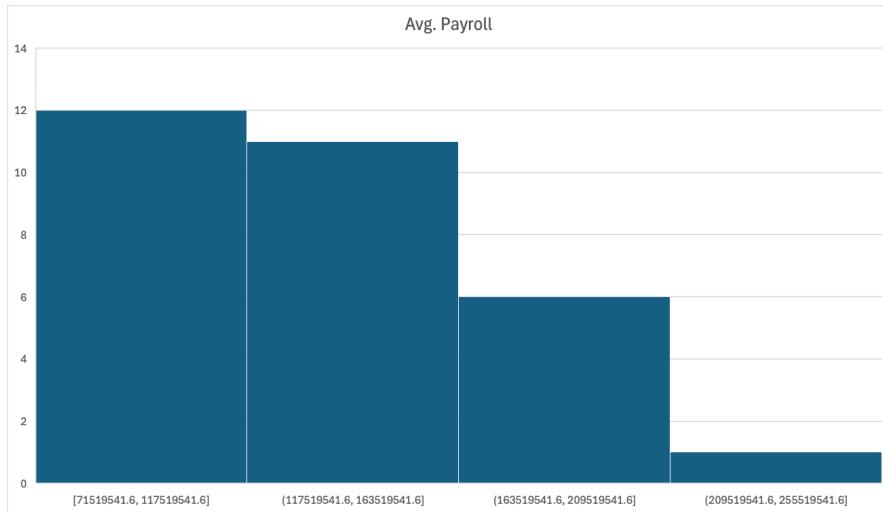


John Ostensen  
Sports Analytics

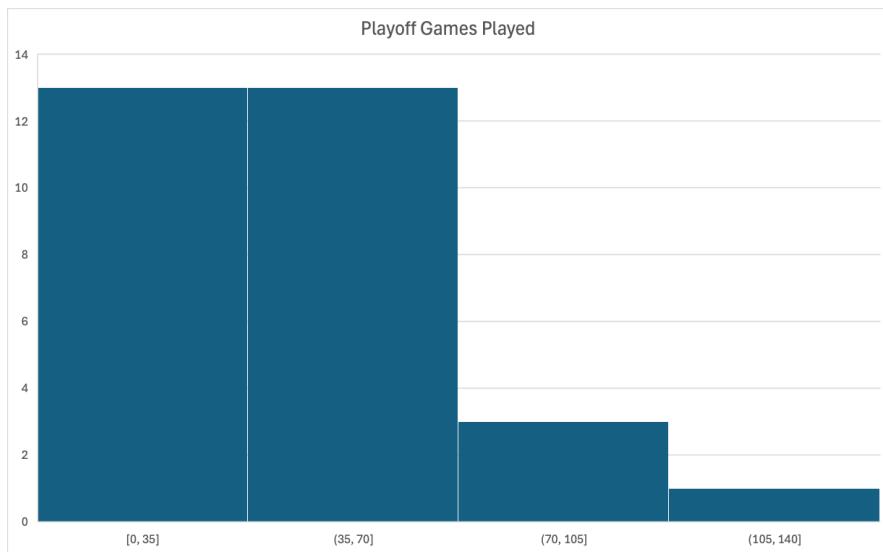
**Question Snapshot:** Would implementing a Salary Cap in MLB affect competitive advantage?  
How does excessive spending currently affect competitiveness in MLB? Do more valuable teams have an advantage?

**Data Used:** Ostensen\_John\_CP4

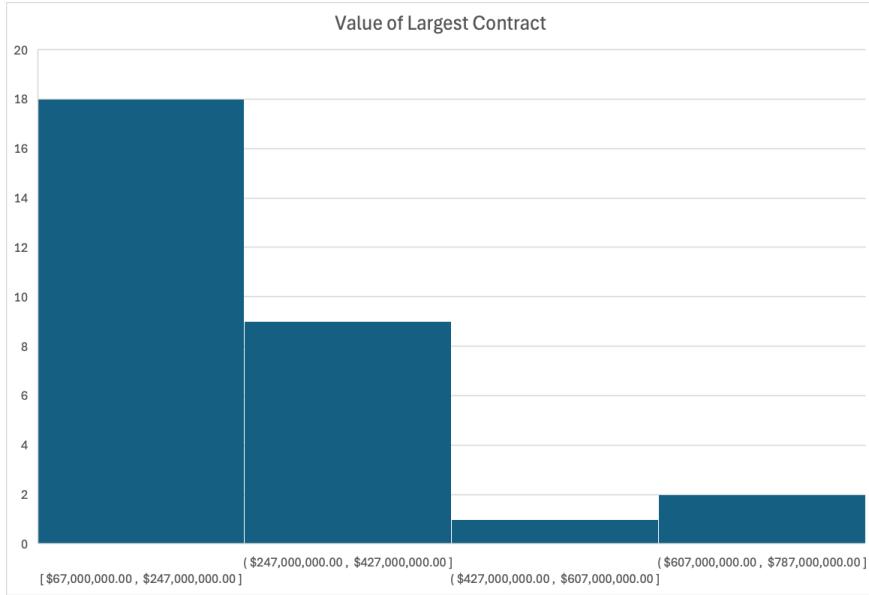
### Univariate Distributions:



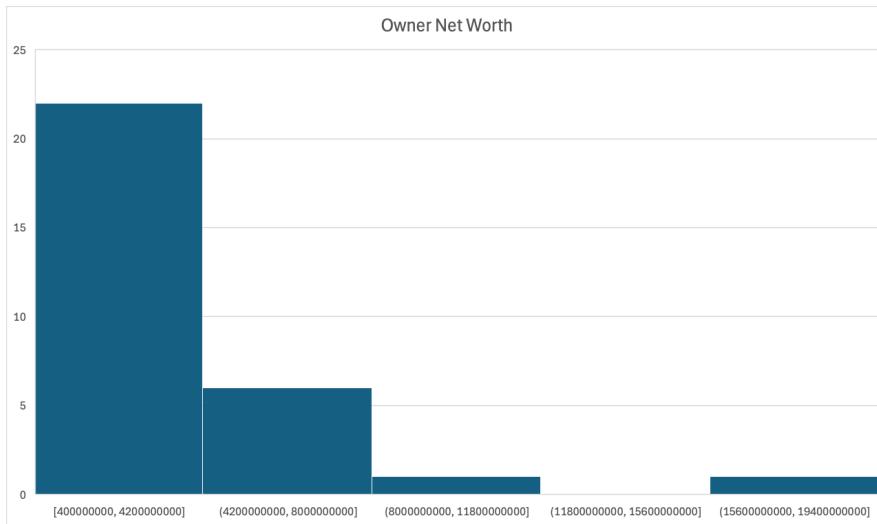
This is as expected, as more teams are spending less money.



Again, as expected, as often times the same teams are in the playoffs, so more teams have lower playoff games played.

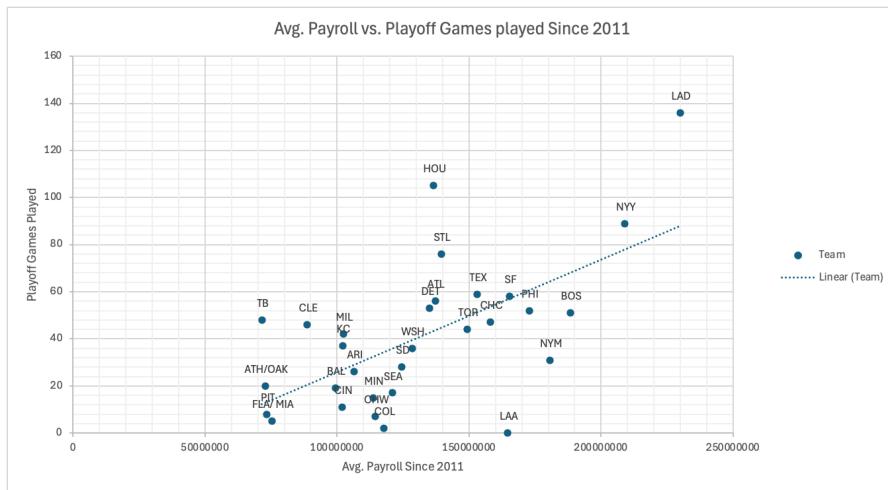


Slight unexpected variance from the third bin, as more teams have spent in the highest bin than in the second-highest bin.

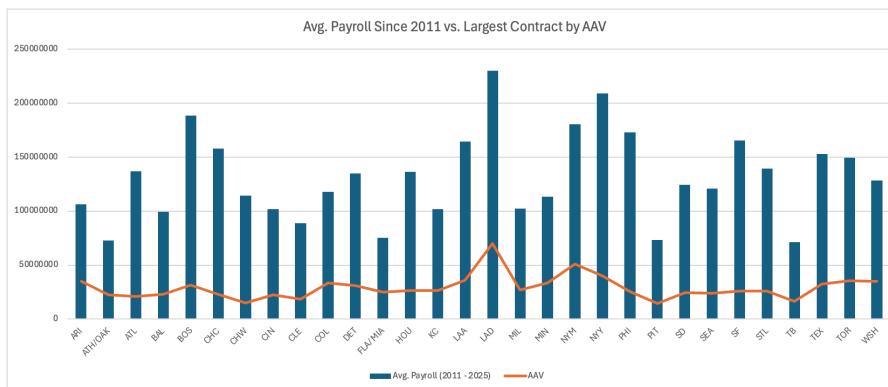


Most owners generally have similar net worths, with a few outliers.

## Relationships:



The variables relatively move in the expected way, with teams spending more having played more games in the playoffs. Some outliers to note: HOU, LAA, TB.



Also as expected, as teams spending more overall have offered the most money to individual players. Some outliers: NYY, DET.

## Subgroup Comparisons:

NL	Payroll	AL	Payroll
ARI	106423328.1	ATH/OA	
ATL	137132011.1	K	72760230
CHC	158070425.1	BAL	99300083.27
CIN	101999983.2	BOS	188257976.1
COL	117714881	CHW	114527835.6
		CLE	88724100.73

FLA/ MIA	75294152.07	DET	134997503.9
LAD	229894653.4	HOU	136585891.1
MIL	102423038.9	KC	102048448.5
NYM	180637794.1	LAA	164645919.5
PHI	172716183.1	MIN	113605922.8
PIT	73389085	NYY	209023728.3
SD	124571453.5	SEA	120914727.1
SF	165348328	TB	71519541.6
STL	139401892.1	TEX	153111014.7
WSH	128384333.5	TOR	149266188.7

\$ \$  
Average 134,226,769.48 127,952,607.47

On average, the NL spends more than the AL. This shouldn't be meaningful, but it would be interesting to see whether more AL or NL teams have won the World Series in the last 15 years.

**Outliers & Anomalies:** Outliers identified include (1) Teams who spend more and appear in the playoffs less (and vice versa), (2) Team who (on average) spend more, but haven't spent too much on one specific player, and (3) teams with richer owners who don't spend as much (and vice versa).

**Missingness & Coverage:** One important thing to note is teams may have recently been bought by owners that are much richer than their previous owners, creating more outliers in avg. payroll vs. owner net worth. This, for example, may be the case with NYM.

## Early Takeaways:

- From initial analysis, it seems that owners with higher net worths tend to spend more, leading to more playoff games and appearances over this time period.
  - Teams that spend more will most likely have more success. With this in mind, a salary cap may affect the teams that make regular playoff appearances (LAD, NYY).
  - If a salary cap is implemented, it may be likely that richer owners (NYM, etc.) may also push for a salary floor for teams who do not spend as much (TB), as this would improve competitive balance on both ends of the scale.

## **Next Steps:**

- Begin analysis; Decide what methods may work best for this data and question, run initial

analysis.

- Make any adjustments to initial analysis that may improve data and conclusions.