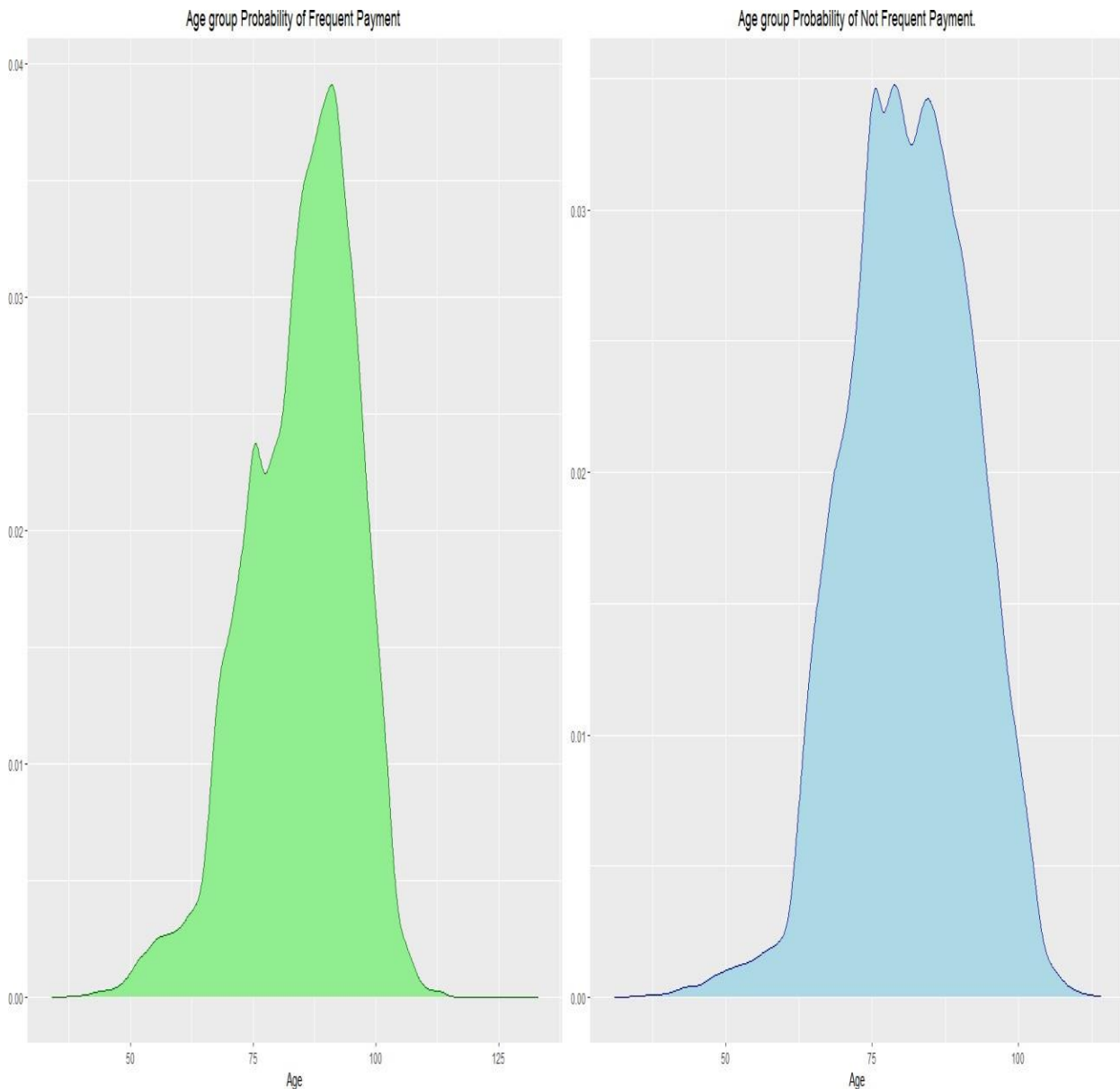
3. Marital Status: In the Following chart we find out Client with Marital Status P (Domestic Partner's) are most frequent Payer while Client with Marital Status M (Married) are non-frequent Payer.



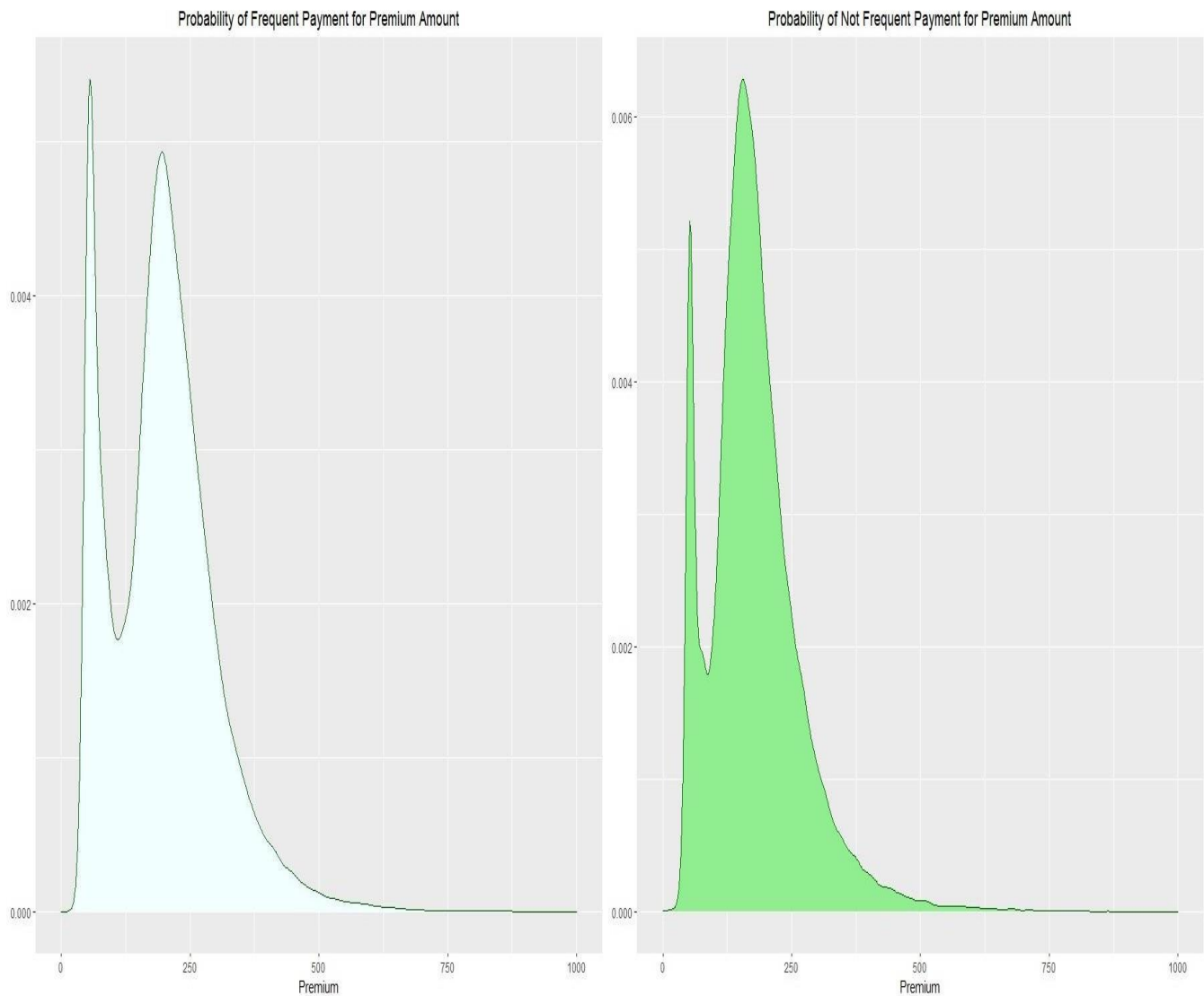
4. Policy Refusal: In the Following chart we find out payment frequency is higher for client who didn't refuse the policy, while client who refuse the policy have higher percentage of non-payment payers.



4.Age: In the Following chart we find out age group who have the highest probability of frequent payment is around 75-100, while the age group who having probability of non-frequent payment is around 50-75.



4. Premium Amount: In the Following chart we find out Client who are paying around 0- 200 dollars are having the highest probability of frequent payment, while the client who are paying above 250 dollars having the highest probability non-frequent payment.



Conclusion

Premium pricing is very crucial for insurance industry, to make proper pricing strategy, Insurance companies have to understand all the characteristic of the property as well nature of the client and suggest best premium which not only help to profit their business but also retain their valuable clients.