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# Consumer Complaints Report

September 30, 2022

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## Introduction

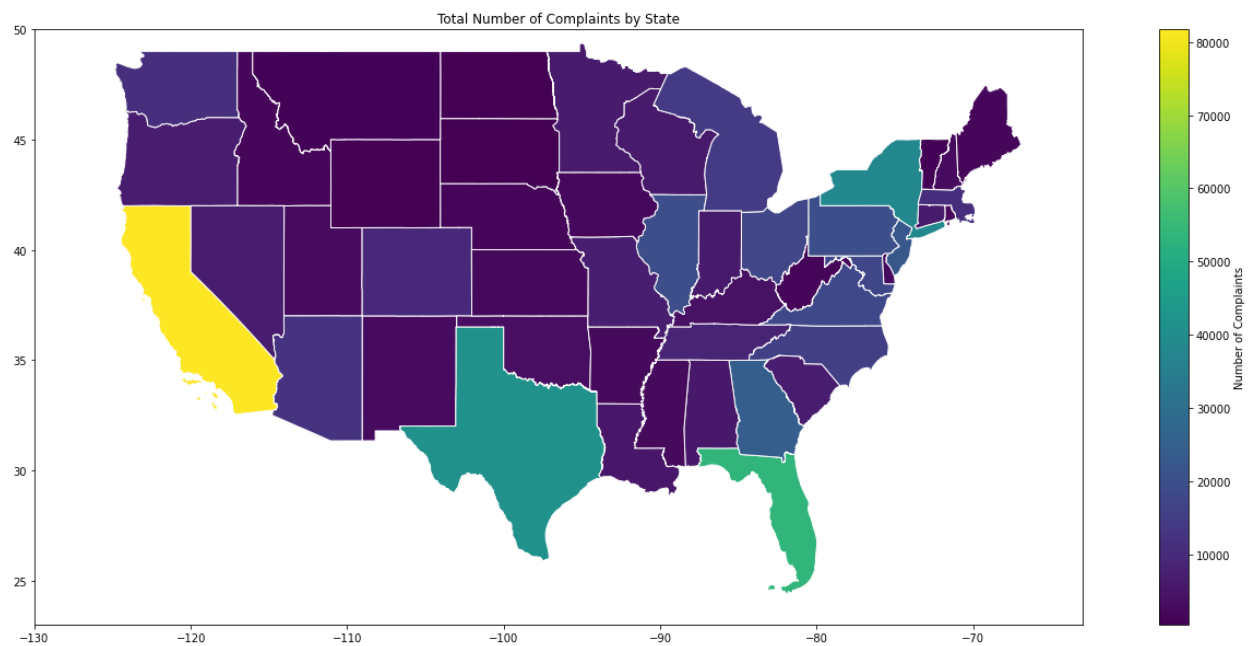
To reduce the number of consumer complaints and disputes, it is important to delve into the existing dataset to see where the company may mitigate any potential issues. Insights into the dataset are presented below and will help develop the best strategy to generate alpha.



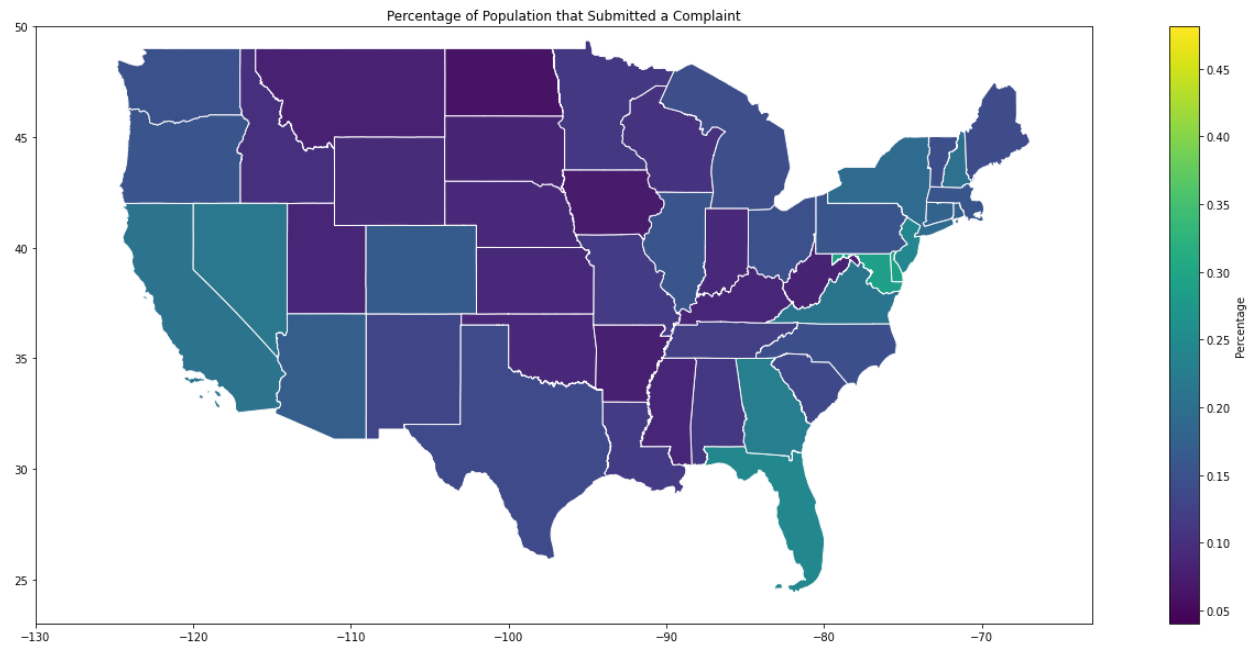
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## Analyzing Complaints by State

First, we start with the most basic map which consists of the number of total complaints received per state.



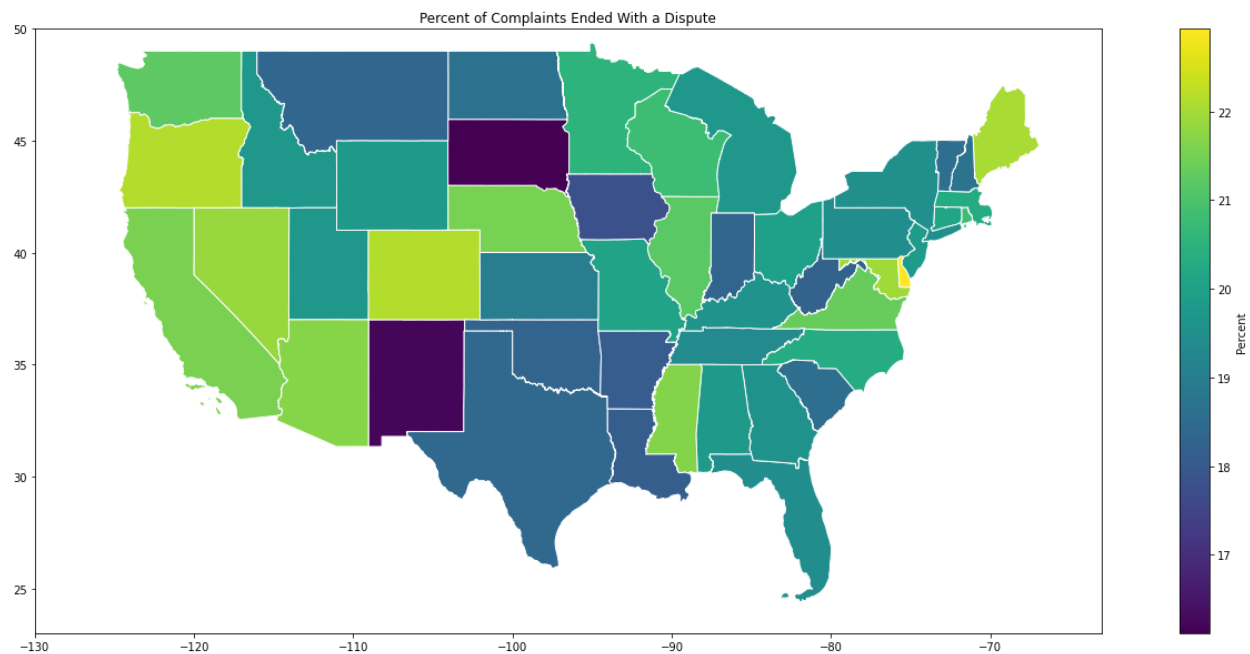
Unsurprisingly, most complaints come from highly populated states, with California, Florida, Texas, and New York on top. To get a better sense of where complaints are more common, the number of complaints per capita in each state was calculated.



Here, one can see that people living in the Mid-Atlantic and coastal regions were more likely to submit a complaint. Although it is hard to see, residents of the District of Columbia were by far the most likely to complain, with nearly 0.5% of the populace having submitted complaints. On the other hand, those living in landlocked states were less likely to complain.

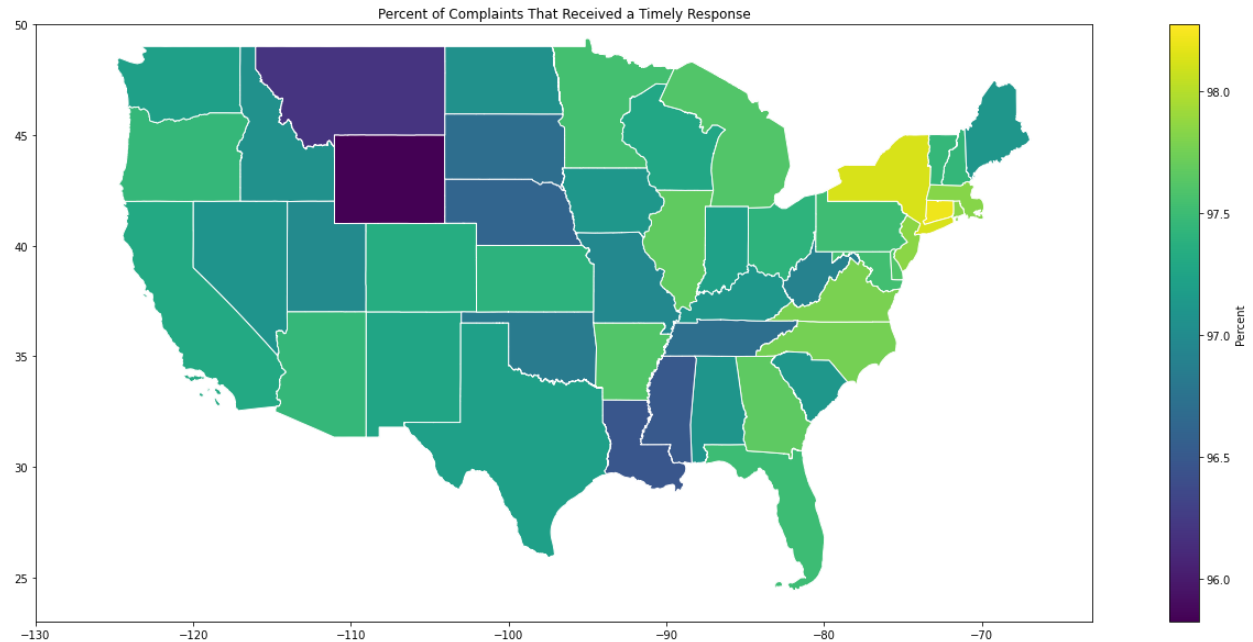
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Next, we move on to the percentage of complaints that ended up with the consumer disputing the bank's resolution.



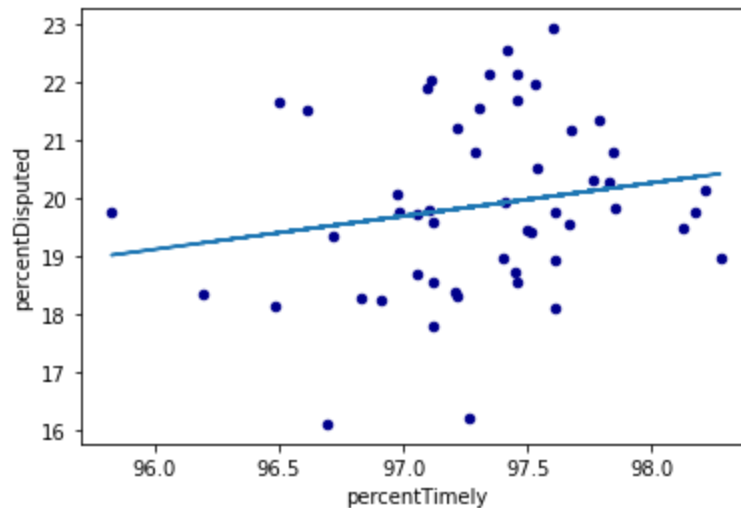
As one can see, there is not much variation in the results. Consumers in the Mid-Atlantic and West Coast are not only more likely to complain, but they are more likely to dispute the bank's response. Similarly, consumers further inland seem less likely to both send in complaints and disputes

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Perhaps one motivation for consumers disputing the bank's solution is a lack of a timely response so a scatterplot was created comparing the percentage of complaints that ended with a dispute and received a timely response.

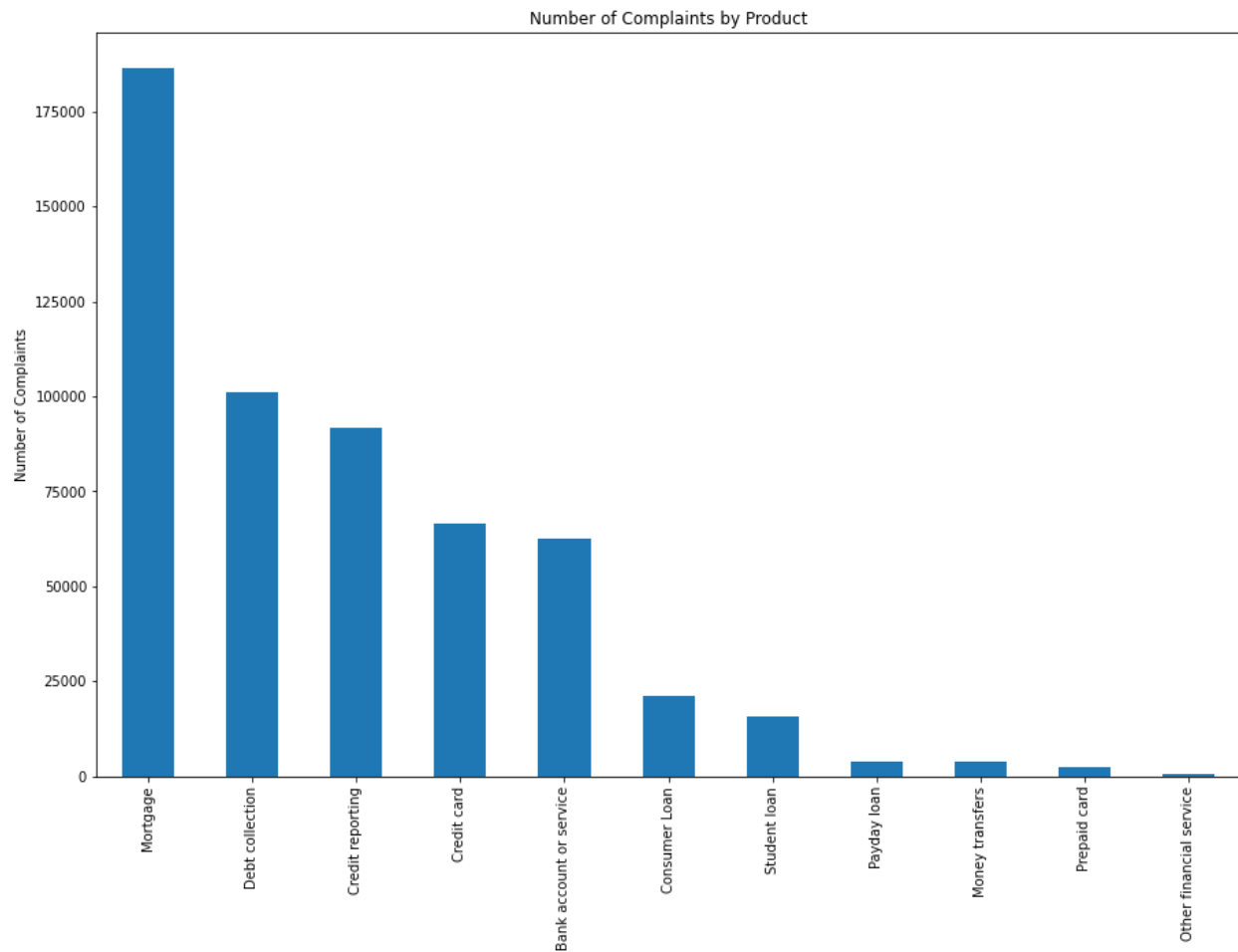


There is a very weak correlation between the two variables with an  $r^2$  of 0.034. Thus about 3.4% of the variation in dispute rate among the states can be explained by the percentage of complaints that received a timely response. This suggests that it is worth exploring other methods to reduce disputes beyond simply responding to complaints more quickly.

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## Analyzing Complaints by Product

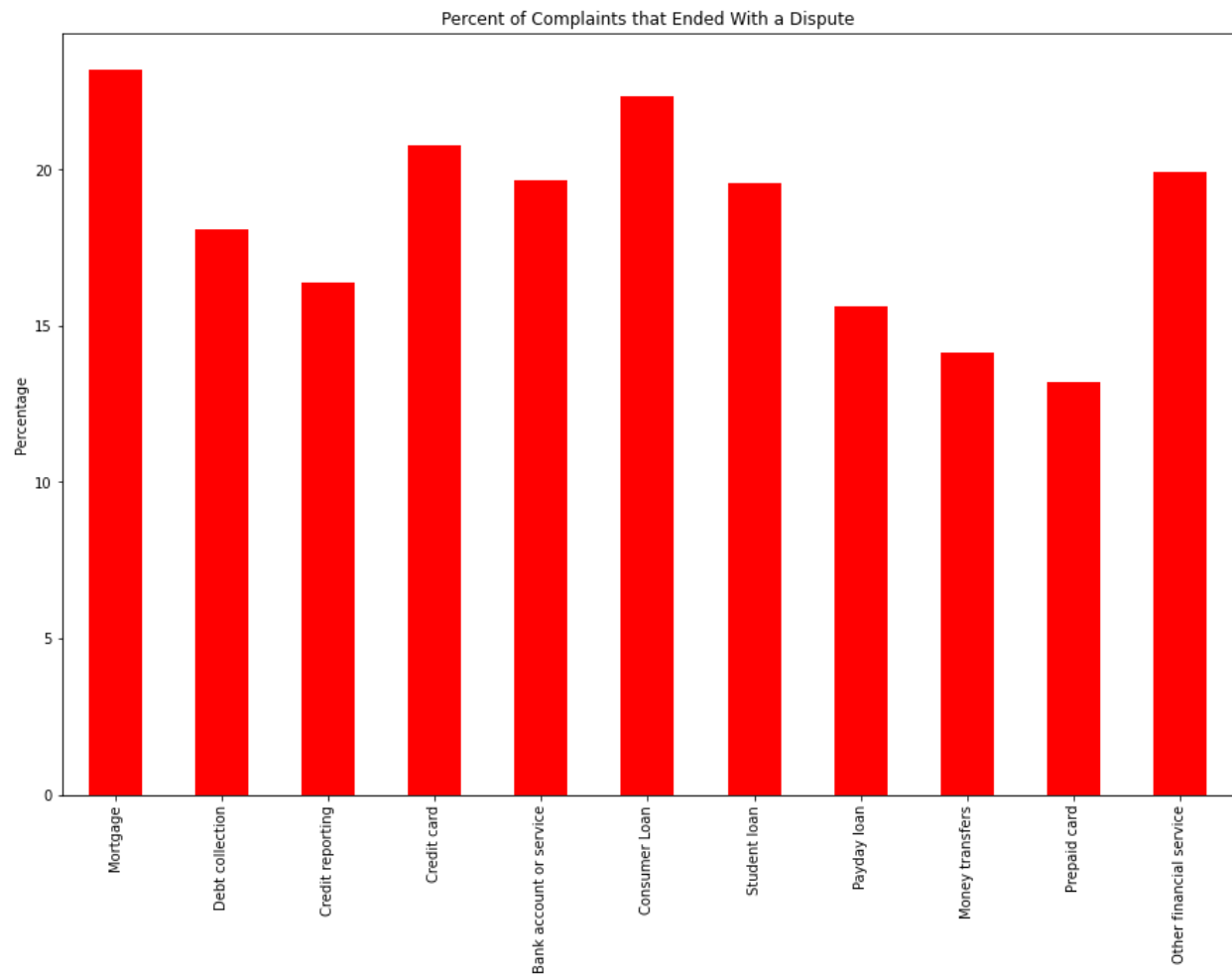
Next, we analyze the 10 different products that are mentioned in the complaints.



Consumers by far have the most complaints about mortgages with debt collection coming in second and credit reporting in a close third.

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Furthermore, for each type, the percentage of complaints that ended with a dispute was calculated.



One can see that different types of products have different dispute rates. Mortgages, consumer loans, and credit cards are the three most disputed products. On the other hand, payday loans, money transfers, and prepaid cards are the three least disputed products.



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## Conclusion

Overall, one can observe variability within dispute rate based on geography and product type. However, causation does not mean correlation, and more research is needed to determine whether a correlation actually exists. If so, this report provides a blueprint for the company to determine which markets to focus its efforts on.