

Home Loan Market Visualization & Analysis

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Problem

Change Financial is a small regional bank looking to expand and enter the home loans market. We want to analyze the HMDA data to determine which specific market will be most profitable for Change Financial.

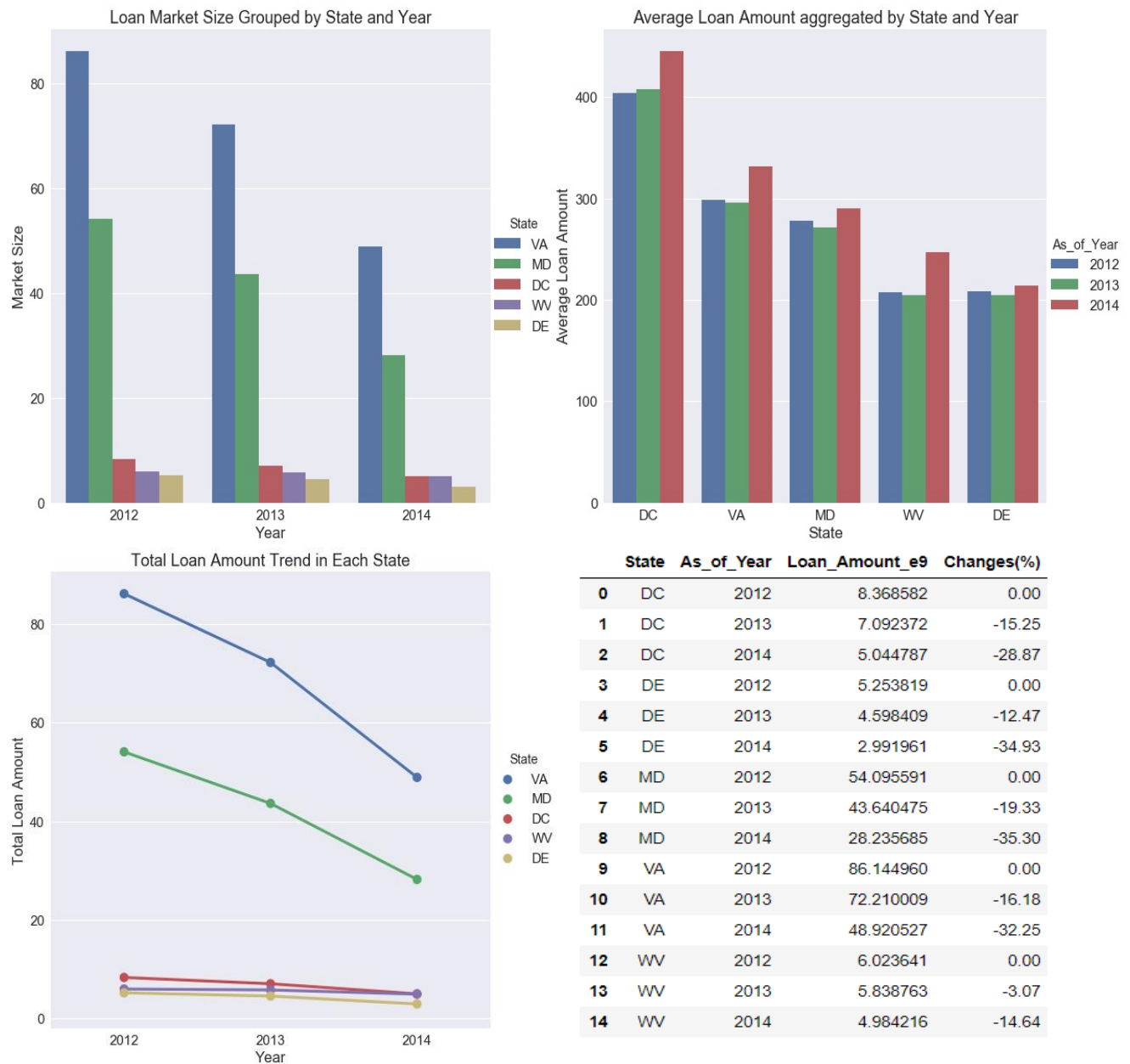
Hypothesis

After I drilled into the loans data, I determined that the “loan purpose” is either refinance or purchase. Purchase loans have higher interest rate than refinance loans because most home purchase loans are for first time buyers who do not have established credit. Also, purchase are typically larger than refinance loans and thus financial institutions stand to lose more money in the event of a default. Generally, purchase loans have more risks than refinance loans for financial institutions.

Therefore, my hypothesis is: Change Financial should enter the loan market in DC area, but the company needs to decide which sub-market should be entered.

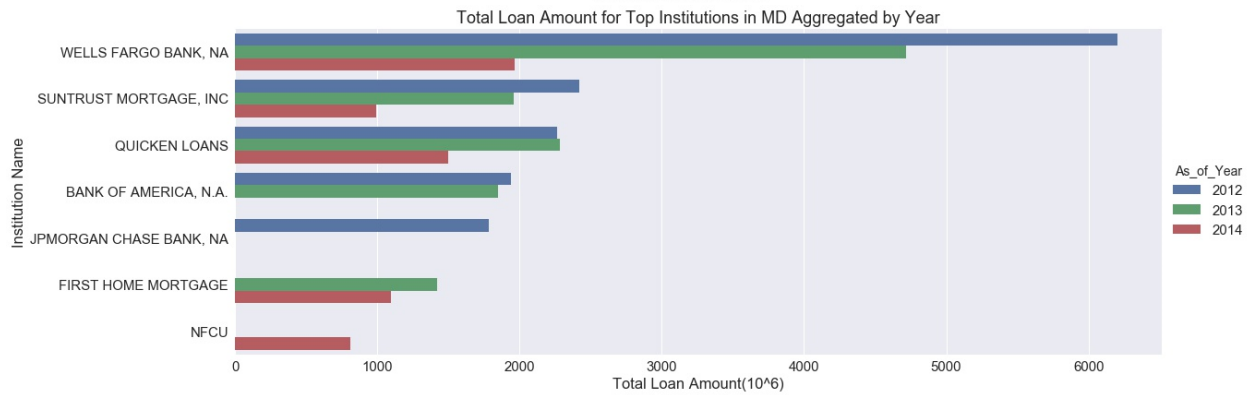
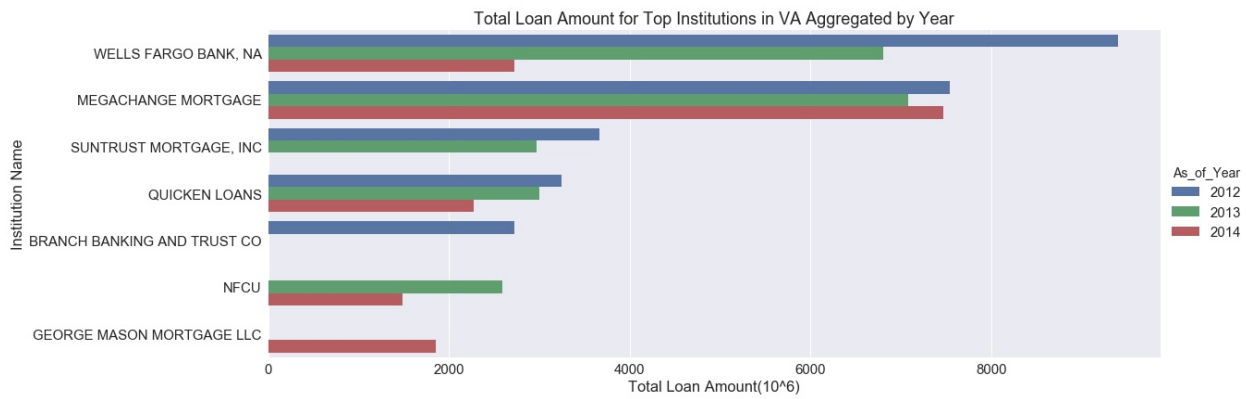
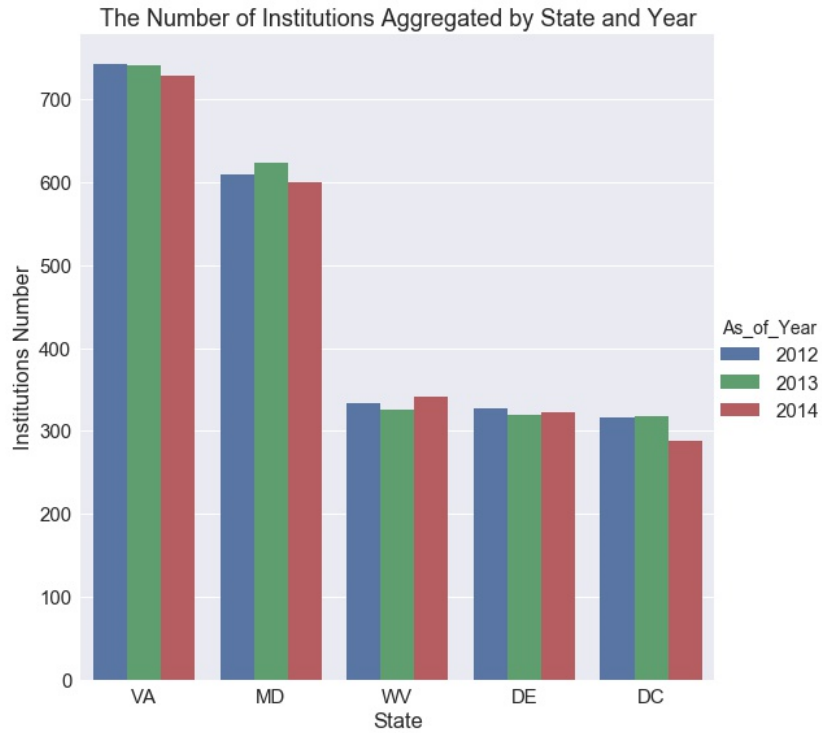
Visualization & Analysis

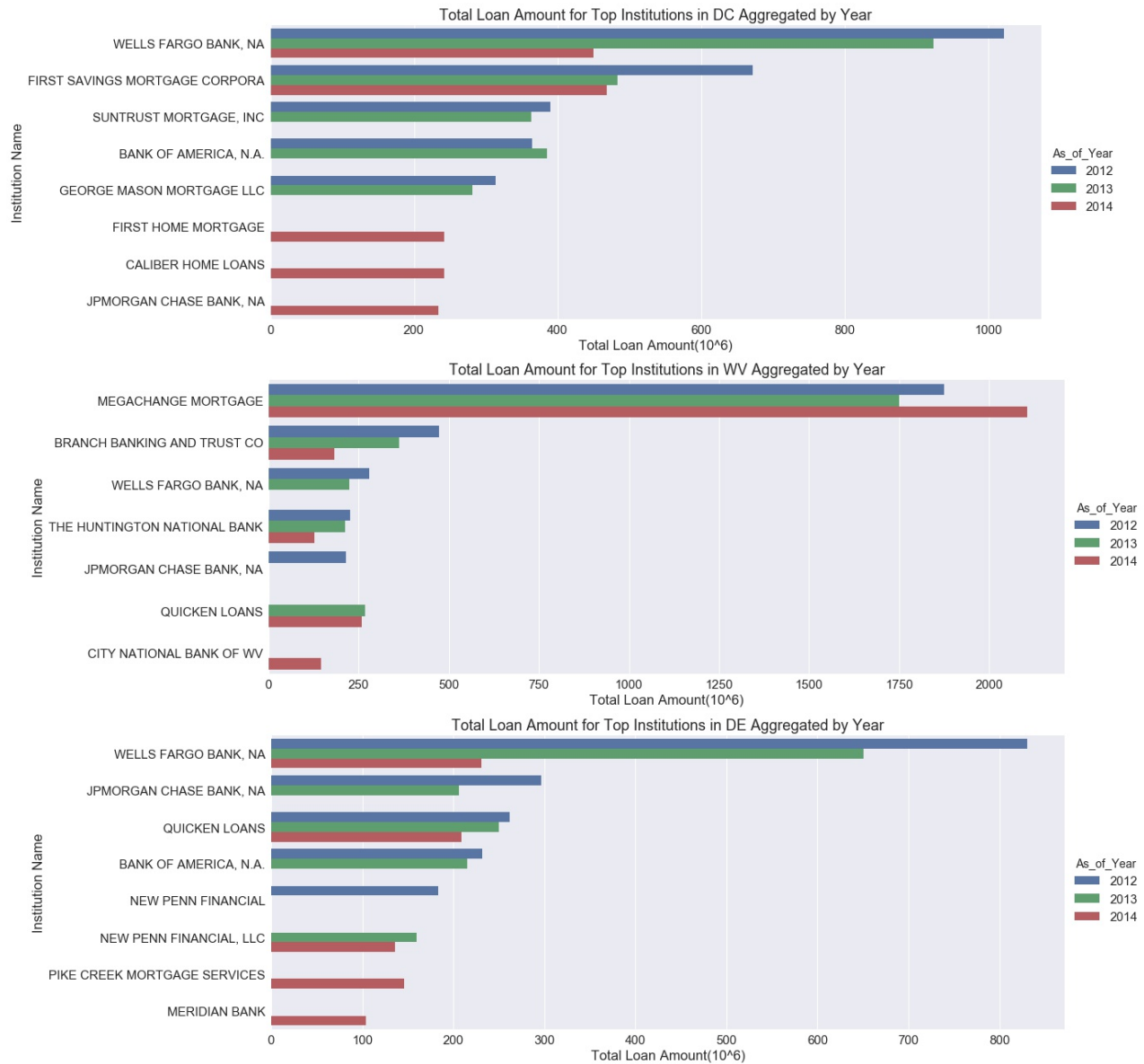
1. Market Size Analysis



From the top bar chart, we can see that the loan markets in VA and MD are much bigger than the other regions' loan markets and average loan amount was rising in each of these states. However, the line plots at the bottom tell us that almost all the markets were shrinking from 2012 to 2014. Although the loan markets are still quite large, we cannot ignore the risks that the markets may continue to shrink. More importantly, the rate of decrease is accelerating over time which is not a good signal for companies entering the markets.

2. Market Share Analysis

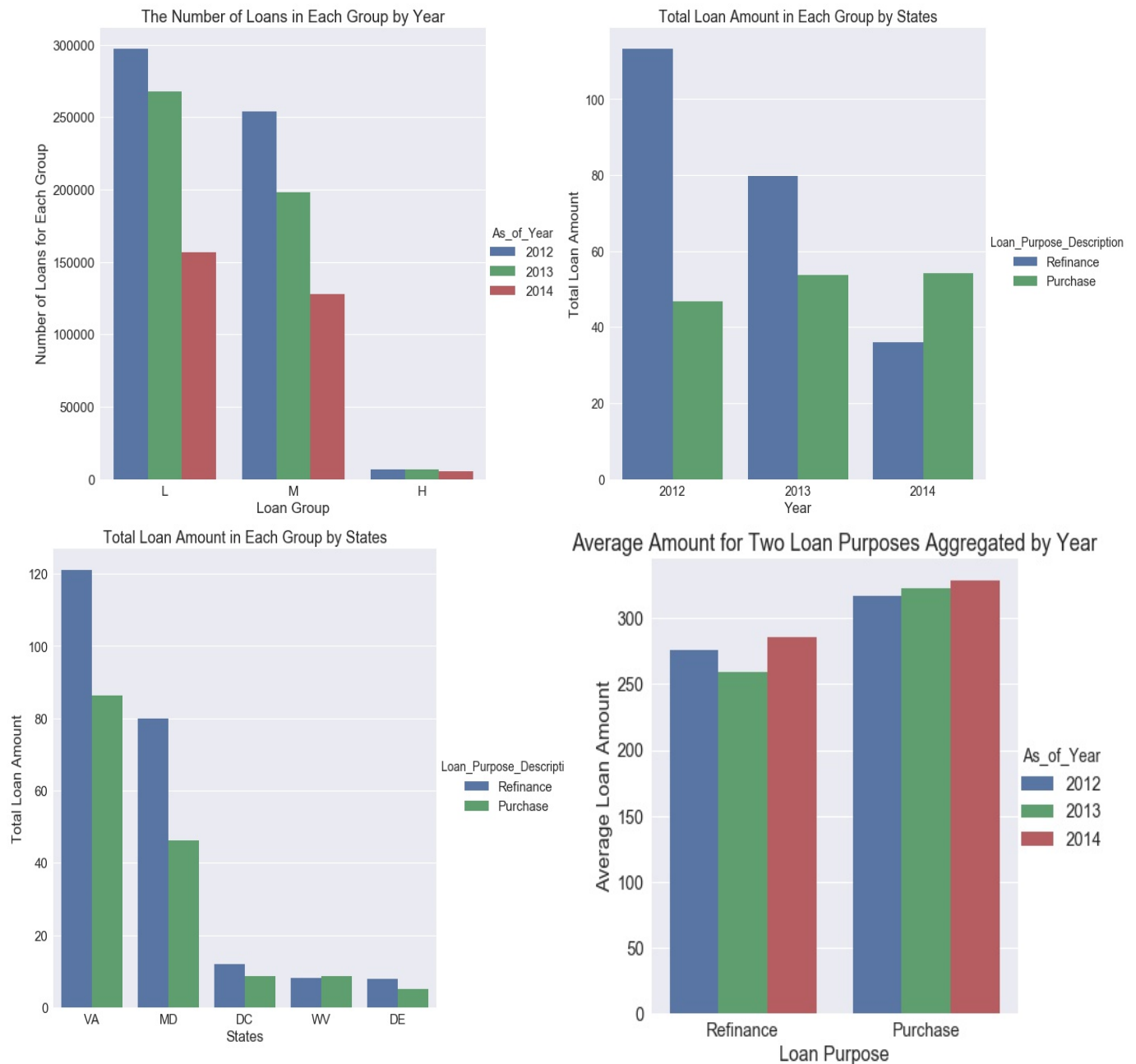




In the first bar chart displayed above, we can see that although the home loans market was shrinking, few institutions were squeezed out. This may mean that the home loan markets are still quite profitable and provide support for decision to enter the home loan market.

From the bar plots for each state, we can see that no matter how other institutions ranked, Wells Fargo Bank held a leading position in the loan markets in 4 out of 5 states. Therefore, we may be able to gain valuable insight by studying how Wells Fargo develops its strategies in home loan markets.

3. Specific Loan Market



The number of low level and middle level loans is much higher than the number of high level loans. However, this is partially due to decisions made in the loan grouping process. Choosing different cutoffs for the loan levels would create a different breakdown of loan levels.

From 2012 to 2014 there was a sharp decline in the number of refinances while purchases experienced a slight increase. Furthermore, the average amount for a refinance loan fluctuated significantly while the average amount for a purchase increased steadily, over the same time period.

Conclusion

From this analysis, we know that the home loan market was shrinking but very few institutions left the market. This phenomenon shows that the market is still profitable despite its decreasing size. For competitors, Wells Fargo performed very well and had the leading total amount in home loans. We could learn from Wells Fargo's strategies to inform our own strategy for Change Financial. Also, the two sub-markets were developing in totally different ways. The refinance market was declining dramatically while purchase market was growing slowly.

Therefore, our conclusion would be that it would be a good idea to enter purchase loan market for Change Financial.