NBA Rookie Second-Contract Salary Predictions

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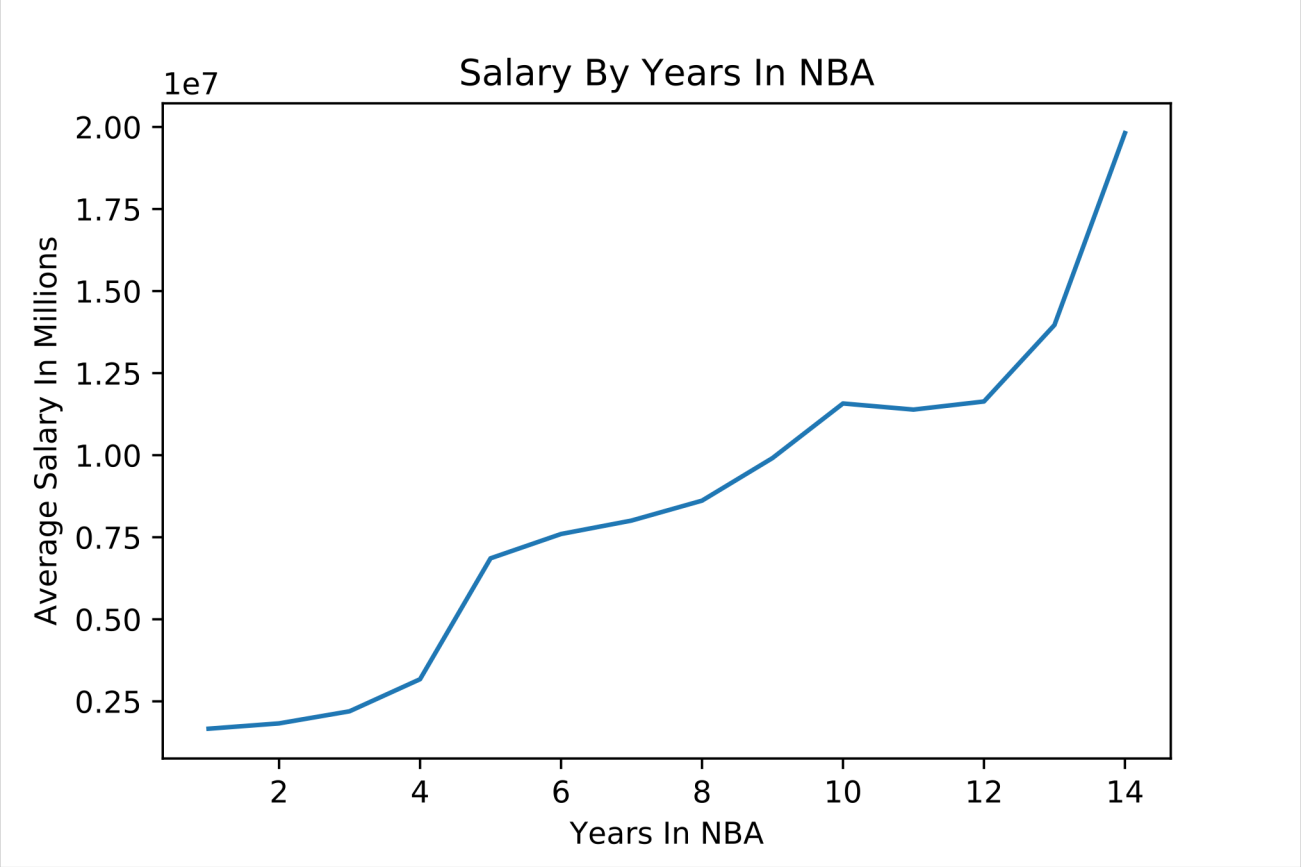
Objective

Good general managers plan ahead



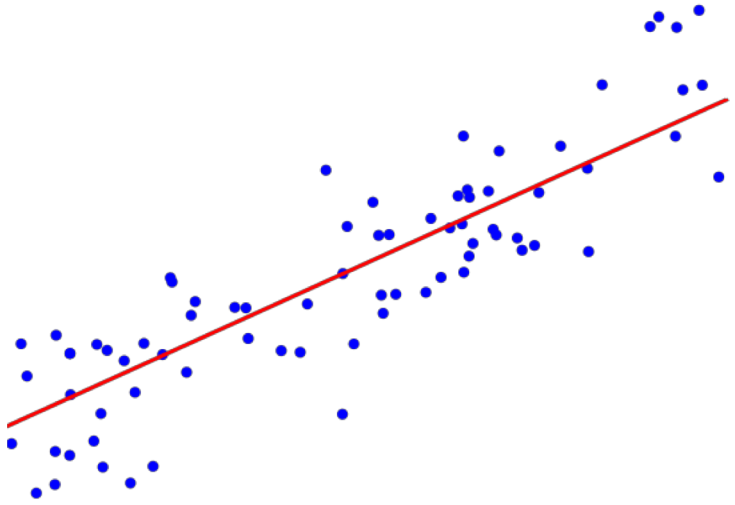
Data Sources

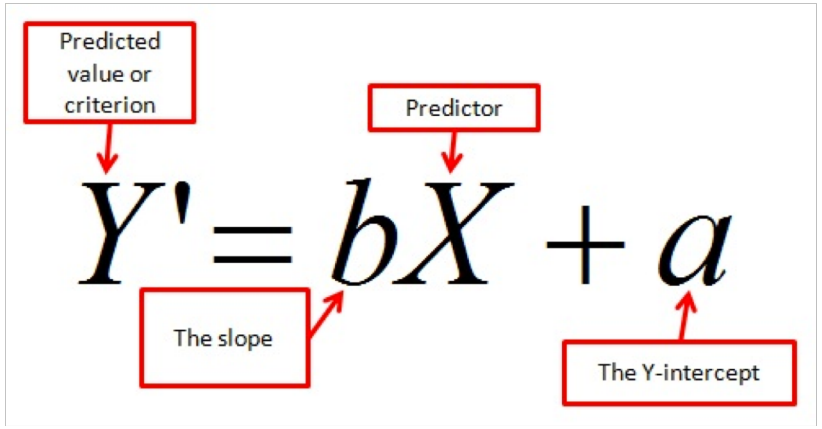
- Salaries

- Draft Data (2005-2014)
- Basic Statistics
- Advanced Statistics

Methods

- Regression
- Prediction
- Interpretation





Key Statistics

1. Games Started
2. Value-Over-Replacement-Player
3. Turnovers
4. Three Point Percentage
5. Defensive Box Plus-Minus
6. Steals
7. Free Throw Attempts
8. Blocks
9. Free Throw Percentage

Cross-Validation Scores

R-Squared By Data Set

- Per 36 Minutes: 0.1613
- Total: 0.1323
- Per Game: 0.1292

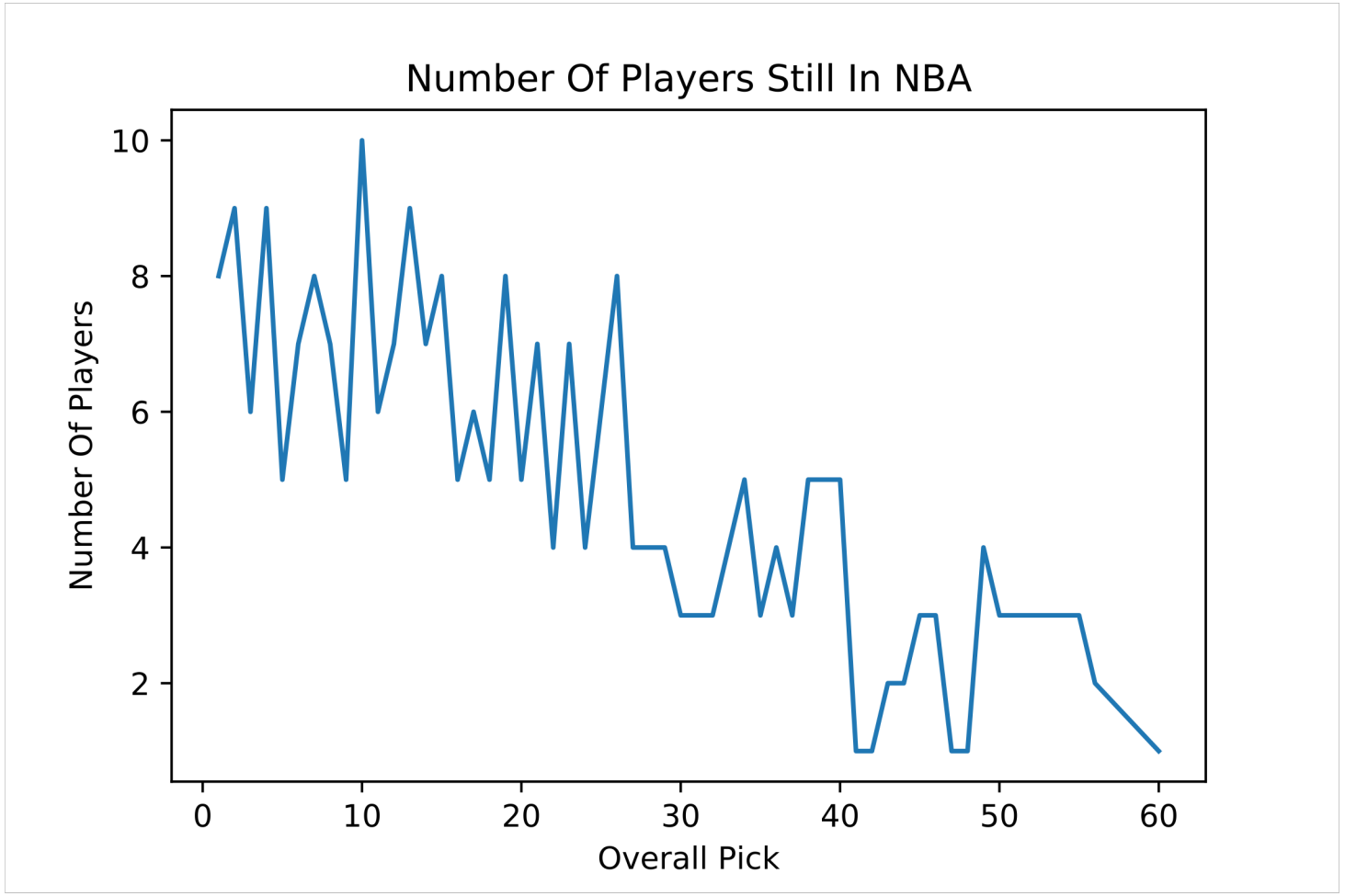
Interpretation

- Rookie second contract salaries are hard to formally predict using player statistics
- Less than half of rookies (258 of 600) continue to play in the NBA after four years
- Looking at key statistics in 36-minute periods may be a good test

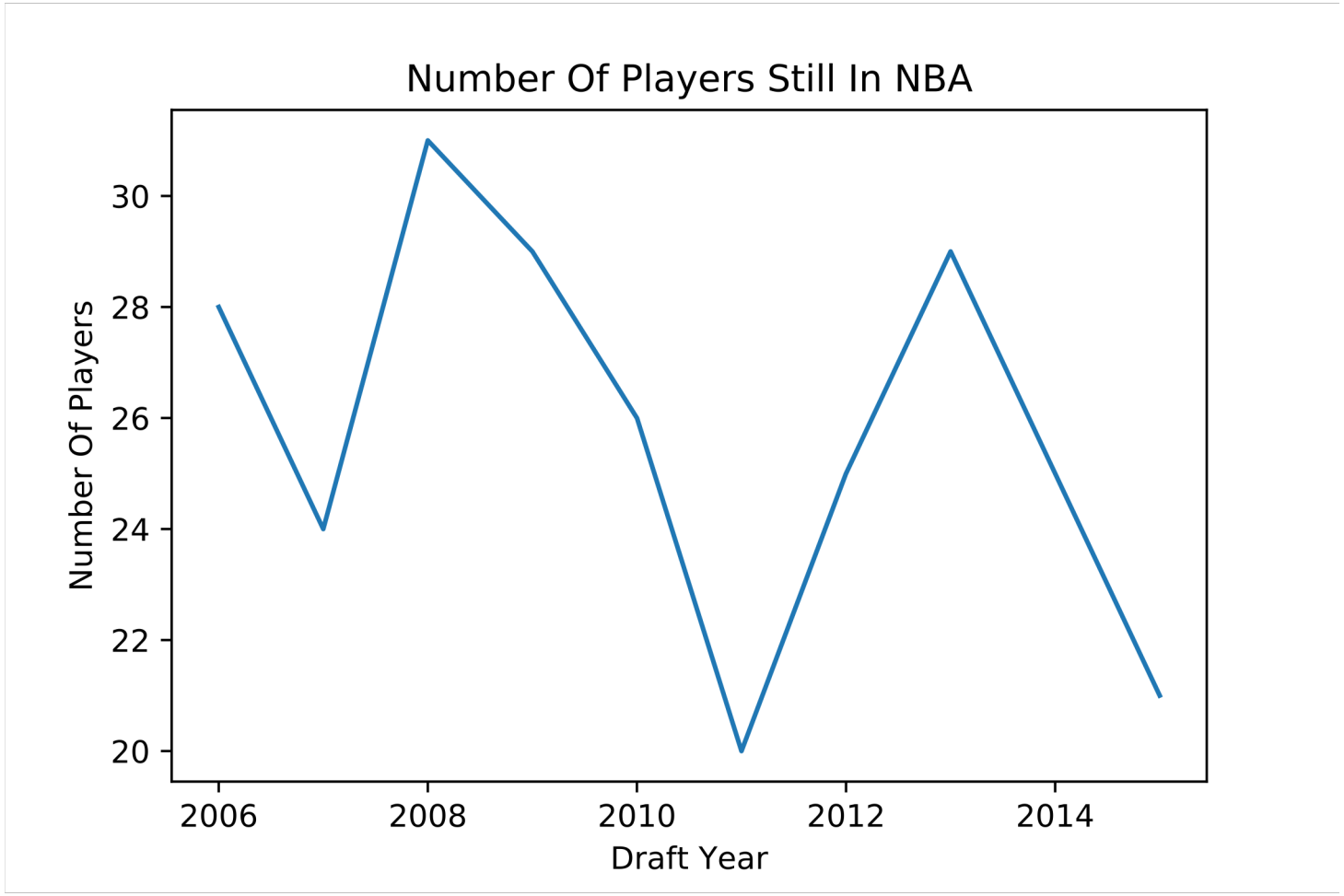
Future Work

- Determine what does explain variance in second-contract salaries
- Determine Estimated Over-/Undervaluation of players for second contract

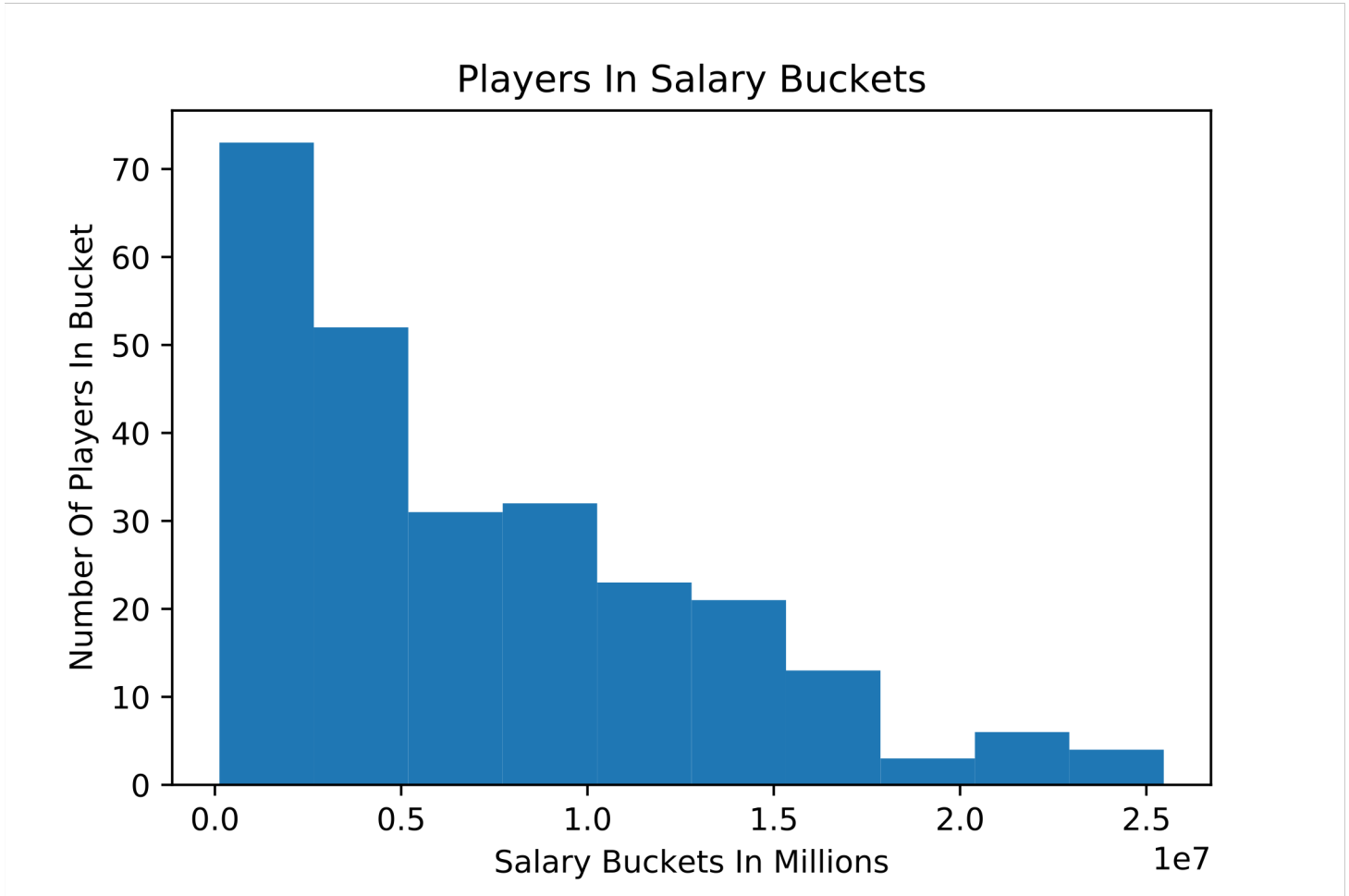
Appendix


Number Of Players Still In NBA
Number Of Players
10
8
6
4
2
0
10
20
30
40
50
60
Overall Pick

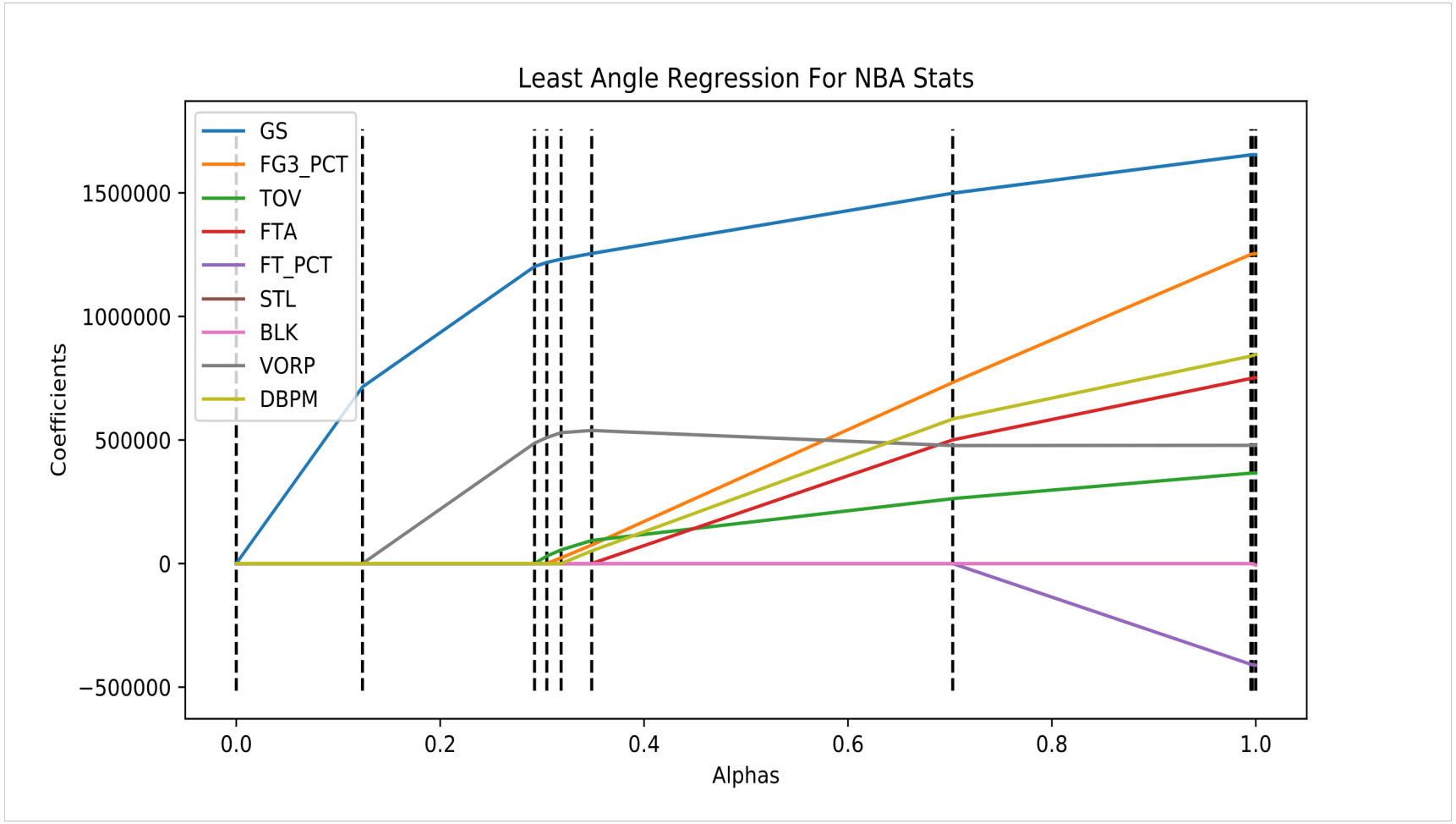
Appendix


Number Of Players Still In NBA
Number Of Players
30
28
26
24
22
20
2006
2008
2010
2012
2014
Draft Year

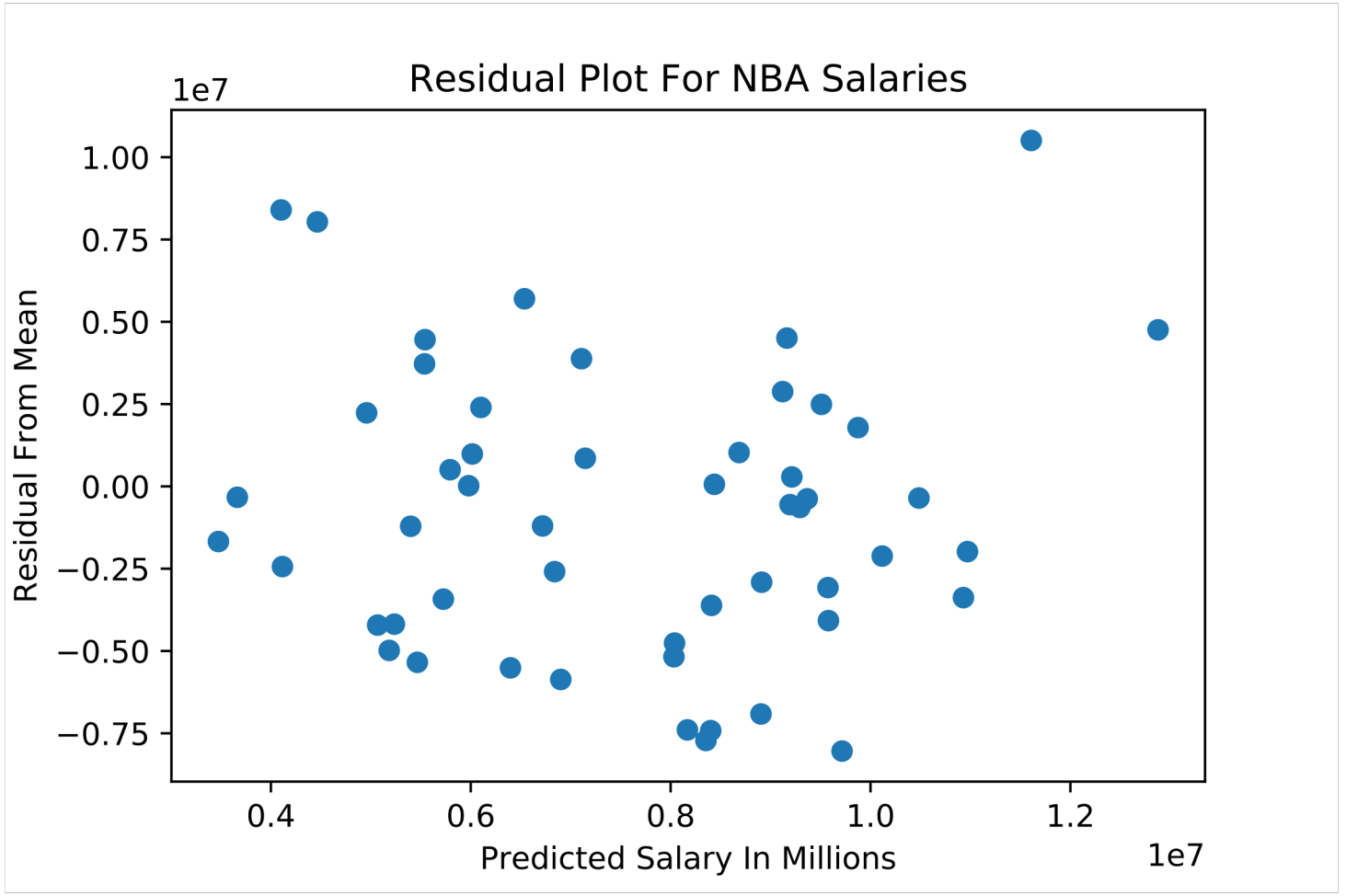
Appendix


Players In Salary Buckets
Number Of Players In Bucket
0
10
20
30
40
50
60
70
0.0
0.5
1.0
1.5
2.0
2.5
1e7
Salary Buckets In Millions

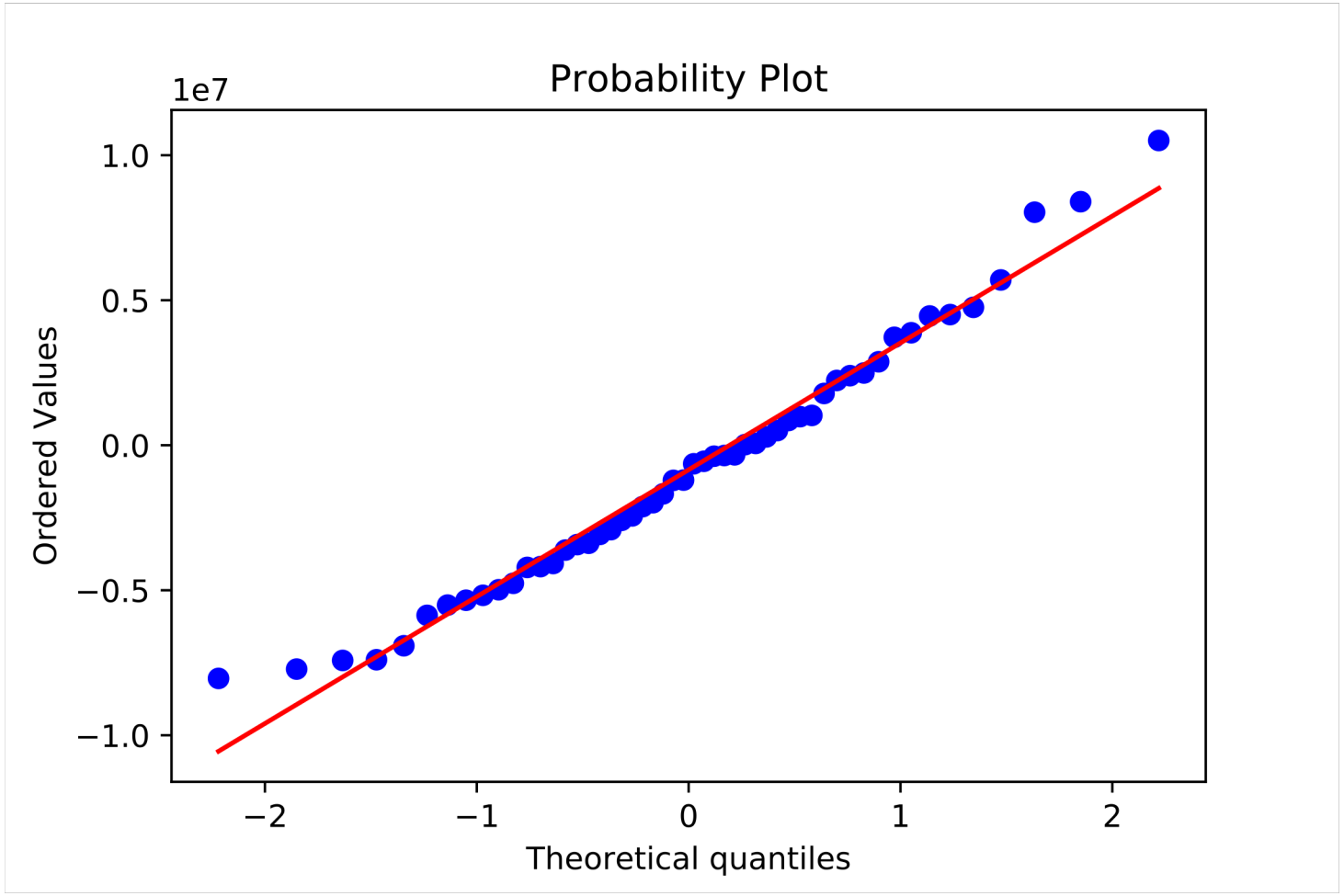
Appendix


Least Angle Regression For NBA Stats
GS
FG3_PCT
TOV
FTA
FT_PCT
STL
BLK
VORP
DBPM
1500000
1000000
500000
0
−500000
Coefficients
0.0
0.2
0.4
0.6
0.8
1.0
Alphas

Appendix


Residual Plot For NBA Salaries
1e7
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
Residual From Mean
0.4
0.6
0.8
1.0
1.2
1e7
Predicted Salary In Millions

Appendix


Probability Plot
1e7
1.0
0.5
0.0
−0.5
−1.0
Ordered Values
−2
−1
0
1
2
Theoretical quantiles