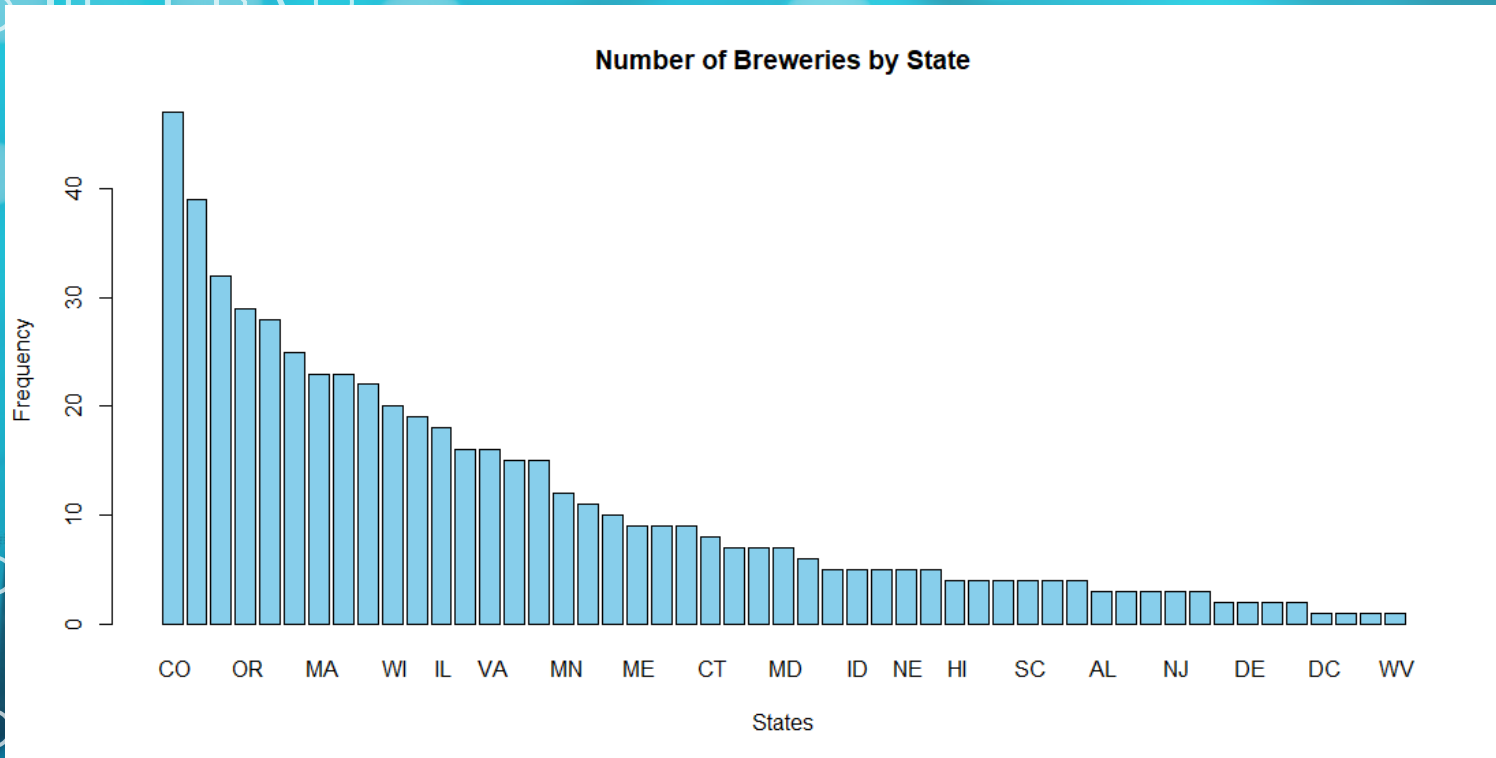


PRESENTATION TO CEO AND CFO OF BUDWEISER

ANALYSIS OF BEERS, BREWERIES, ABV & IBU

TODD GARNER DS6306 – STUDY CASE 1

HOW MANY BREWERIES PER STATE?



1	2	3	4	5	6	7	8	9	10	11	12	13	14
CO	CA	MI	OR	TX	PA	MA	WA	IN	WI	NC	IL	NY	VA
FL	OH	MN	AZ	VT	ME	MO	MT	CT	AK	GA	MD	OK	IA
ID	LA	NE	RI	HI	KY	NM	SC	UT	WY	AL	KS	NH	NJ
TN	AR	DE	MS	NV	DC	ND	SD	WV					

ADDRESSING THE MISSING DATA

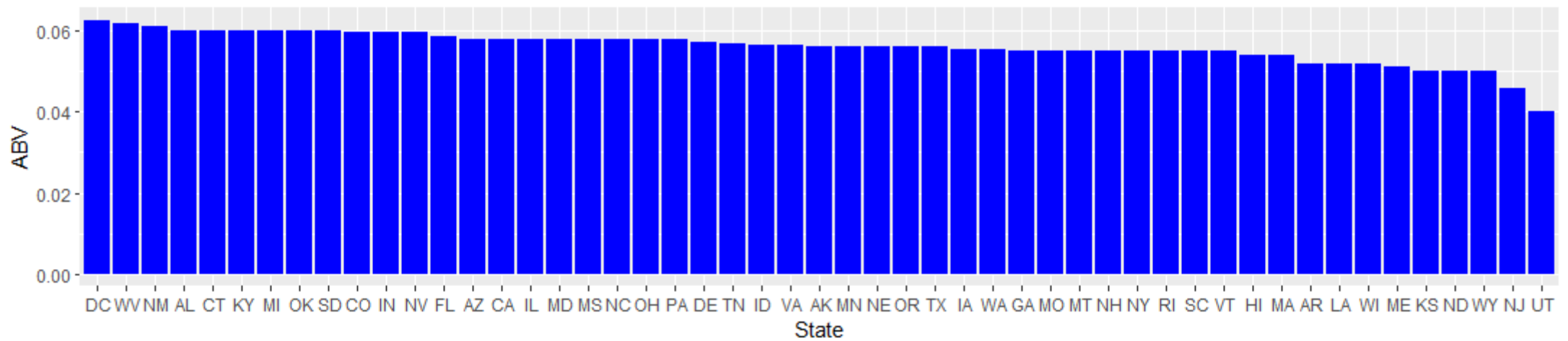
- 1005 missing IBU values – 2,410 total data observations:
- *"IBUs are really interesting, but for the most part, we try not to emphasize them too much in anything consumer-facing," said Gonzalez. "It's not really relevant to your enjoyment of the product, and we're constantly hearing about IBUs across the industry being used an important stat when describing beer. Stone uses IBUs as an important quality control too, like most breweries, and while the consumer certainly wants to see it, we're not making new beers to hit a certain IBU threshold."*
- Conclusion: IBU is important for Brewers, but not particularly relevant to the consumer.
- Result: I've taken the average of the data set and inserted that value in the missing data so as not to skew the data averages.

ADDRESS THE MISSING DATA

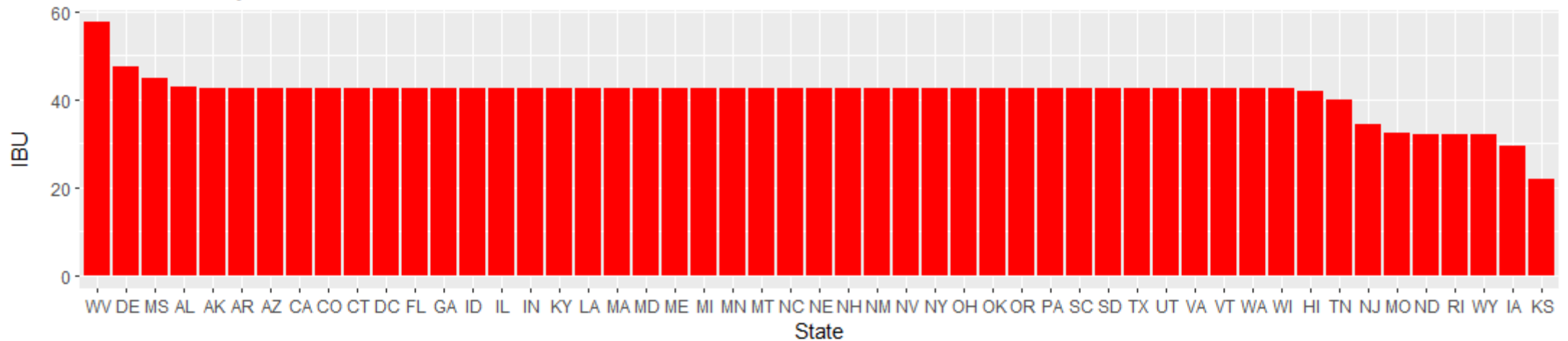
- Missing values ABV: 62 values out of 2,410 observations.
- 2.5% of the data is missing
- Conclusion: likely randomly missing data.
- Result: Given extended time, determine what the values are by looking on company web sites.
- Temp Solution: Set them equal to the mean of the data present

MEDIAN VALUES FOR ABV AND IBU BY STATE

Median Alcohol by Volume by State



Median IBU by State

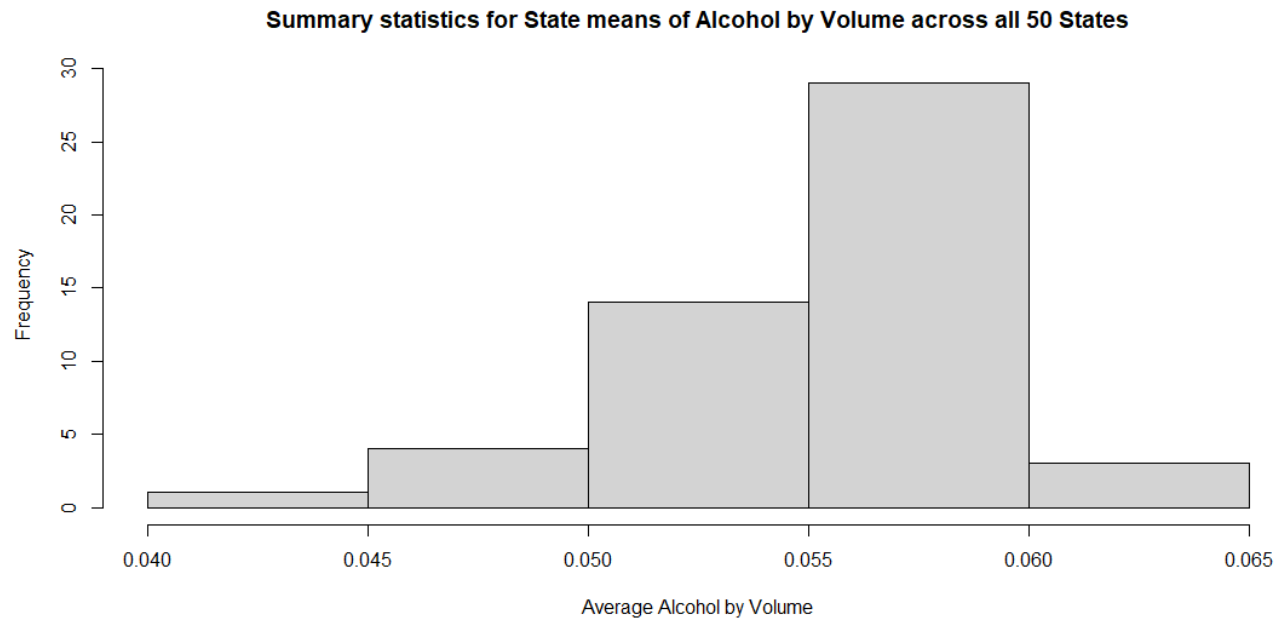




MAX ABV & MOST BITTER IBU BEERS

MAX: 52 Lee Hill Series Vol. 5 - Belgian
Style Quadrupel Ale 12.8% ABV
Boulder , CO

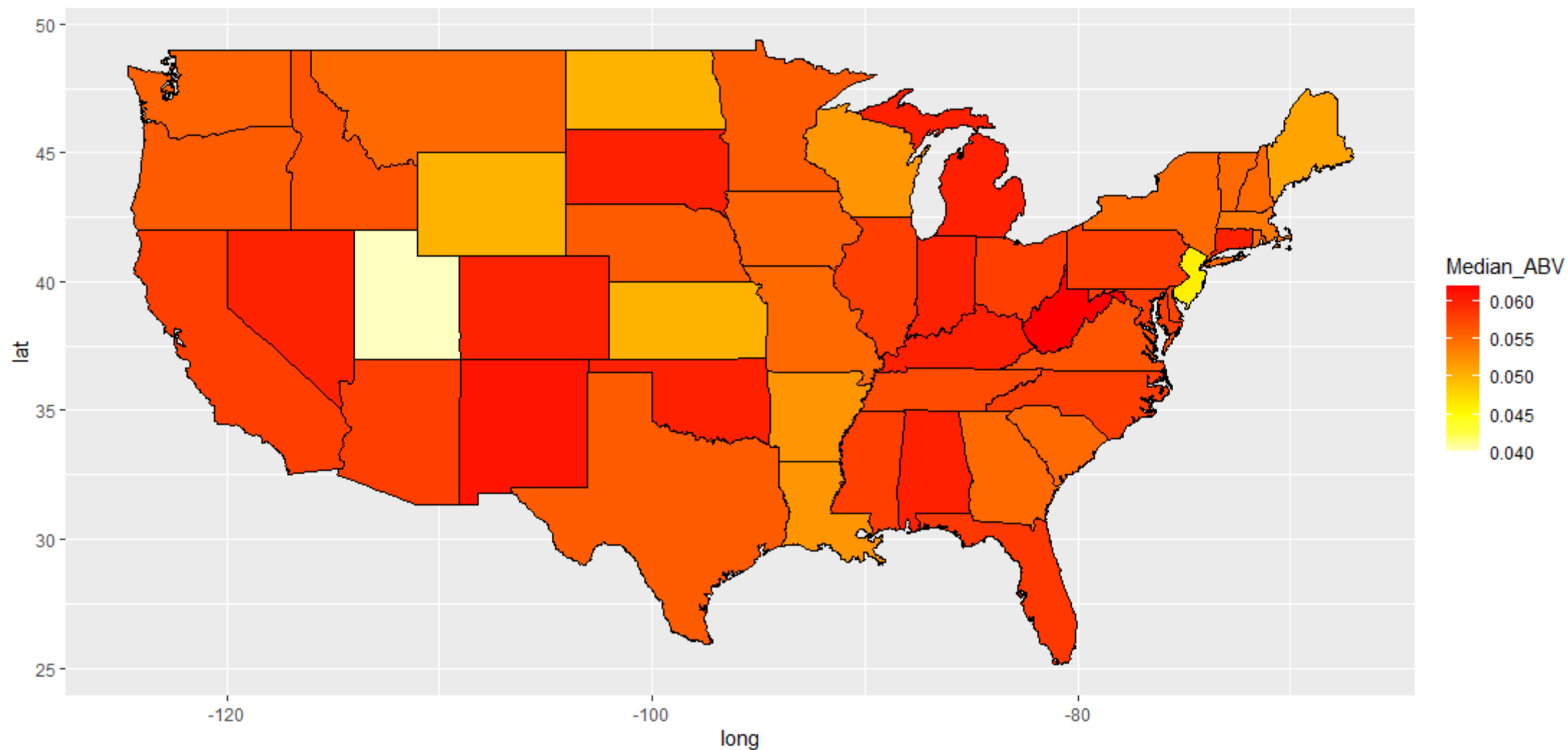
MOST BITTER: 375 Bitter Bitch Imperial IPA
138 IBU American Double / Imperial IPA
Astoria Brewing Company Astoria OR



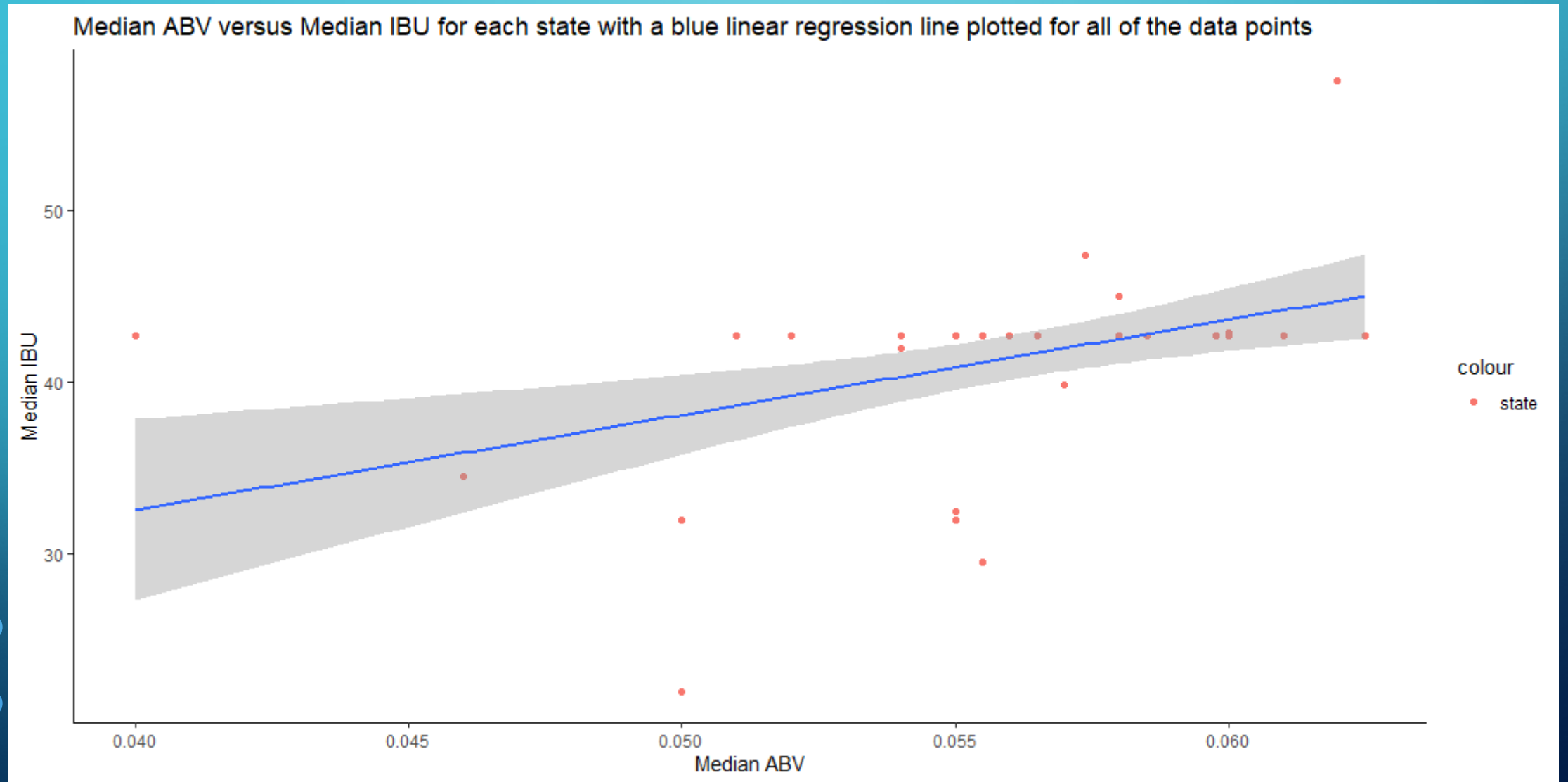
COMMENTS ON SUMMARY STATISTICS AND DISTRIBUTION ALCOHOL BY VOLUME FOR BEERS

- MIN: 0.10%
- MAX: 12.8%
- MEAN: 5.977%
- MEDIAN: 5.7%

Mean Alcohol By Volume by State



RELATIONSHIP BETWEEN ABV AND IBU





THANK YOU!!!

THANK YOU FOR YOUR TIME AND YOUR BUSINESS!!!!

MORE TO COME NEXT WEEK!

TODD GARNER – PINNACLE ECONOMICS, LLC

TODDG@SMU.EDU

CASE STUDY 1 – DS 6306

