

Liquor sales in Iowa

Sales 2015-2016

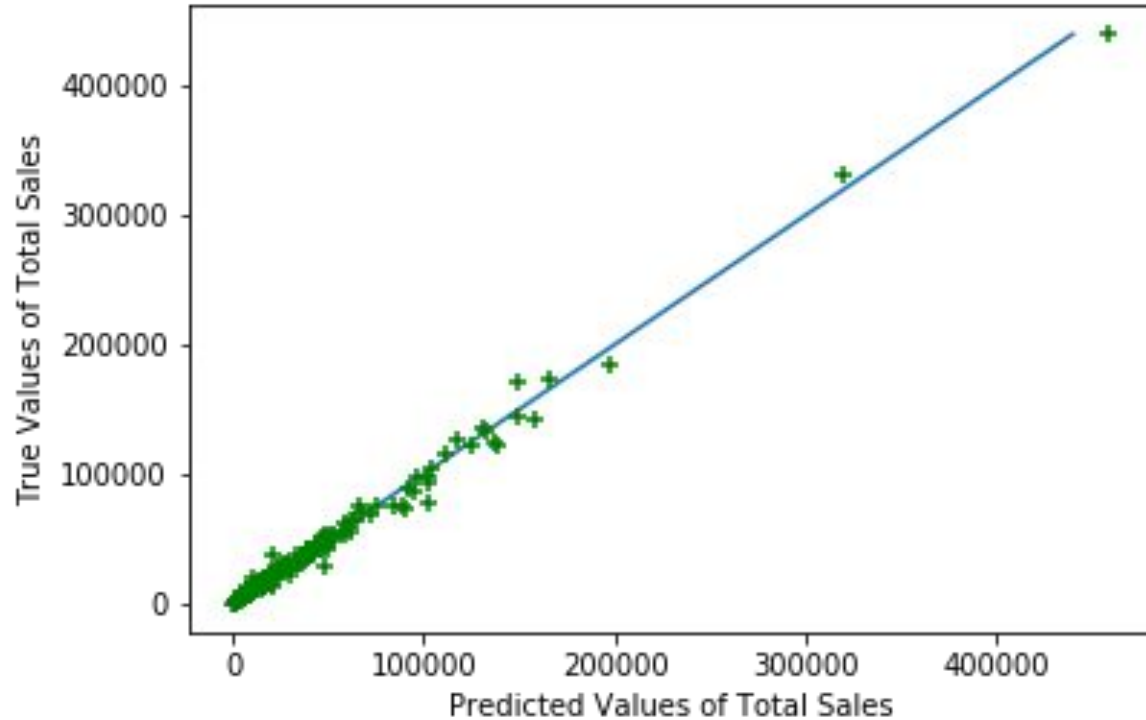
About the Data

- Over 2.7 million sales in Iowa from January 5th 2015 to March 31st 2016
- Prediction based on a sample of 10 percent of the data
- Excluded sales with missing data
- Info about where the sale took place
- Details about the sale and what was sold

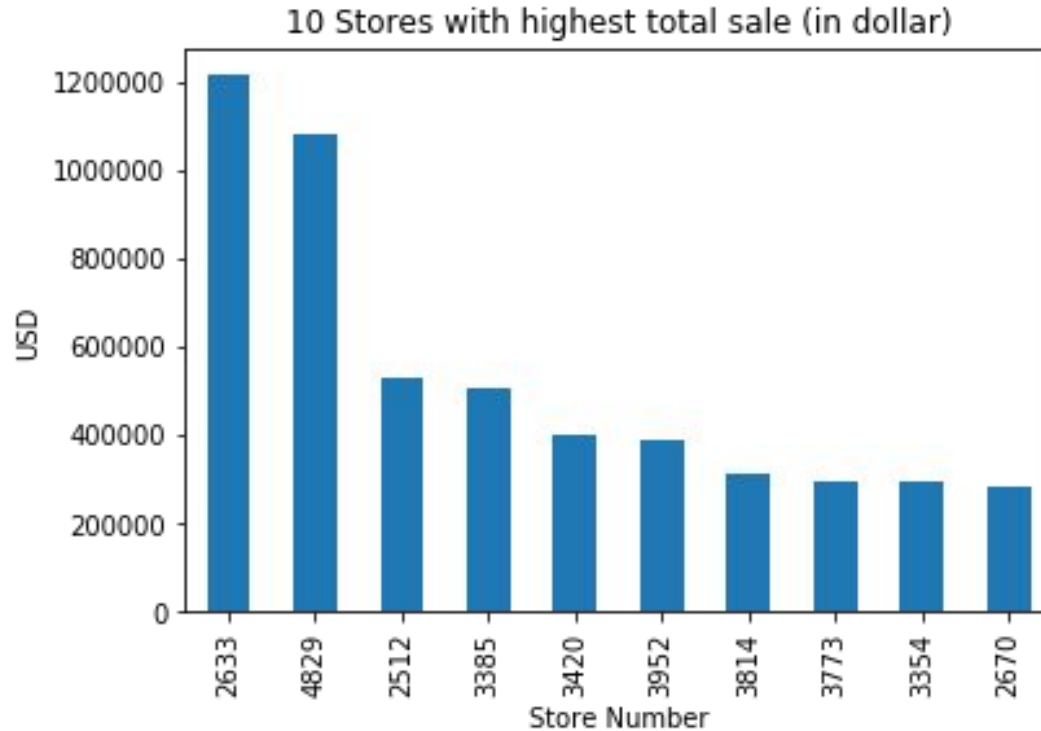
4 Types of Models

Model Type	Performance
Linear	98.31%
Ridge	98.34%
LASSO	98.32%
k-Nearest Neighbors	94.31%

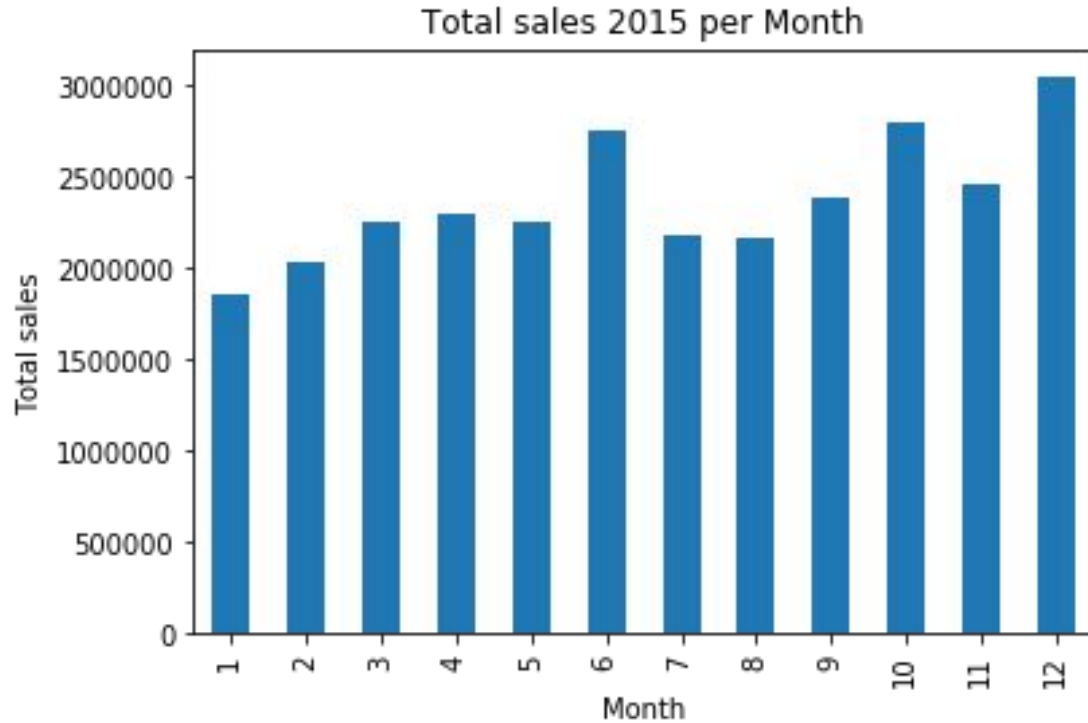
The Best Model - Ridge



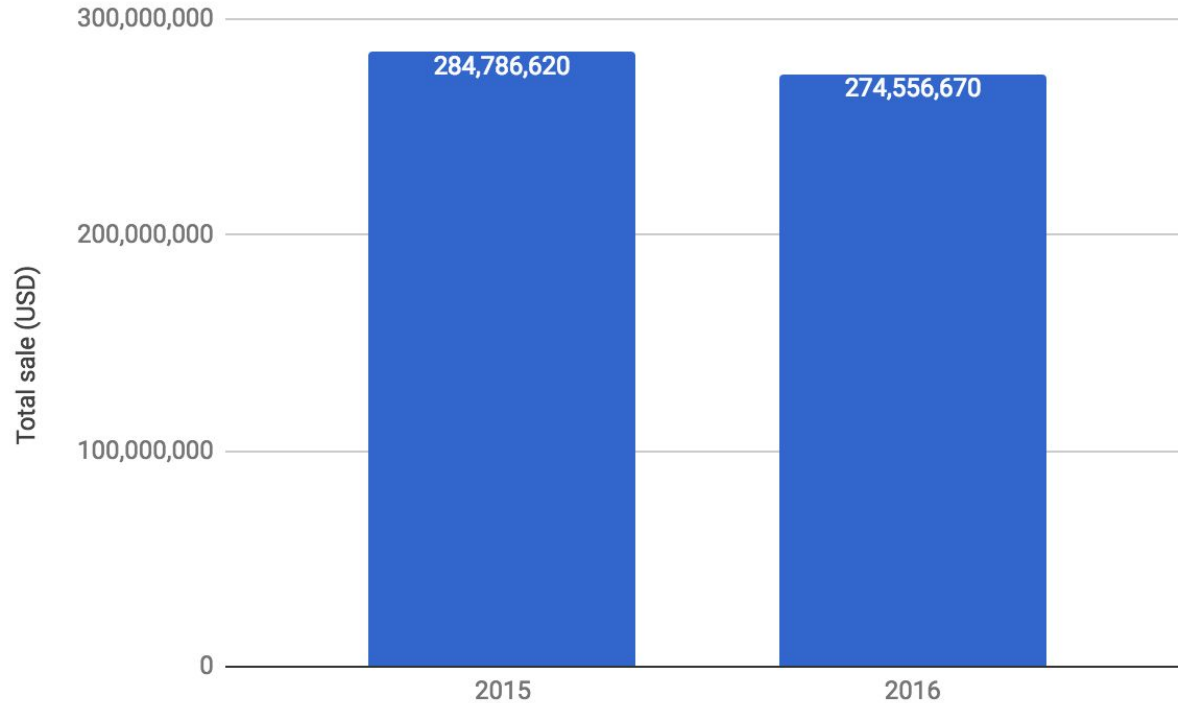
Total Sales per Store 2015



Total Sales per Month 2015



Total Sales 2015 and 2016 (predicted)



Conclusion

Since the prediction show a small decrease in sales for 2016 you might consider to increase the liquor tax rate to maintain the same revenue from liquor sales tax.

The question is if you like to sell more liquor or increase the taxes to maintain the same revenue. An increase in alcohol consumption may lead to a higher health related costs for the state.

Further studies

Deeper study about the change in tax needed to maintain the same state revenue from sales of liquor.

Studies in finding the best new store location.

Studies about liquor sales net earnings/profit.

Studies where the size of the population is taken into account.