

BUSINESS EXPANSION

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*Choosing the best location to expand our
healthtracker smartwatch*



PROJECT DESCRIPTION

The following are the data that was utilized for analysis

01 Population per state

02 Property prices per State

03 State income

04 Competitor companies' profit and expenditures

05 Healthcare spending per person



BUSINESS QUESTIONS

Q1

What is the correlation between property prices and population?

Q2

How do a state's average income and population size affect the average spending on healthcare-related products and services per person?

Q3

Compare the total profit for competitors in each state to the state's population.



Postgres

- By examining the data, we discovered a correlation between higher property prices and population. This is evident from the inclusion of California and New York in our analysis.
- Based on this observation, it can be inferred that there is a direct relationship between property prices and population.

States with the highest property price

	state_usa character varying	average_property_price numeric
1	Hawaii	5975.5
2	California	5832.5
3	New York	4968.75
4	New Jersey	4672.25
5	Massachusetts	4136.5

States with the highest population

	state_usa character varying	estimate numeric
1	California	39512223
2	Texas	28995881
3	Florida	21477737
4	New York	19453561
5	Pennsylvania	12801989

States with the lowest property price

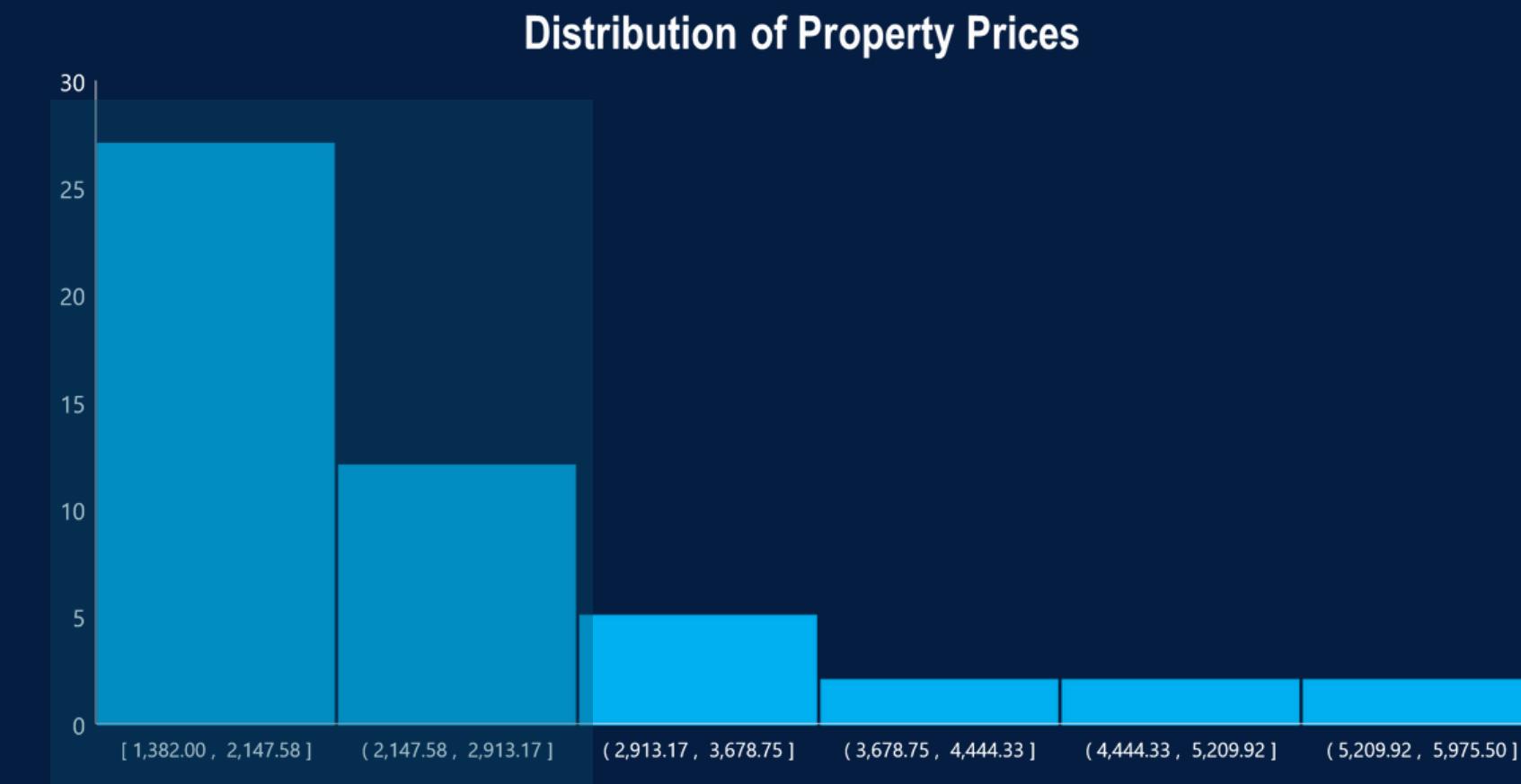
	state_usa character varying	average_property_price numeric
1	Idaho	1382
2	South Dakota	1442.25
3	Iowa	1442.25
4	West Virginia	1442.25
5	Nebraska	1459.25

States with the lowest population

	state_usa character varying	estimate numeric
1	Wyoming	578759
2	Vermont	623989
3	District of Columbia	705749
4	Alaska	731545
5	North Dakota	762062

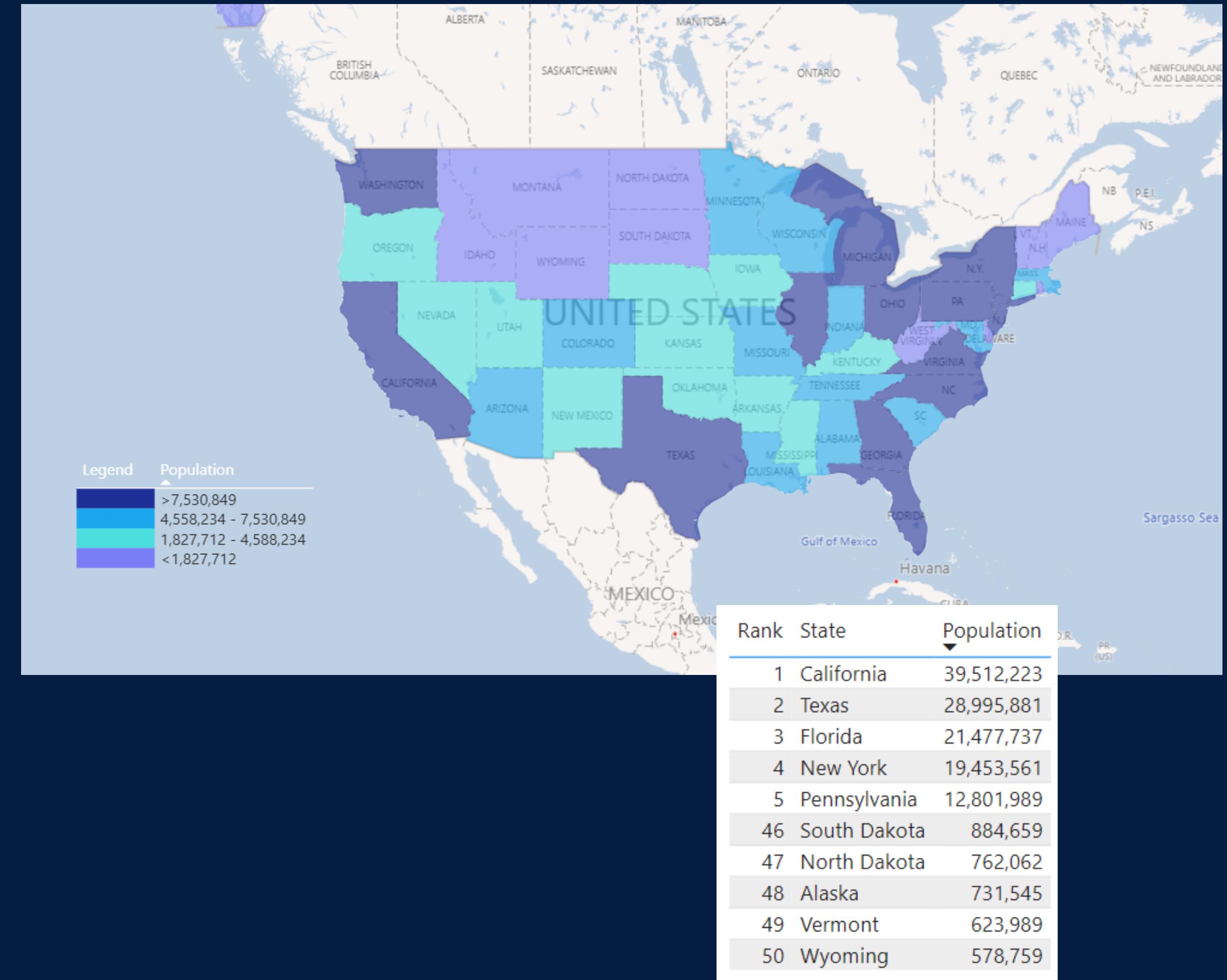
Excel

- A moderately positive relationship between property price and population was indicated by the scatter plot and correlation coefficient of **0.42**.
- The majority of property prices in all states are within the **\$1,382** to **\$2,147** price range, with a smaller portion ranging up to **\$3,000**.



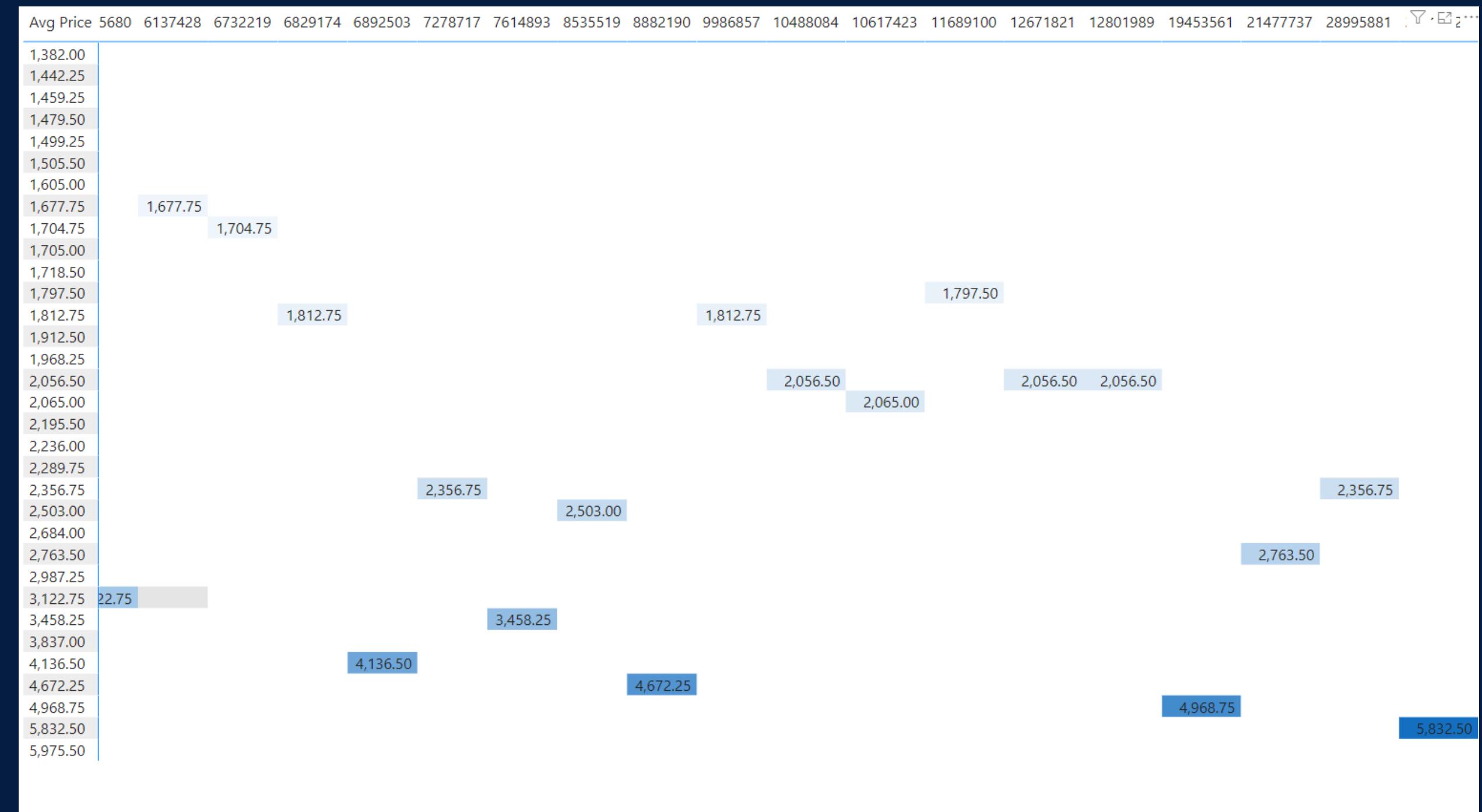
Power BI

- States with high populations, besides Texas, are mainly located on the ends of the eastern and western coasts, including California, Florida, New York, and Pennsylvania.
- The further north the state, the lower the population density tends to be. Examples include South and North Dakota, Alaska, Vermont, and Wyoming.



Power BI

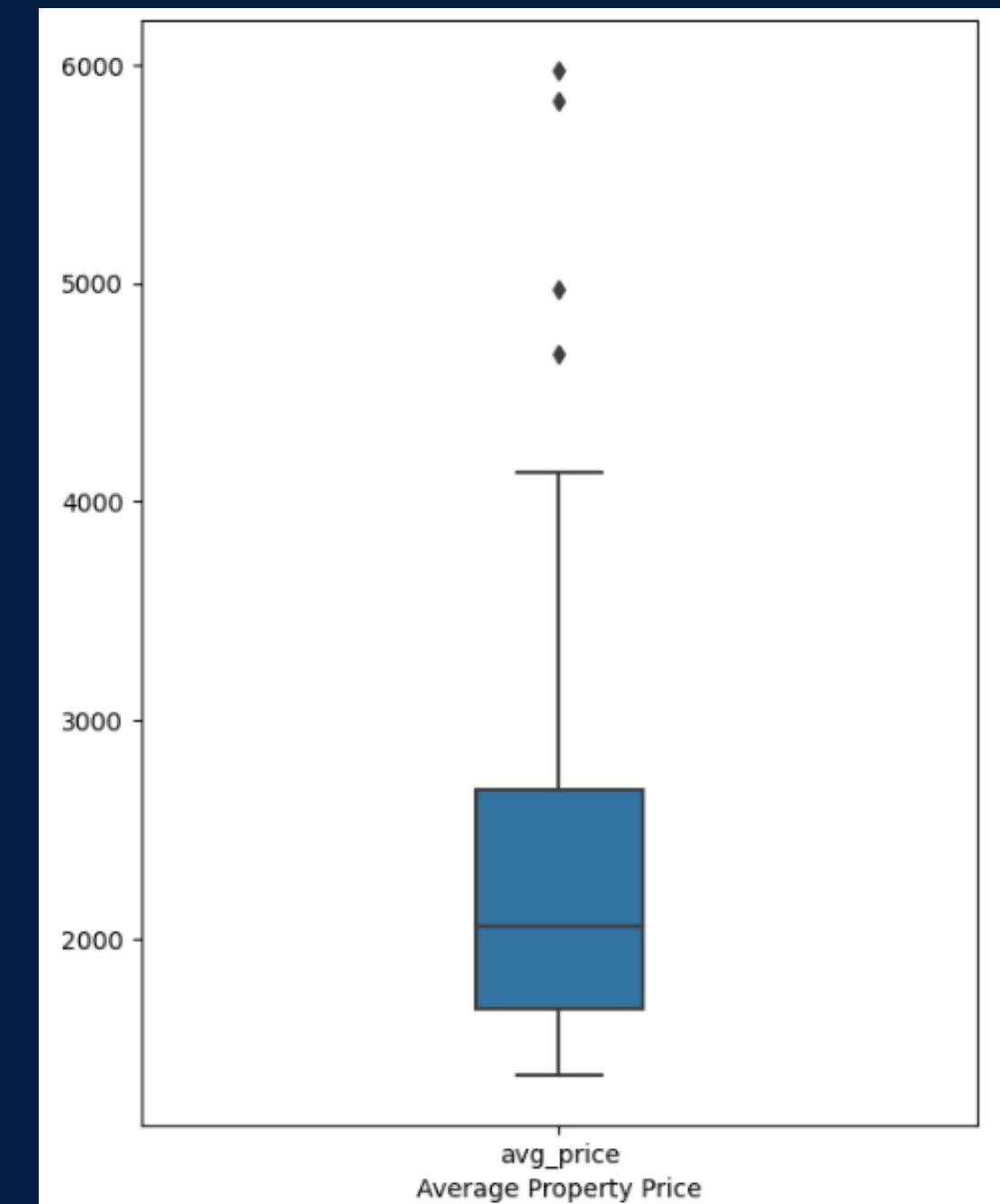
- The heatmap illustrates a pattern of rising property prices that corresponds with increasing population.



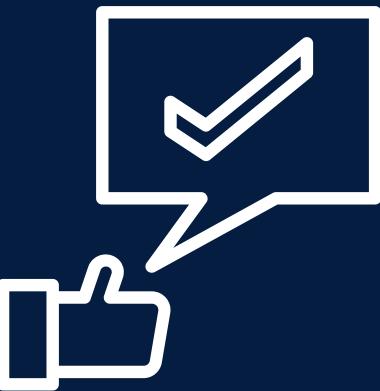
Python

- A moderate positive correlation between population and property prices was observed with a correlation coefficient of **0.42** and a scatter plot.
- The box plot indicates that **75%** of states have an average property price of under **\$3,000**.
- Outliers can be seen as having extremely high property prices. These are understandably states like Hawaii, California, and New York

	avg_price	population
avg_price	1.000000	0.418059
population	0.418059	1.000000

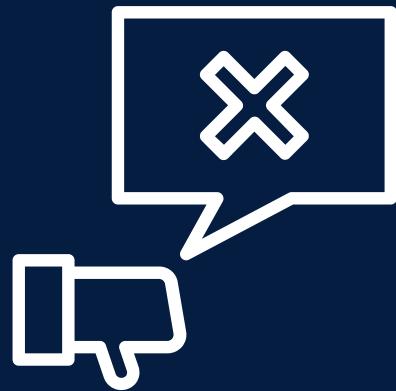


STATES WITH THE HIGHEST POPULATIONS



PROS

- Larger Customer Base
- Diverse Demographics
- Market Opportunities
- Infrastructure and Amenities

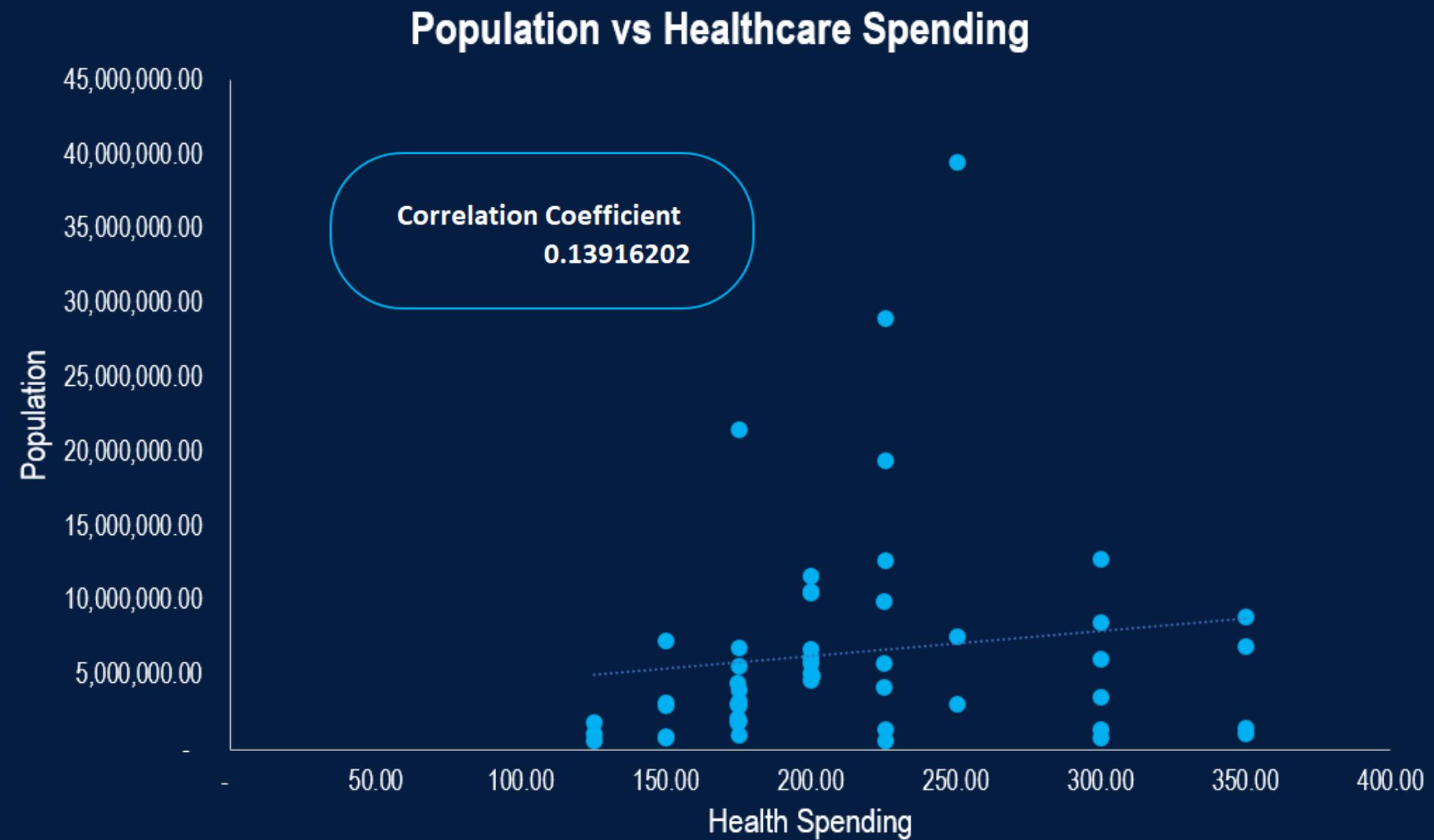


CONS

- Competition
- Higher Operating Costs
- Sustainability
- Property Prices

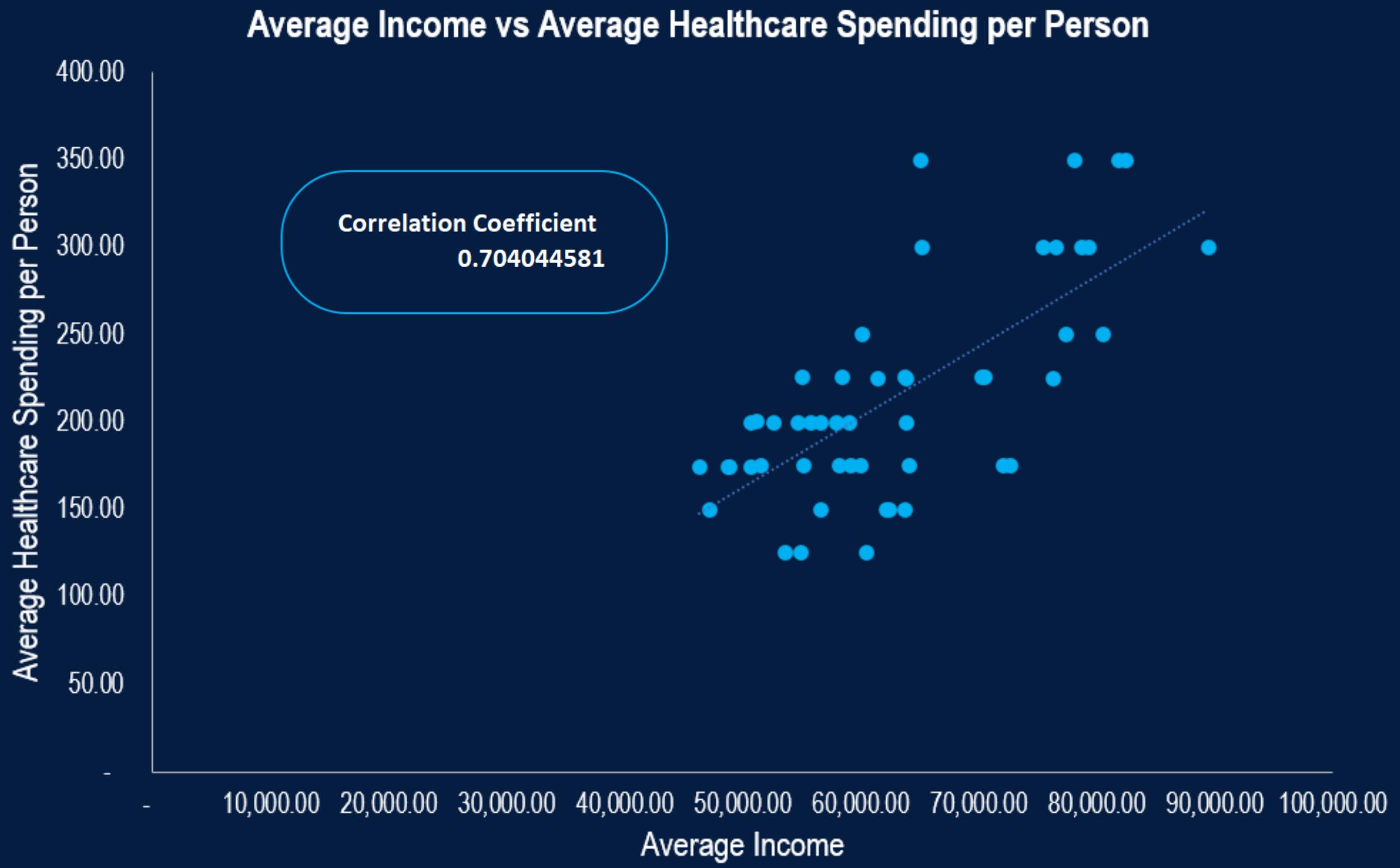
Population and Healthcare-Related Spending

- According to a correlation coefficient of **0.14**, there is no relationship between population size and average healthcare spending.
- On average, people in the US spend between **\$125** and **\$350** on healthcare-related products.



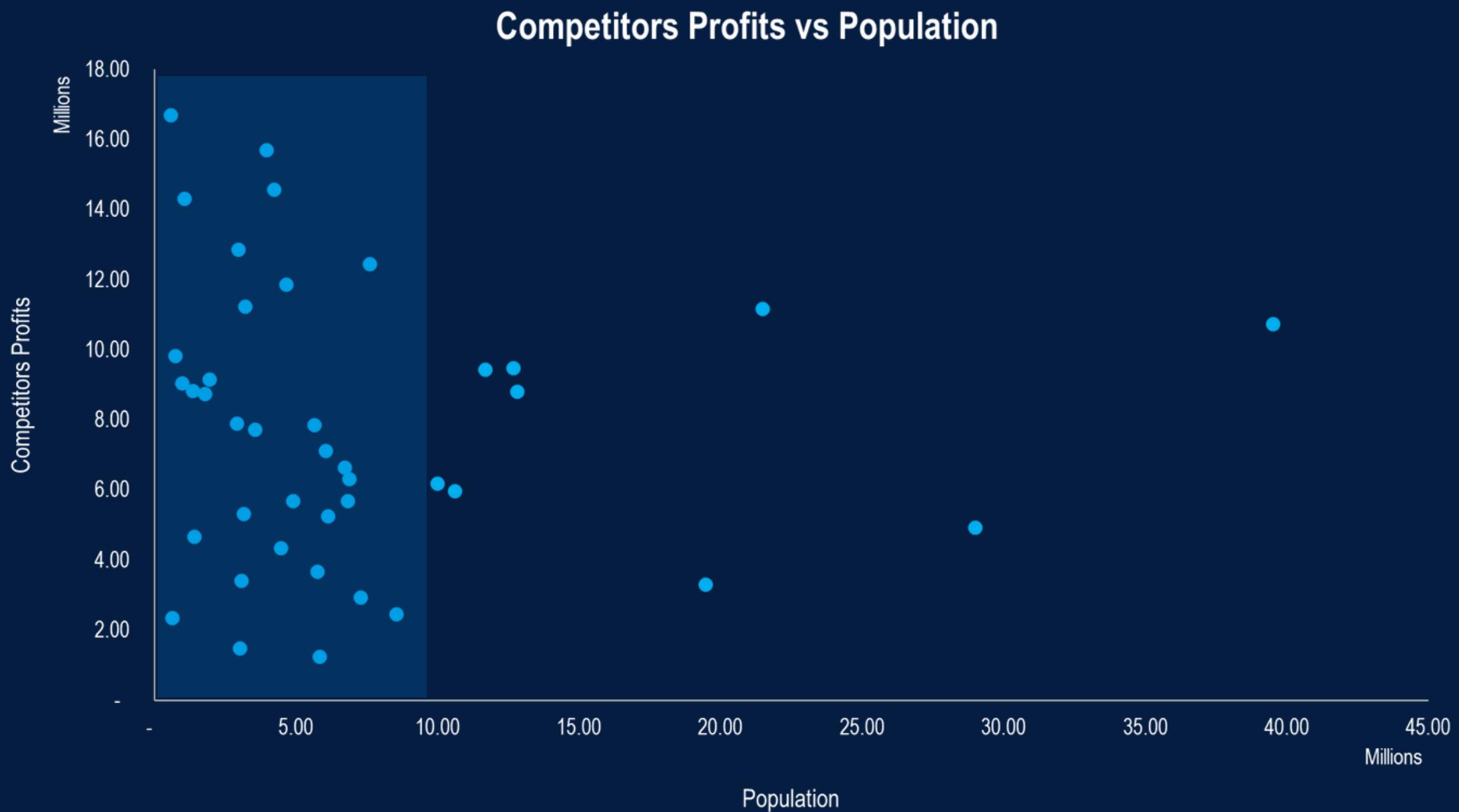
State Income and Healthcare-Related Spending

- According to a correlation coefficient of **0.70**, there is a strong positive relationship between a state's average income and the average healthcare spending per person.



Competitor Companies' Profit Analysis

- Most of our competitors operate in states with an average population of less than **10 million** people and still manage to generate the highest profits.
- This shows that there is a relatively **low competitor presence** in higher population states of more than 10 million



SUMMARY OF FINDINGS

In our analysis, we discovered a moderately strong positive correlation between population size and property prices as they tend to increase together

75%

Most of the property prices in all states are within the **\$1,382** to **\$2,147** price range. To add, **75%** of all states have an average property price of under **\$3,000**.

Population size doesn't correlate with per-person healthcare spending. On average, U.S. individuals spend between **\$125** and **\$350** on healthcare. However, a strong positive link exists between a state's average income and healthcare spending.

Competitor analysis indicates that most companies operate in states with populations under **10 million**, suggesting limited competition in high-population areas.



INSIGHTS

This analysis suggests that states with high population sizes are likely to have high property prices. This could be because a high population typically leads to an increased demand for housing or this could be due to the fact that states with a growing population often experience economic growth, which can lead to increased employment opportunities and higher incomes. The analysis also suggests that a state's income is strongly related to the average healthcare spending per person regardless of population size.

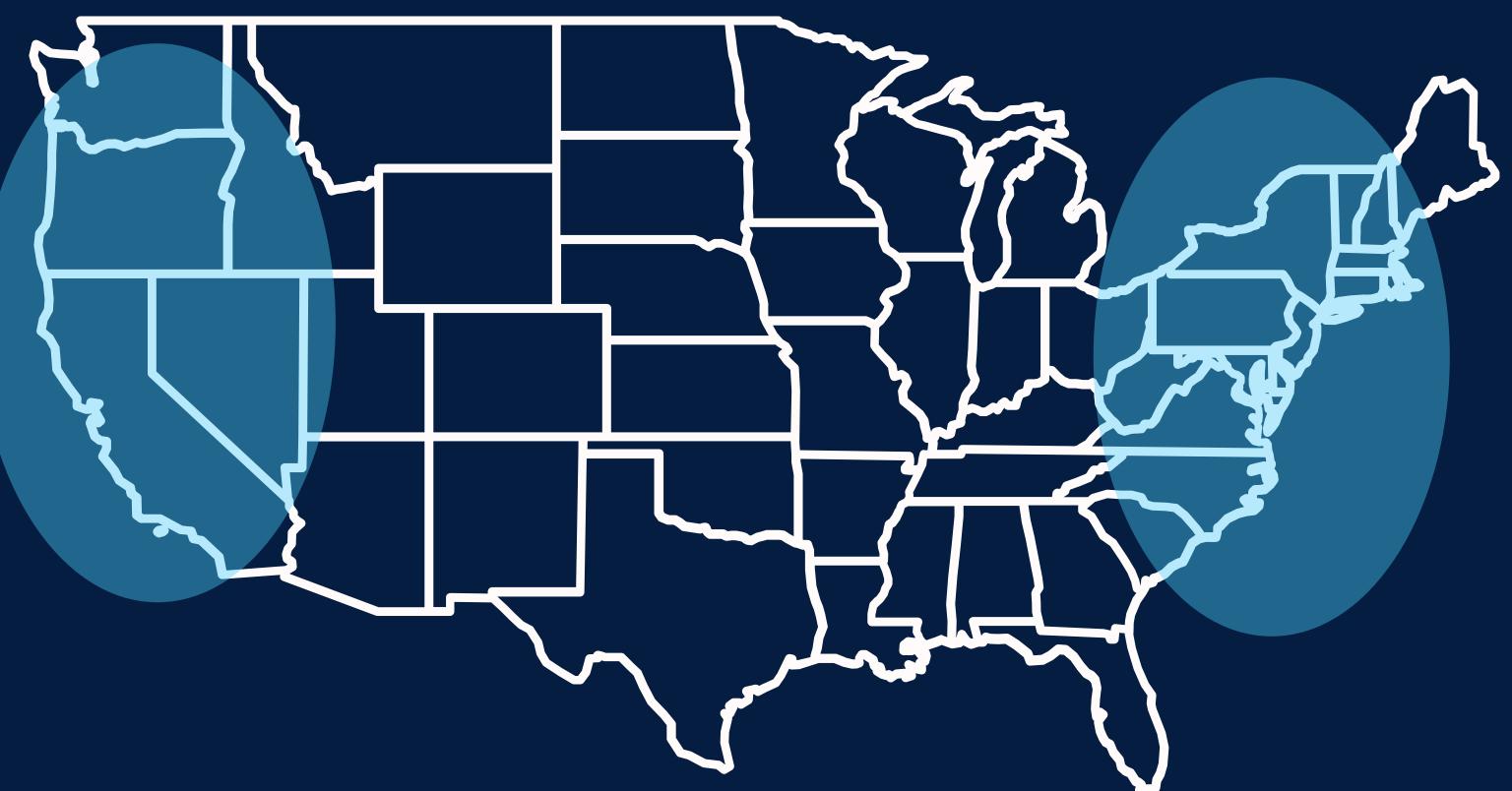


ANSWER TO BUSINESS QUESTIONS

With the goal of selecting a state for business expansion, our findings suggests states with **higher population sizes** in which property prices are under **\$3,000**. Higher population states are located mainly on the ends of the eastern and western coasts such as Pennsylvania or Virginia. There is also a relatively low competition presence in these states.

It is also worth considering selecting states that have a **higher average income** which correlates to a **higher average spending for health-related products and services**.

However, it is important to take note of other factors such as taxes, operating costs, labor costs and availability and market demand.



RECOMMENDATIONS

After conducting our analysis we recommend that the company prioritizes states with **higher population sizes** in which property prices are under **\$3,000** for expansion where there is no competition. However, it is important to take note of other factors such as taxes, operating costs, labor cost availability, and market demand.

The company should also consider states that have a **higher average income** which correlates to a **higher average spending for health-related products and services**



CHALLENGES ENCOUNTERED DURING ANALYSIS

One encountered during the analysis process was the lack of time period analysis for the data which made it difficult to understand potential trends such as the population growth or business metrics for competitor companies. The analysis was only limited to the available data and explored the relationship between population and property prices, as well as how population and state income affect the healthcare spending per person in each state.

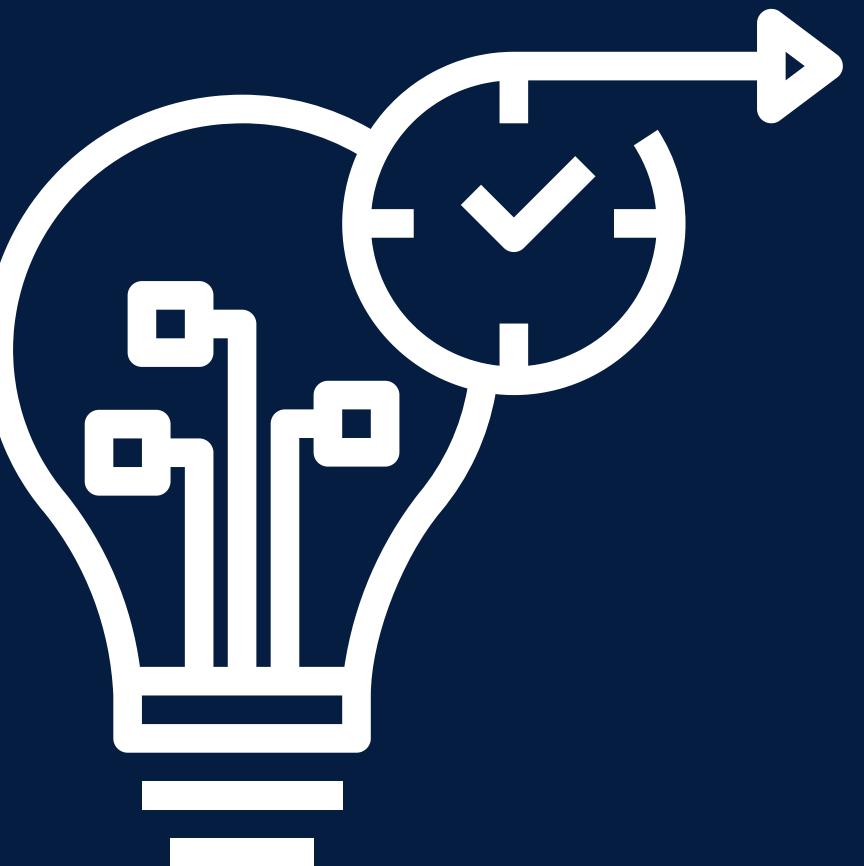
Additional research can be performed to determine other factors that can influence property prices and income, such as crime rates.



RECOMMENDATIONS FOR FURTHER RESEARCH

A recommendation for future research is to delve deeper into the relationship between population and property prices, particularly by region within each state. Understanding the specific dynamics within states can guide more targeted decisions for business expansion.

Additionally, exploring healthcare spending per person in each state across different categories is a promising avenue for research. This research can shed light on variations in healthcare utilization, costs, and accessibility.



Thank You!

