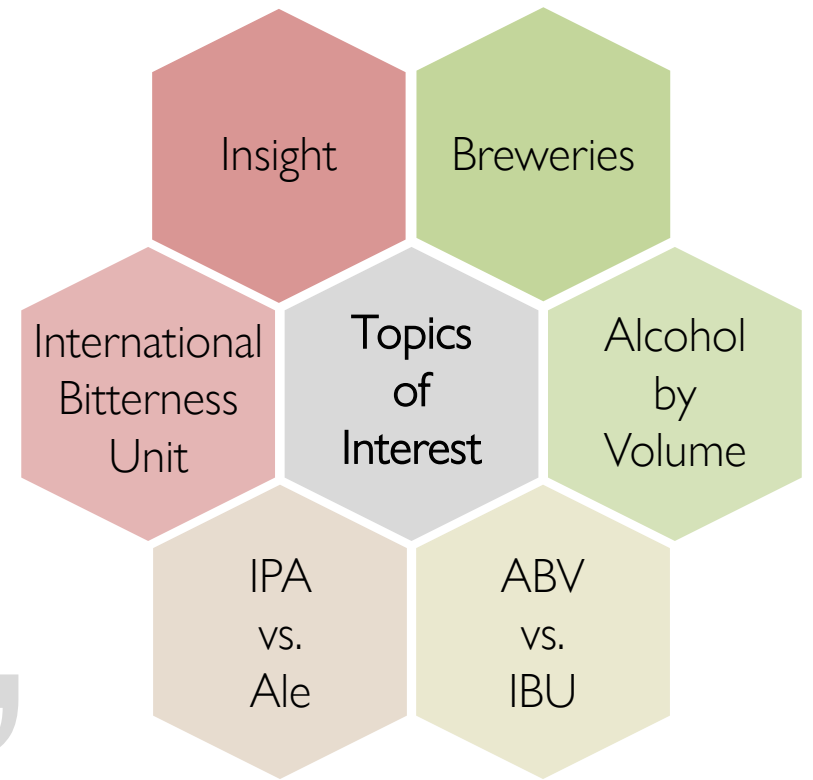


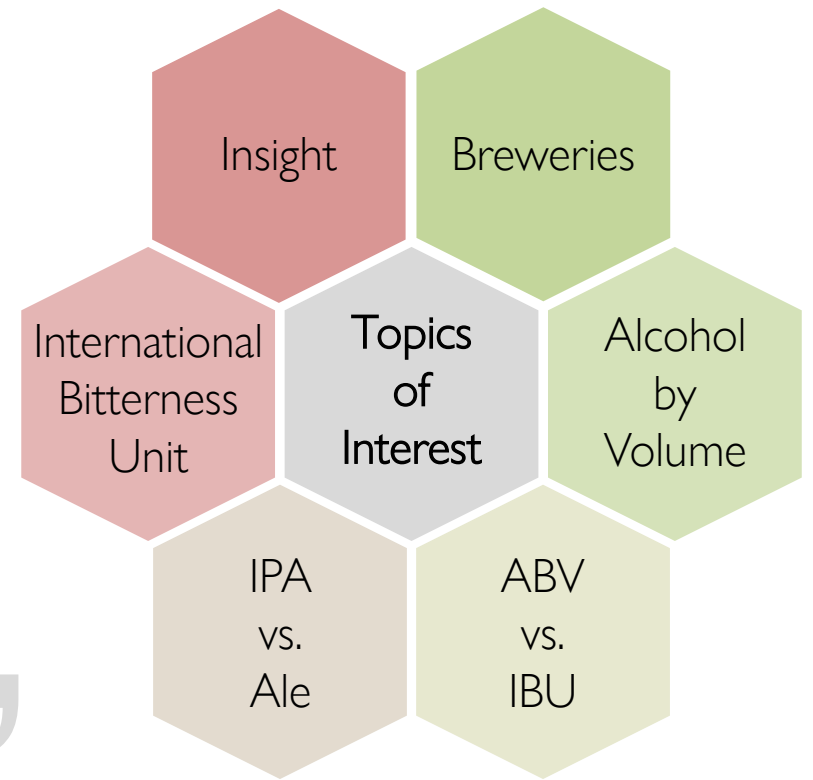


Hien Lam
MSDS@SMU

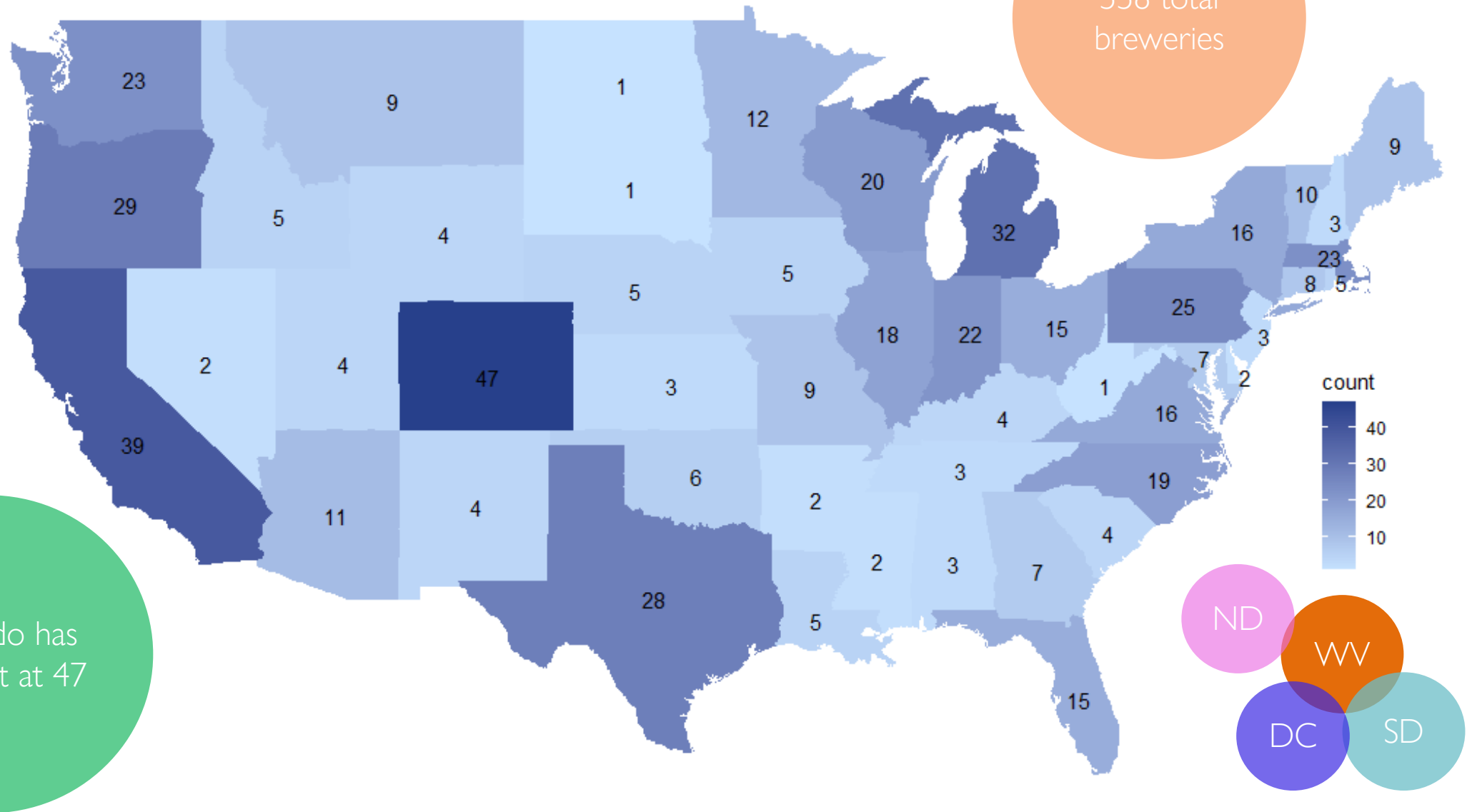
Beers, Breweries, Budweiser



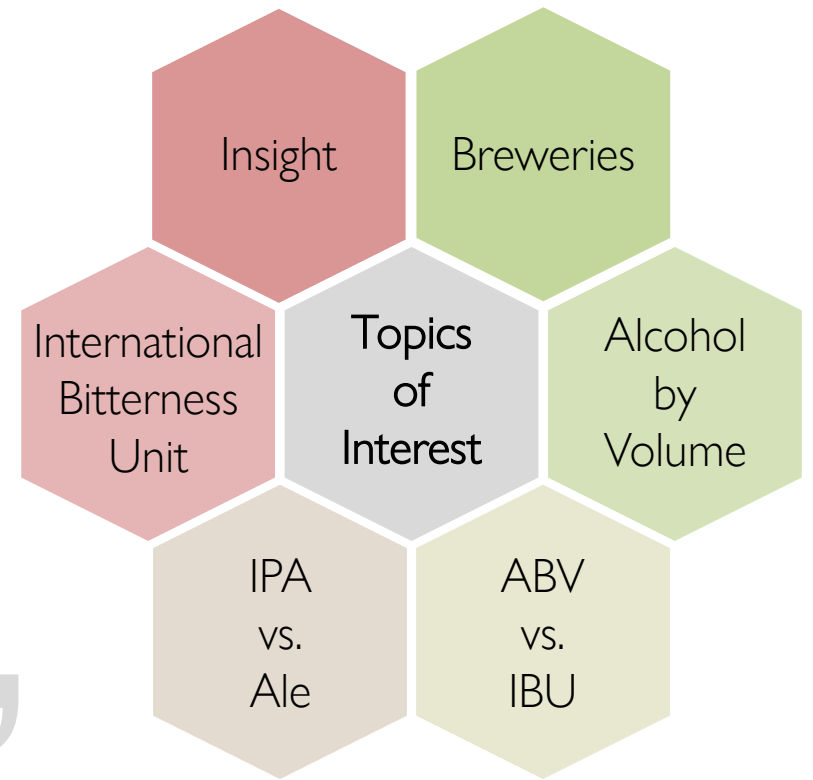
Beers, Breweries, Budweiser



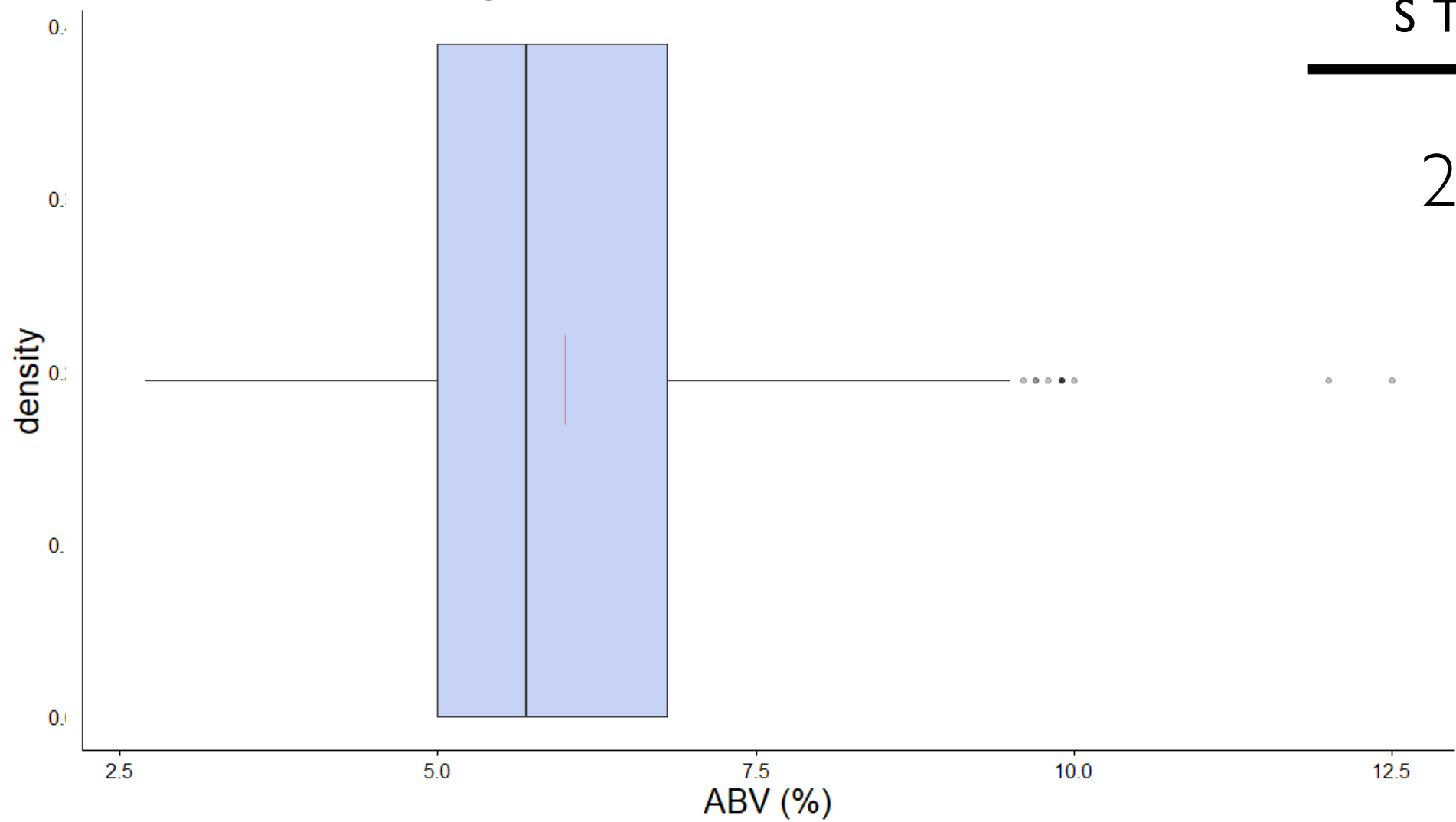
Breweries per State



Beers, Breweries, Budweiser



Distribution of Alcohol by Volume



SUMMARY
STATISTICS

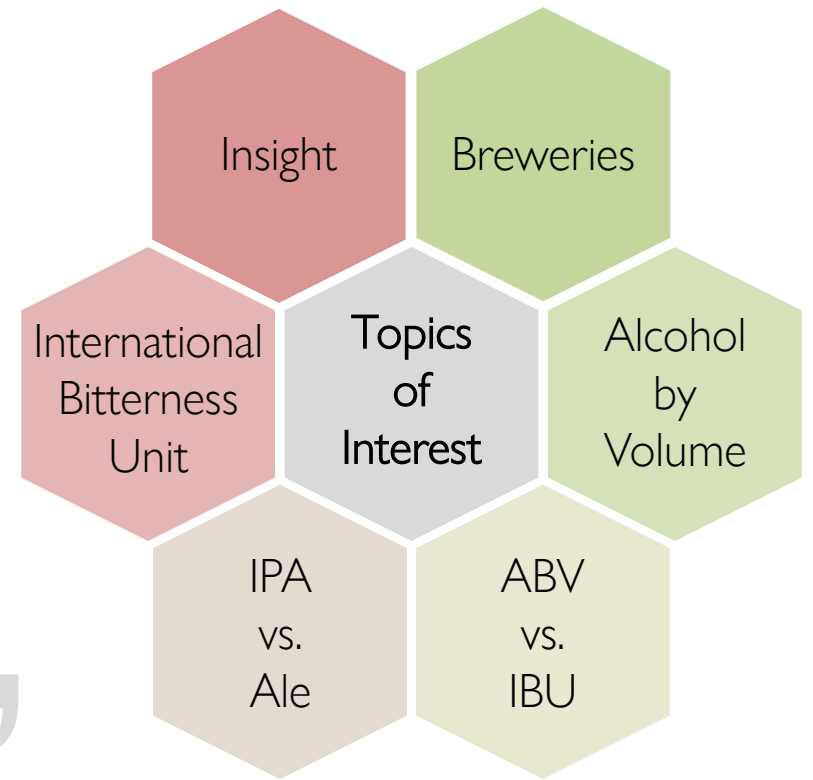
2.7%-12.5%
RANGE

5.7%
MEDIAN

6%
MEAN

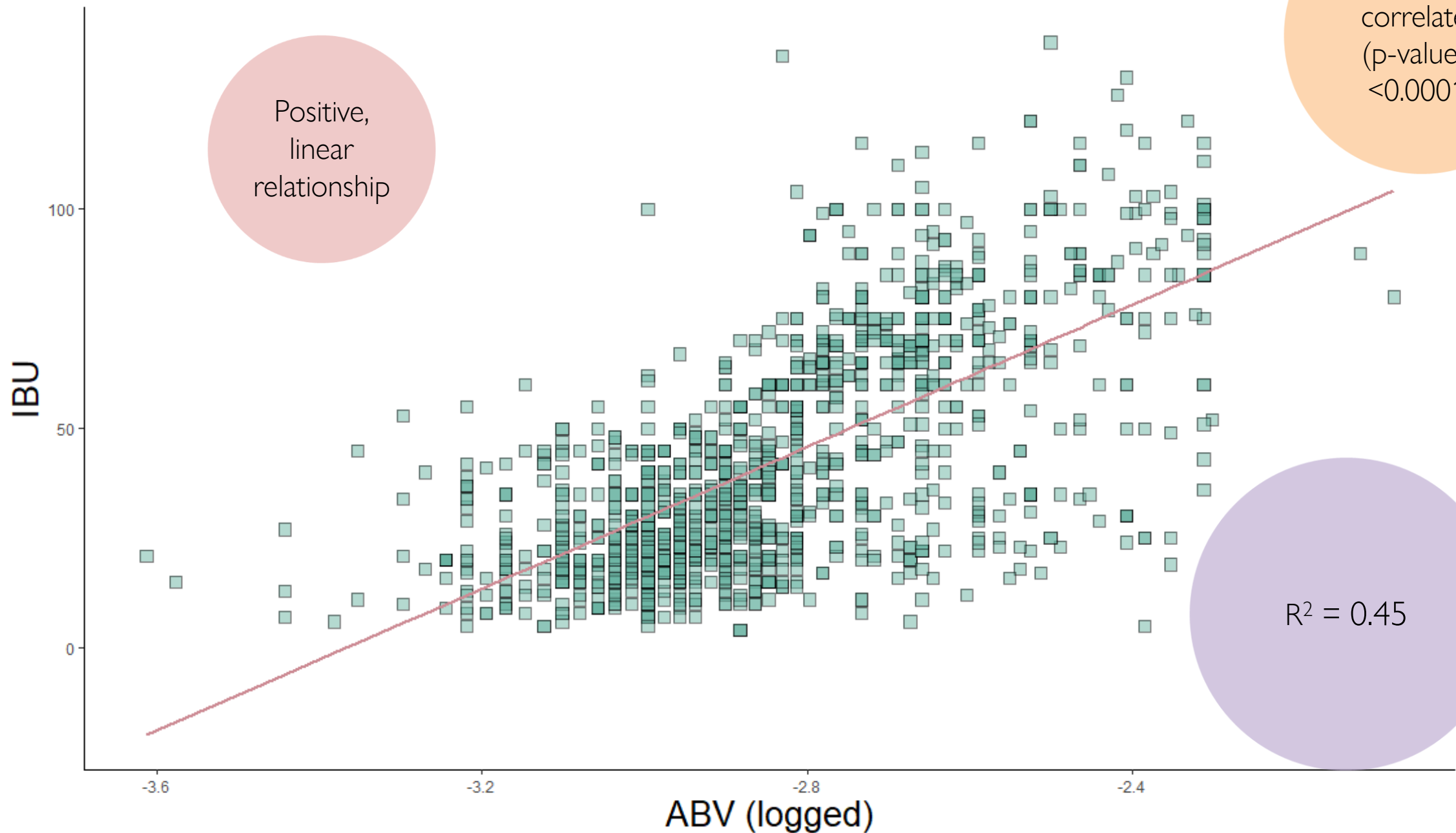
1.8%
IQR

Beers, Breweries, Budweiser



Relationship between Bitterness of Beer and its Alcohol Content

Linear Regression Model on Log Transformed ABV



Median Alcohol by Volume of each State

Decreasing Order

State

ME
CO
OK
WV
GA
FL
NM
NC
CT
AL
NY
DC
MS
ID
CA
OH
KY
VA
PA
MT
IN
IL
AK
MD
WA
OR
NE
MI
IA
MN
VT
TX
TN
NV
DE
AZ
MA
RI
HI
WY
LA
WI
SC
ND
MO
KS
NH
NJ
UT
AR

4

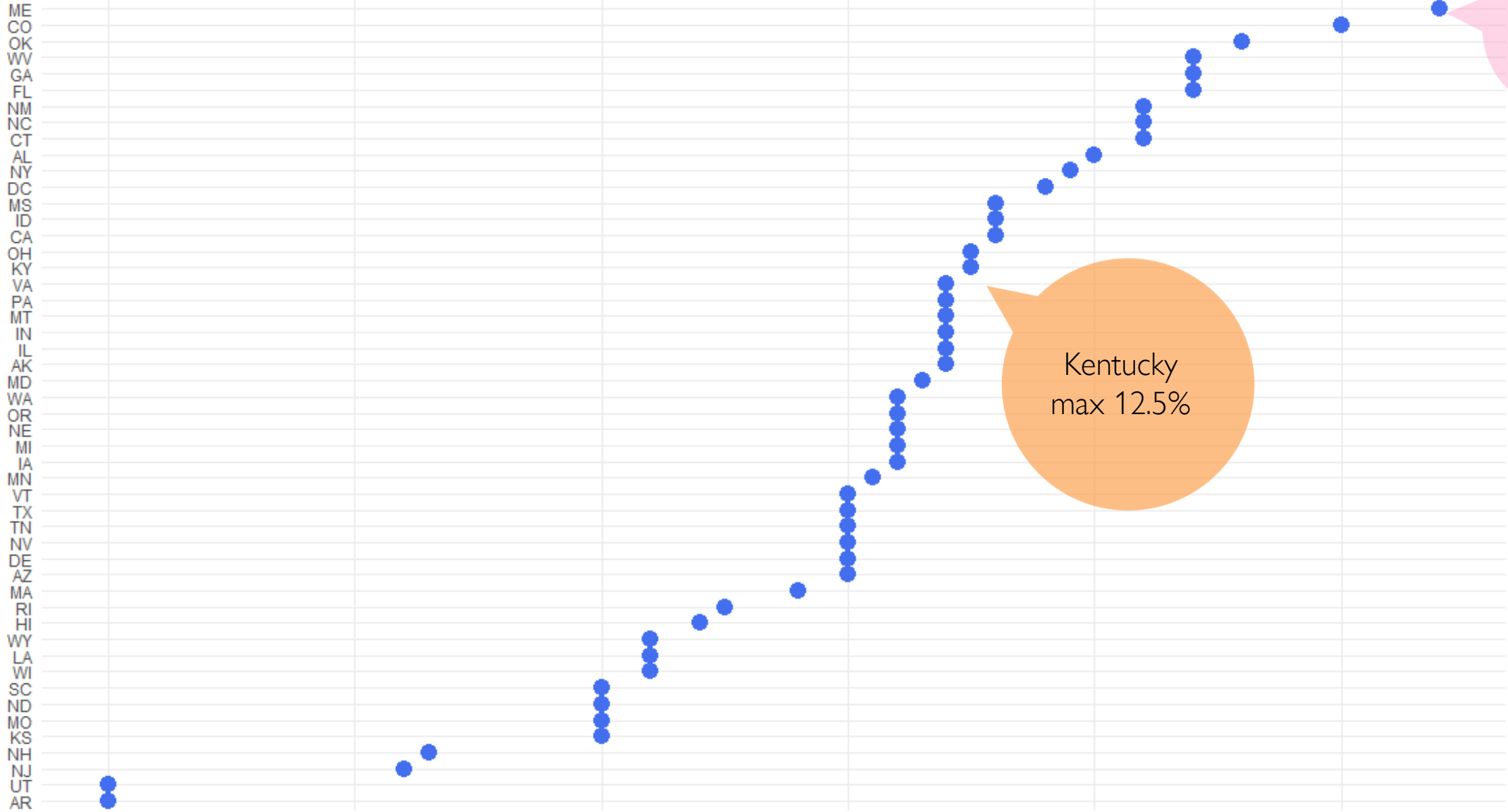
5

6

ABV (%)

Maine
6.7%

Kentucky
max 12.5%



Median International Bitterness Unit of each State

Decreasing Order

State

ME
WV
GA
FL
DE
NM
NH
DC
NY
AK
MS
MN
AL
VA
CA
NV
OR
OH
MT
CO
ID
AR
WA
TN
OK
NE
MI
MA
NJ
UT
TX
NC
IN
ND
LA
KY
VT
SC
PA
IL
MD
CT
IA
RI
MO
HI
WY
KS
AZ
WI

20

30

40

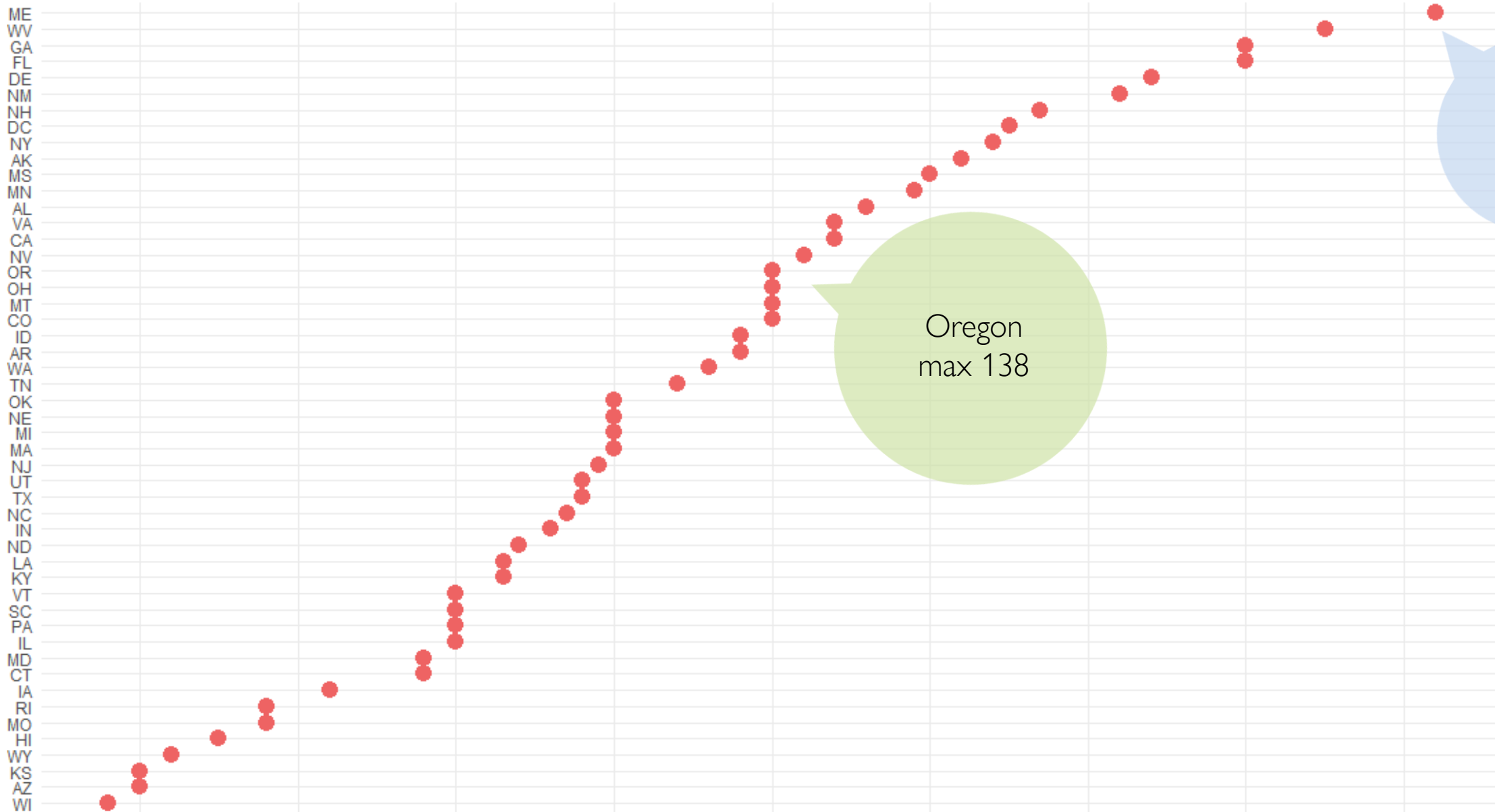
50

60

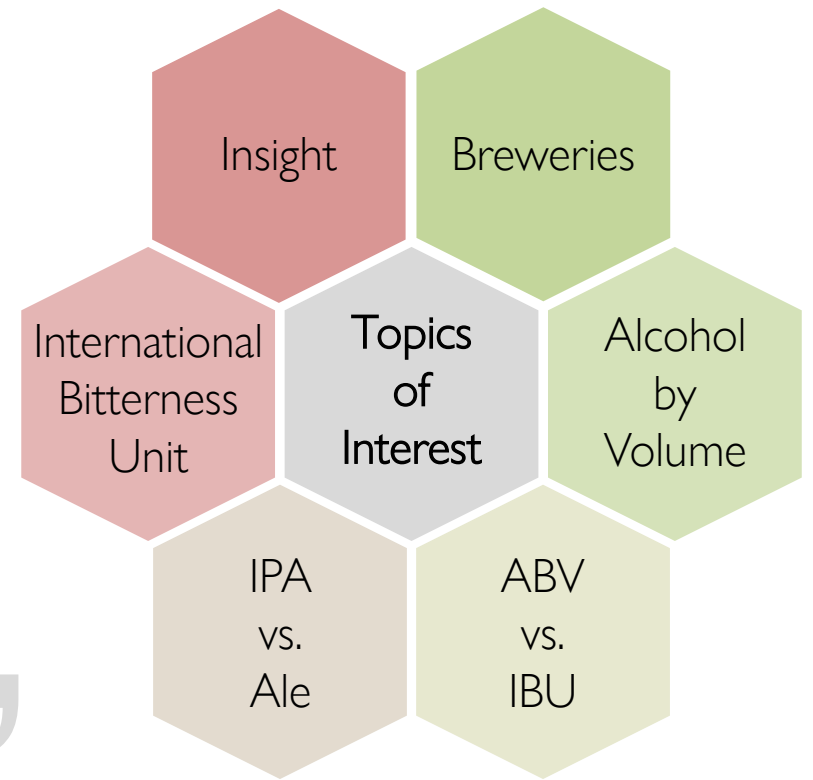
IBU

Oregon
max 138

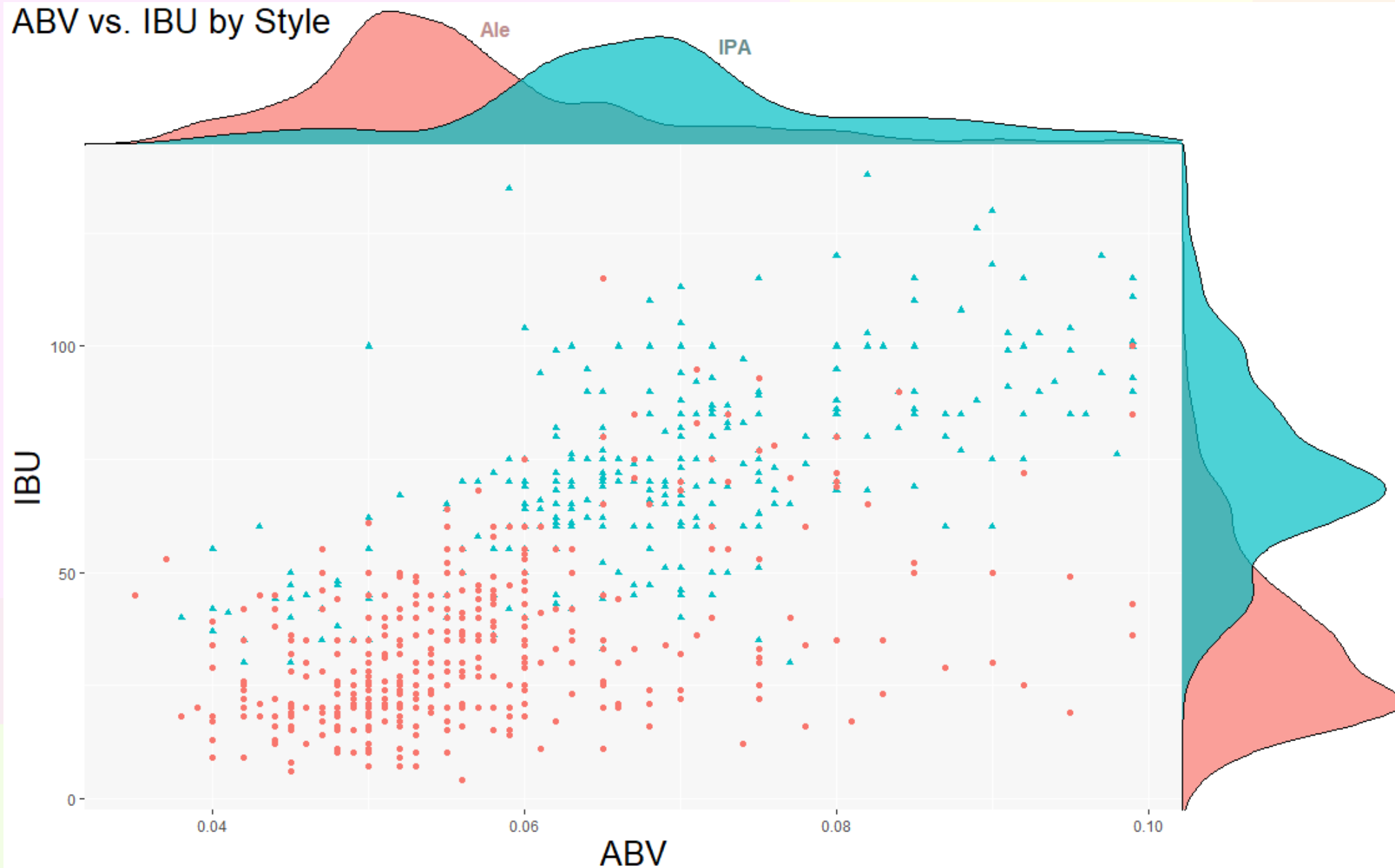
Maine
61



Beers, Breweries, Budweiser



ABV vs. IBU by Style



77.9%

accuracy

83.3%

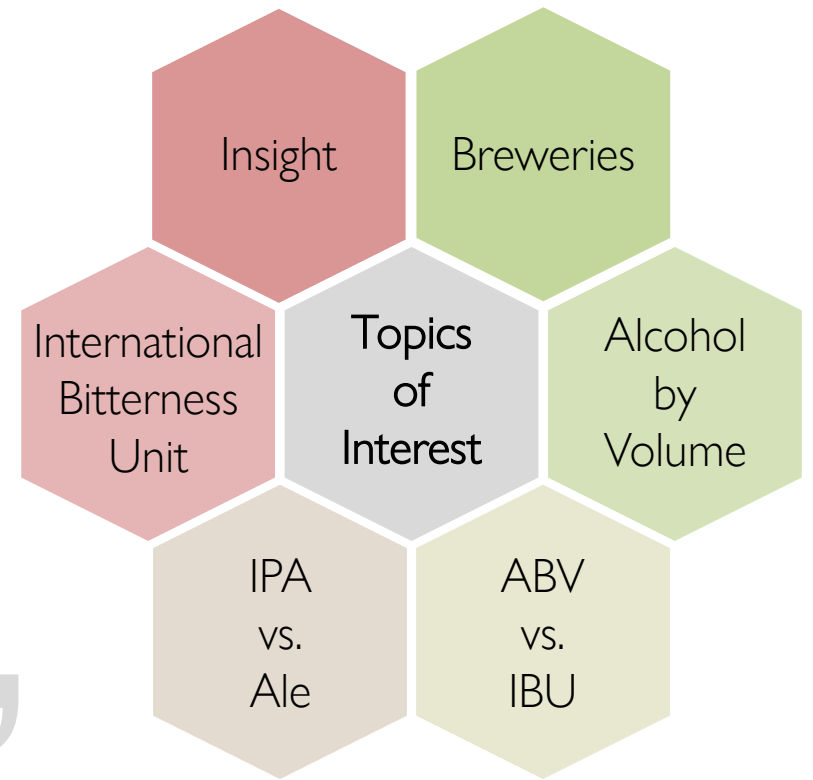
sensitivity

70.2%

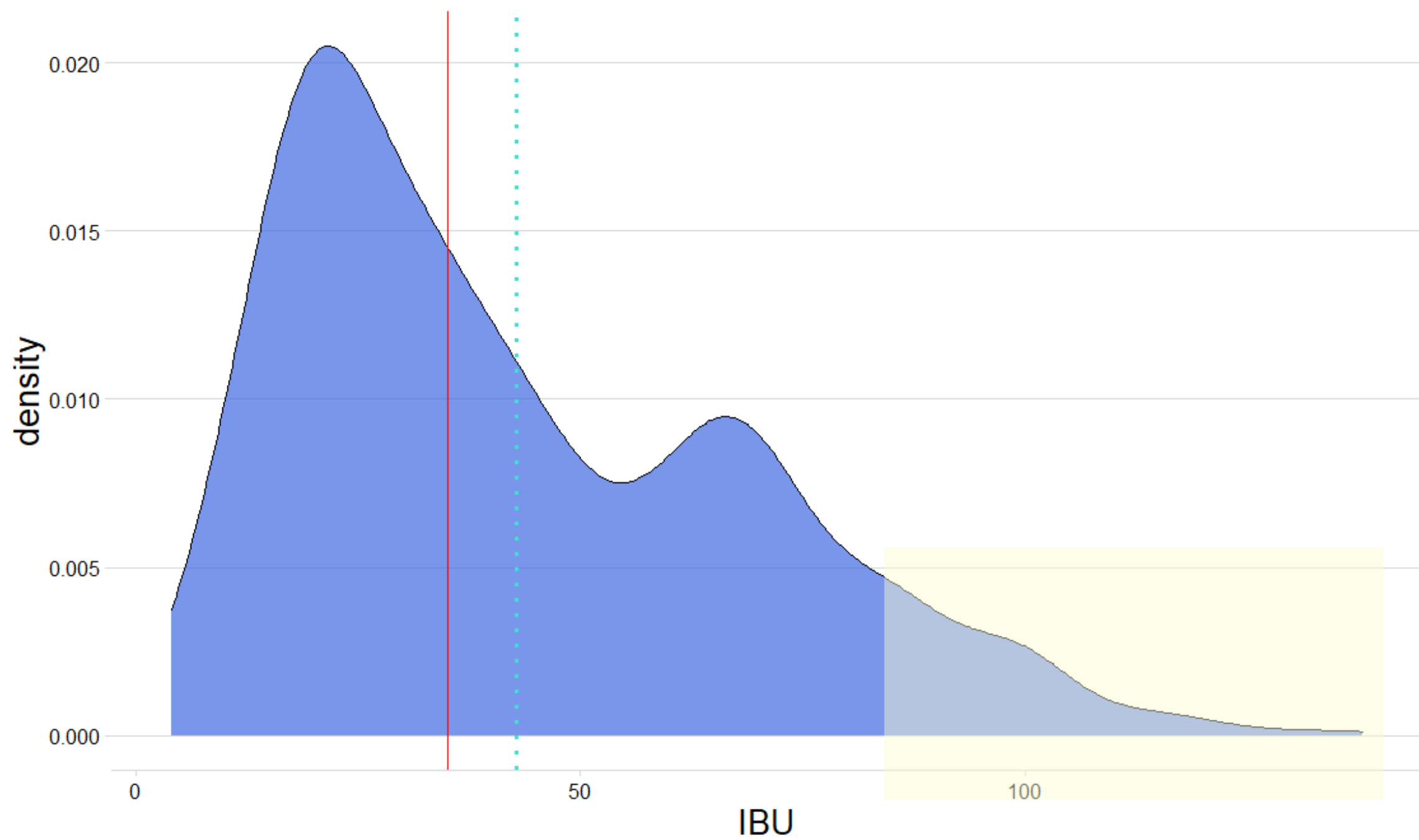
specificity

Strong evidence
to suggest the
median ABV &
IBU is different
for both styles
 $p\text{-value} = <0.0001$

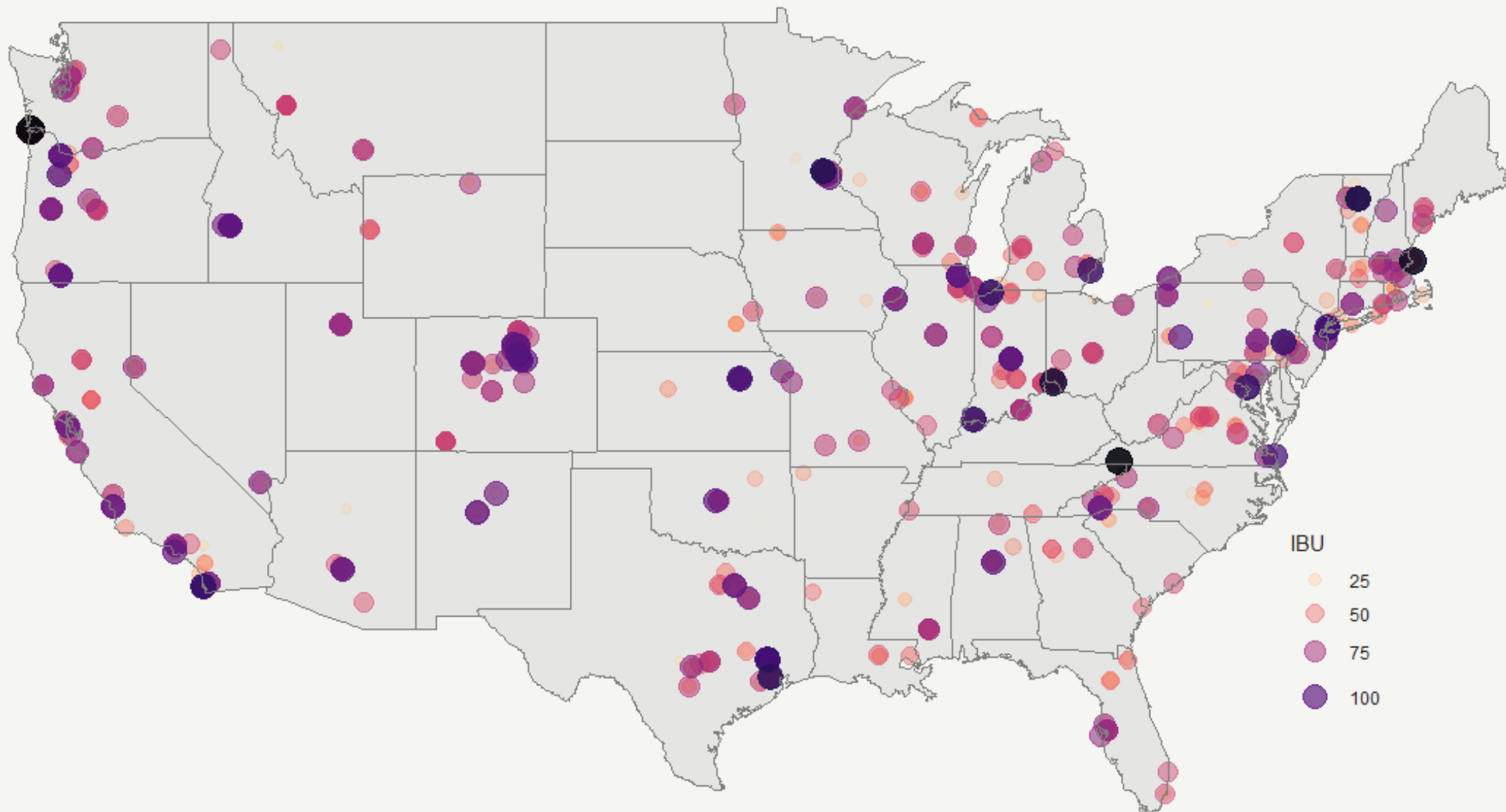
Beers, Breweries, Budweiser



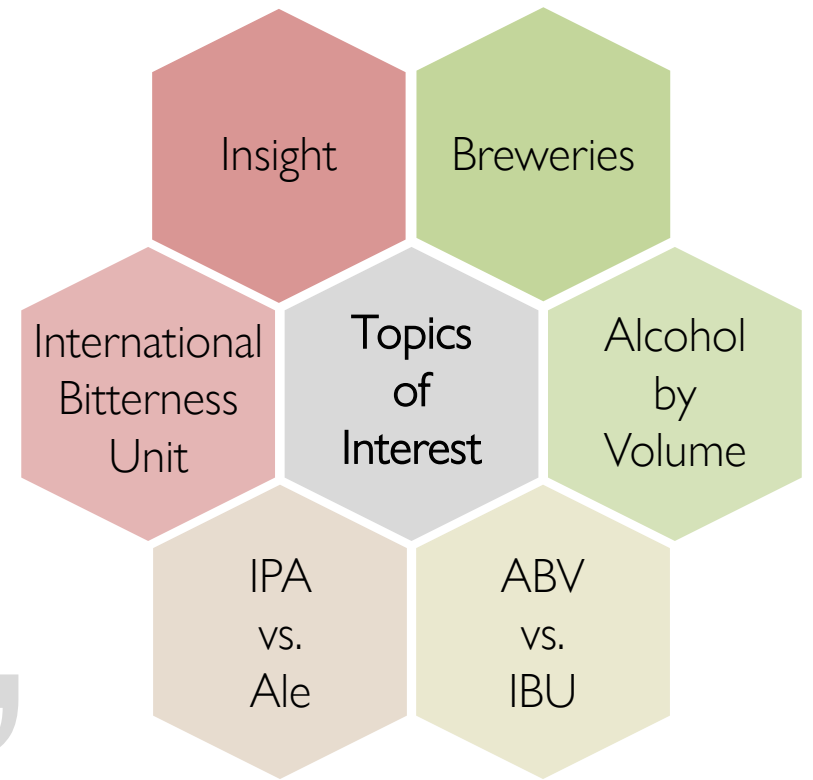
International Bitterness Unit



Distribution of International Bitterness Unit by Cities



Beers, Breweries, Budweiser



So,
Any

Hien Lam / hienl@smu.edu

Questions?