Summary: During this experiment I will be gathering data from two different sources and merging them to identify what factors impact player's salaries in the National Basketball Assosiation (NBA). I will be performing a stepwise selection methods to properly decide what is the best model.

NOTE: This experiment can be greatly improved. Due to the limited space for the supplement, I will only be looking at AIC in this experiment. Again, this is not advised as there are many other factors to consider during model selection, such as BIC, Mallows Cp, Adjusted R-squared, cross-validation, etc.

Due to limited space, I suggest to look at the rmd-script in my github using this link:https://github.com/asettti2002/ds-supplement

```
stats <- read.csv('Stats.csv')
salaries <- read.csv('Salaries.csv')
head(stats,2)
```

```
##                    Player Team Positions   PTS REB AST BLK STL   FG.   FT. X3PM
## 1             Luka Doncic  DAL    PG DTD 2,370 646 686  38  99 0.487 0.786  284
## 2 Shai Gilgeous-Alexander  OKC     PG,SG 2,254 415 465  67 150 0.535 0.874   95
##    TO GP   MIN FTM X2PM A.TO  PF
## 1 282 70 2,624 478  520 2.43 149
## 2 162 75 2,553 567  701 2.87 184
```

```
head(salaries,2)
```

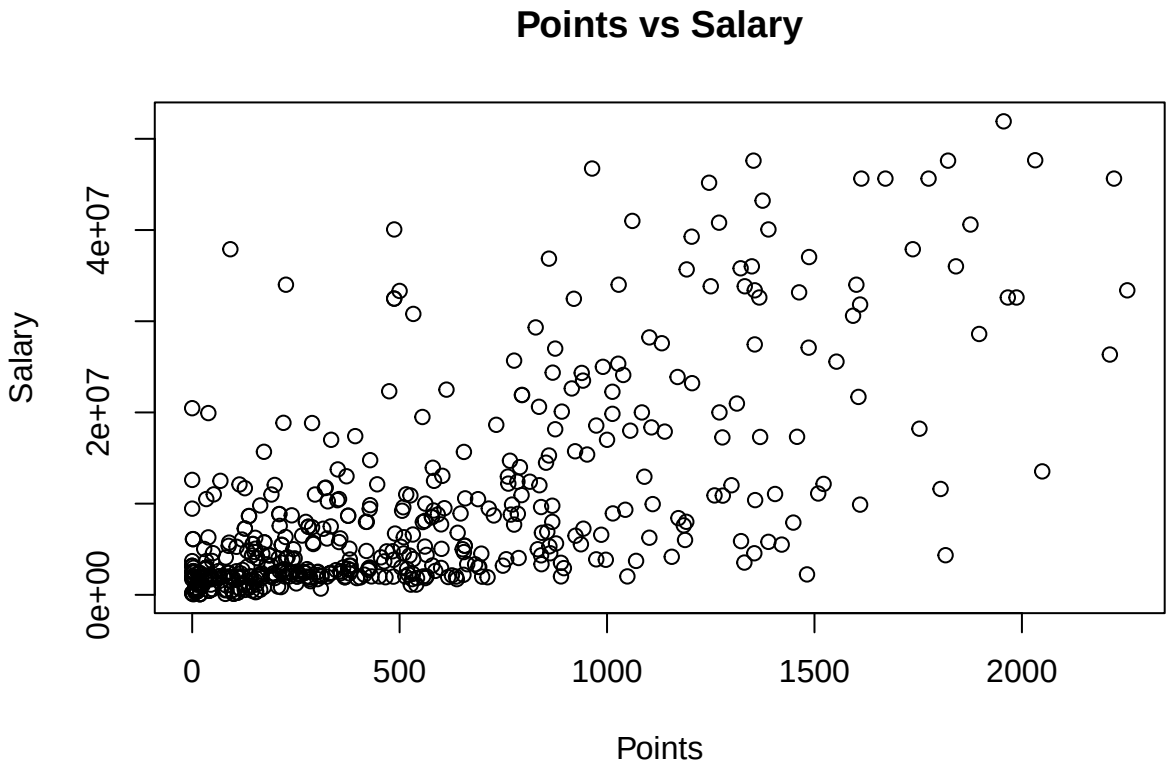
```
##   Rk        Player  Tm  X2023.24  X2024.25  X2025.26 X2026.27 X2027.28 X2028.29
## 1  1 Stephen Curry GSW $51915615 $55761216 $59606817
## 2  2  Kevin Durant PHO $47649433 $51179021 $54708609
##   Guaranteed    X.9999
## 1 $167283648 curryst01
## 2 $153537063 duranke01
```

```
# perfomed an inner join to remove all of the values
stats_and_salaries <- merge(stats, salaries, by = "Player")

# renaming the column for simplicity
stats_and_salaries <- stats_and_salaries %>% rename(SALARY = X2023.24)

# Dropping the unnecessary columns
df <- subset(stats_and_salaries, select = -c(X2024.25,
                                             X2025.26,
                                             X2026.27,
                                             X2027.28,
                                             X2028.29,
                                             Guaranteed,
                                             X.9999))
# dropping the null values
#(NOTE: THIS IS NOT IDEAL TO DROP EVERYTHING. HOWEVER, THIS IS A BASIC EXPERIMENT)
df <- subset(df, !is.na(SALARY))
# replacing the dollar sign or comma and changing the type of the variable
df$SALARY <- as.numeric(gsub("\\$", "", df$SALARY))
df$PTS <- as.numeric(gsub("\\,", "", df$PTS))
df$REB <- as.numeric(gsub("\\,", "", df$REB))
df$MIN <- as.numeric(gsub("\\,", "", df$MIN))
```

```
plot(df$PTS, df$SALARY, main="Points vs Salary", xlab="Points", ylab="Salary")
```



We can see that the players that do not have as many points normally do not have a larger salary. This is true vice-versa as well.

```
model0 = lm(SALARY~1,data=df)
modelfull = lm(SALARY~PTS+REB+AST+BLK+STL+FG.+X3PM+TO+GP+MIN+FTM+X2PM++A.TO+PF,data=df)
```

```
stepAIC(model0,scope=list(lower=model0,upper=modelfull),direction="forward")
```

```
## Start:  AIC=16371.05
## SALARY ~ 1
##
##        Df  Sum of Sq        RSS   AIC
## + PTS   1 2.8563e+16 3.1762e+16 16049
## + FTM   1 2.7407e+16 3.2917e+16 16067
## + TO    1 2.5156e+16 3.5169e+16 16101
## + X2PM  1 2.4990e+16 3.5335e+16 16103
## + AST   1 2.2818e+16 3.7507e+16 16133
## + MIN   1 2.1417e+16 3.8908e+16 16152
## + STL   1 1.7495e+16 4.2830e+16 16200
## + X3PM  1 1.5699e+16 4.4625e+16 16221
## + REB   1 1.4939e+16 4.5386e+16 16229
## + PF    1 1.2451e+16 4.7874e+16 16256
## + GP    1 7.5326e+15 5.2792e+16 16306
## + BLK   1 6.8925e+15 5.3432e+16 16312
## + FG.   1 1.6253e+15 5.8700e+16 16359
## + A.TO  1 7.4325e+14 5.9582e+16 16367
## <none>               6.0325e+16 16371
##
## Step:  AIC=16049.11
## SALARY ~ PTS
##
```

```
##        Df  Sum of Sq        RSS   AIC
## + GP    1 2.3318e+15 2.9430e+16 16013
## + PF    1 7.4847e+14 3.1013e+16 16039
## + FTM   1 6.6714e+14 3.1095e+16 16040
## + MIN   1 5.2885e+14 3.1233e+16 16043
## + AST   1 4.3607e+14 3.1326e+16 16044
## + A.TO  1 1.8668e+14 3.1575e+16 16048
## <none>               3.1762e+16 16049
## + X3PM  1 9.9257e+13 3.1663e+16 16050
## + FG.   1 7.2473e+13 3.1689e+16 16050
## + TO    1 6.3119e+13 3.1699e+16 16050
## + STL   1 4.1577e+13 3.1720e+16 16050
## + BLK   1 1.8287e+13 3.1744e+16 16051
## + REB   1 1.7750e+13 3.1744e+16 16051
## + X2PM  1 4.6113e+12 3.1757e+16 16051
##
## Step:  AIC=16012.6
## SALARY ~ PTS + GP
##
##        Df  Sum of Sq        RSS   AIC
## + AST   1 6.0419e+14 2.8826e+16 16004
## + A.TO  1 5.3420e+14 2.8896e+16 16005
## + MIN   1 4.2820e+14 2.9002e+16 16007
## + STL   1 2.6225e+14 2.9168e+16 16010
## + REB   1 1.8177e+14 2.9248e+16 16012
## + TO    1 1.3534e+14 2.9295e+16 16012
## <none>               2.9430e+16 16013
## + FTM   1 7.9827e+13 2.9350e+16 16013
## + FG.   1 7.6195e+13 2.9354e+16 16013
## + BLK   1 6.6476e+13 2.9364e+16 16014
## + PF    1 2.9379e+13 2.9401e+16 16014
## + X2PM  1 8.5623e+12 2.9422e+16 16014
## + X3PM  1 1.5125e+10 2.9430e+16 16015
##
## Step:  AIC=16004.12
## SALARY ~ PTS + GP + AST
##
##        Df  Sum of Sq        RSS   AIC
## + REB   1 3.2075e+14 2.8505e+16 16000
## + MIN   1 2.5568e+14 2.8570e+16 16002
## + BLK   1 2.1006e+14 2.8616e+16 16002
## + A.TO  1 1.6387e+14 2.8662e+16 16003
## + FG.   1 1.2909e+14 2.8697e+16 16004
## <none>               2.8826e+16 16004
## + STL   1 8.2758e+13 2.8743e+16 16005
## + FTM   1 7.0430e+13 2.8755e+16 16005
## + PF    1 6.4849e+13 2.8761e+16 16005
## + TO    1 4.3316e+12 2.8822e+16 16006
## + X3PM  1 3.3829e+12 2.8823e+16 16006
## + X2PM  1 6.0630e+11 2.8825e+16 16006
##
## Step:  AIC=16000.47
## SALARY ~ PTS + GP + AST + REB
##
```

```
##        Df  Sum of Sq        RSS   AIC
## + A.TO  1 2.6869e+14 2.8236e+16 15998
## + X2PM  1 2.1985e+14 2.8285e+16 15999
## + MIN   1 1.2257e+14 2.8383e+16 16000
## <none>               2.8505e+16 16000
## + X3PM  1 1.0457e+14 2.8401e+16 16001
## + TO    1 7.5315e+13 2.8430e+16 16001
## + STL   1 6.9492e+13 2.8436e+16 16001
## + FG.   1 3.8927e+13 2.8466e+16 16002
## + FTM   1 3.7446e+13 2.8468e+16 16002
## + BLK   1 2.0344e+13 2.8485e+16 16002
## + PF    1 4.7696e+11 2.8505e+16 16002
##
## Step:  AIC=15997.69
## SALARY ~ PTS + GP + AST + REB + A.TO
##
##        Df  Sum of Sq        RSS   AIC
## + X2PM  1 2.0722e+14 2.8029e+16 15996
## + MIN   1 1.2206e+14 2.8114e+16 15998
## <none>               2.8236e+16 15998
## + X3PM  1 9.1401e+13 2.8145e+16 15998
## + STL   1 5.1384e+13 2.8185e+16 15999
## + FTM   1 4.8655e+13 2.8188e+16 15999
## + BLK   1 2.2735e+13 2.8214e+16 15999
## + PF    1 1.3075e+13 2.8223e+16 16000
## + FG.   1 9.2762e+12 2.8227e+16 16000
## + TO    1 3.2057e+12 2.8233e+16 16000
##
## Step:  AIC=15995.97
## SALARY ~ PTS + GP + AST + REB + A.TO + X2PM
##
##        Df  Sum of Sq        RSS   AIC
## + X3PM  1 1.2700e+14 2.7902e+16 15996
## + FTM   1 1.2700e+14 2.7902e+16 15996
## <none>               2.8029e+16 15996
## + FG.   1 5.5547e+13 2.7974e+16 15997
## + STL   1 4.3013e+13 2.7986e+16 15997
## + MIN   1 3.1127e+13 2.7998e+16 15997
## + BLK   1 2.6211e+13 2.8003e+16 15998
## + PF    1 8.7771e+12 2.8020e+16 15998
## + TO    1 9.2256e+10 2.8029e+16 15998
##
## Step:  AIC=15995.68
## SALARY ~ PTS + GP + AST + REB + A.TO + X2PM + X3PM
##
##        Df  Sum of Sq        RSS   AIC
## <none>               2.7902e+16 15996
## + MIN   1 8.8156e+13 2.7814e+16 15996
## + STL   1 5.9299e+13 2.7843e+16 15997
## + FG.   1 5.3037e+13 2.7849e+16 15997
## + BLK   1 2.4127e+13 2.7878e+16 15997
## + PF    1 1.2991e+13 2.7889e+16 15997
## + TO    1 2.4391e+12 2.7900e+16 15998
```

```
##
## Call:
## lm(formula = SALARY ~ PTS + GP + AST + REB + A.TO + X2PM + X3PM,
##     data = df)
##
## Coefficients:
## (Intercept)          PTS           GP          AST          REB         A.TO
##     4447601        32157      -170558        11216        13464       757681
##        X2PM         X3PM
##      -49273       -44881
```

```
stepAIC(modelfull,scope=list(lower=model0,upper=modelfull),direction="backward")
```

```
## Start:  AIC=16004.16
## SALARY ~ PTS + REB + AST + BLK + STL + FG. + X3PM + TO + GP +
##     MIN + FTM + X2PM + +A.TO + PF
##
##
## Step:  AIC=16004.16
## SALARY ~ PTS + REB + AST + BLK + STL + FG. + X3PM + TO + GP +
##     MIN + FTM + A.TO + PF
##
##        Df  Sum of Sq        RSS   AIC
## - TO    1 5.9469e+11 2.7709e+16 16002
## - PF    1 3.3734e+12 2.7712e+16 16002
## - BLK   1 1.0893e+13 2.7719e+16 16002
## - STL   1 1.8056e+13 2.7726e+16 16002
## - MIN   1 6.1092e+13 2.7770e+16 16003
## - FG.   1 6.9927e+13 2.7778e+16 16003
## - PTS   1 8.6861e+13 2.7795e+16 16004
## - AST   1 1.0076e+14 2.7809e+16 16004
## <none>               2.7708e+16 16004
## - A.TO  1 1.4695e+14 2.7855e+16 16005
## - REB   1 1.9597e+14 2.7904e+16 16006
## - X3PM  1 2.0516e+14 2.7914e+16 16006
## - FTM   1 3.0724e+14 2.8016e+16 16008
## - GP    1 2.0278e+15 2.9736e+16 16038
##
## Step:  AIC=16002.17
## SALARY ~ PTS + REB + AST + BLK + STL + FG. + X3PM + GP + MIN +
##     FTM + A.TO + PF
##
##        Df  Sum of Sq        RSS   AIC
## - PF    1 4.3360e+12 2.7713e+16 16000
## - BLK   1 1.0871e+13 2.7720e+16 16000
## - STL   1 1.8321e+13 2.7727e+16 16000
## - MIN   1 6.4283e+13 2.7773e+16 16001
## - FG.   1 6.9815e+13 2.7779e+16 16001
## - PTS   1 8.9099e+13 2.7798e+16 16002
## <none>               2.7709e+16 16002
## - AST   1 1.7245e+14 2.7881e+16 16003
## - A.TO  1 1.8186e+14 2.7891e+16 16004
## - REB   1 1.9702e+14 2.7906e+16 16004
## - X3PM  1 2.0545e+14 2.7914e+16 16004
## - FTM   1 3.0669e+14 2.8016e+16 16006
```

```
## - GP    1 2.0323e+15 2.9741e+16 16036
##
## Step:  AIC=16000.25
## SALARY ~ PTS + REB + AST + BLK + STL + FG. + X3PM + GP + MIN +
##     FTM + A.TO
##
##        Df  Sum of Sq        RSS   AIC
## - BLK   1 9.2226e+12 2.7723e+16 15998
## - STL   1 1.6617e+13 2.7730e+16 15998
## - MIN   1 6.0414e+13 2.7774e+16 15999
## - FG.   1 6.6937e+13 2.7780e+16 16000
## - PTS   1 9.2783e+13 2.7806e+16 16000
## <none>               2.7713e+16 16000
## - AST   1 1.7563e+14 2.7889e+16 16001
## - REB   1 1.9418e+14 2.7908e+16 16002
## - A.TO  1 2.0295e+14 2.7916e+16 16002
## - X3PM  1 2.1124e+14 2.7925e+16 16002
## - FTM   1 3.0499e+14 2.8018e+16 16004
## - GP    1 2.2141e+15 2.9927e+16 16037
##
## Step:  AIC=15998.41
## SALARY ~ PTS + REB + AST + STL + FG. + X3PM + GP + MIN + FTM +
##     A.TO
##
##        Df  Sum of Sq        RSS   AIC
## - STL   1 2.1241e+13 2.7744e+16 15997
## - MIN   1 6.0620e+13 2.7783e+16 15998
## - FG.   1 7.1500e+13 2.7794e+16 15998
## - PTS   1 9.1517e+13 2.7814e+16 15998
## <none>               2.7723e+16 15998
## - AST   1 1.6697e+14 2.7890e+16 15999
## - A.TO  1 1.9964e+14 2.7922e+16 16000
## - X3PM  1 2.1124e+14 2.7934e+16 16000
## - REB   1 2.8960e+14 2.8012e+16 16002
## - FTM   1 3.0843e+14 2.8031e+16 16002
## - GP    1 2.2180e+15 2.9941e+16 16035
##
## Step:  AIC=15996.8
## SALARY ~ PTS + REB + AST + FG. + X3PM + GP + MIN + FTM + A.TO
##
##        Df  Sum of Sq        RSS   AIC
## - FG.   1 7.0304e+13 2.7814e+16 15996
## - PTS   1 9.4960e+13 2.7839e+16 15996
## - MIN   1 1.0542e+14 2.7849e+16 15997
## <none>               2.7744e+16 15997
## - AST   1 1.8890e+14 2.7933e+16 15998
## - X3PM  1 1.9767e+14 2.7941e+16 15998
## - A.TO  1 2.1226e+14 2.7956e+16 15999
## - REB   1 2.7398e+14 2.8018e+16 16000
## - FTM   1 3.0352e+14 2.8047e+16 16000
## - GP    1 2.2070e+15 2.9951e+16 16034
##
## Step:  AIC=15996.08
## SALARY ~ PTS + REB + AST + X3PM + GP + MIN + FTM + A.TO
```

```
##
##        Df  Sum of Sq        RSS   AIC
## - MIN   1 8.8156e+13 2.7902e+16 15996
## <none>               2.7814e+16 15996
## - PTS   1 1.3046e+14 2.7945e+16 15996
## - X3PM  1 1.5672e+14 2.7971e+16 15997
## - AST   1 1.6468e+14 2.7979e+16 15997
## - FTM   1 2.7713e+14 2.8091e+16 15999
## - A.TO  1 2.8023e+14 2.8094e+16 15999
## - REB   1 3.2704e+14 2.8141e+16 16000
## - GP    1 2.1683e+15 2.9982e+16 16032
##
## Step:  AIC=15995.68
## SALARY ~ PTS + REB + AST + X3PM + GP + FTM + A.TO
##
##        Df  Sum of Sq        RSS   AIC
## <none>               2.7902e+16 15996
## - PTS   1 2.2164e+14 2.8124e+16 15998
## - FTM   1 2.4282e+14 2.8145e+16 15998
## - AST   1 2.6632e+14 2.8169e+16 15998
## - A.TO  1 2.7242e+14 2.8175e+16 15999
## - X3PM  1 2.8557e+14 2.8188e+16 15999
## - REB   1 6.6876e+14 2.8571e+16 16006
## - GP    1 2.6803e+15 3.0583e+16 16040
##
## Call:
## lm(formula = SALARY ~ PTS + REB + AST + X3PM + GP + FTM + A.TO,
##     data = df)
##
## Coefficients:
## (Intercept)          PTS          REB          AST         X3PM           GP
##     4447601         7521        13464        11216        29029      -170558
##         FTM         A.TO
##       24637       757681
```

```
stepAIC(modelfull,scope=list(lower=model0,upper=modelfull),direction="both")
```

```
## Start:  AIC=16004.16
## SALARY ~ PTS + REB + AST + BLK + STL + FG. + X3PM + TO + GP +
##     MIN + FTM + X2PM + +A.TO + PF
##
##
## Step:  AIC=16004.16
## SALARY ~ PTS + REB + AST + BLK + STL + FG. + X3PM + TO + GP +
##     MIN + FTM + A.TO + PF
##
##        Df  Sum of Sq        RSS   AIC
## - TO    1 5.9469e+11 2.7709e+16 16002
## - PF    1 3.3734e+12 2.7712e+16 16002
## - BLK   1 1.0893e+13 2.7719e+16 16002
## - STL   1 1.8056e+13 2.7726e+16 16002
## - MIN   1 6.1092e+13 2.7770e+16 16003
## - FG.   1 6.9927e+13 2.7778e+16 16003
## - PTS   1 8.6861e+13 2.7795e+16 16004
```

```
## - AST   1 1.0076e+14 2.7809e+16 16004
## <none>               2.7708e+16 16004
## - A.TO  1 1.4695e+14 2.7855e+16 16005
## - REB   1 1.9597e+14 2.7904e+16 16006
## - X3PM  1 2.0516e+14 2.7914e+16 16006
## - FTM   1 3.0724e+14 2.8016e+16 16008
## - GP    1 2.0278e+15 2.9736e+16 16038
##
## Step:  AIC=16002.17
## SALARY ~ PTS + REB + AST + BLK + STL + FG. + X3PM + GP + MIN +
##     FTM + A.TO + PF
##
##        Df  Sum of Sq        RSS   AIC
## - PF    1 4.3360e+12 2.7713e+16 16000
## - BLK   1 1.0871e+13 2.7720e+16 16000
## - STL   1 1.8321e+13 2.7727e+16 16000
## - MIN   1 6.4283e+13 2.7773e+16 16001
## - FG.   1 6.9815e+13 2.7779e+16 16001
## - PTS   1 8.9099e+13 2.7798e+16 16002
## <none>               2.7709e+16 16002
## - AST   1 1.7245e+14 2.7881e+16 16003
## - A.TO  1 1.8186e+14 2.7891e+16 16004
## - REB   1 1.9702e+14 2.7906e+16 16004
## - X3PM  1 2.0545e+14 2.7914e+16 16004
## + TO    1 5.9469e+11 2.7708e+16 16004
## - FTM   1 3.0669e+14 2.8016e+16 16006
## - GP    1 2.0323e+15 2.9741e+16 16036
##
## Step:  AIC=16000.25
## SALARY ~ PTS + REB + AST + BLK + STL + FG. + X3PM + GP + MIN +
##     FTM + A.TO
##
##        Df  Sum of Sq        RSS   AIC
## - BLK   1 9.2226e+12 2.7723e+16 15998
## - STL   1 1.6617e+13 2.7730e+16 15998
## - MIN   1 6.0414e+13 2.7774e+16 15999
## - FG.   1 6.6937e+13 2.7780e+16 16000
## - PTS   1 9.2783e+13 2.7806e+16 16000
## <none>               2.7713e+16 16000
## - AST   1 1.7563e+14 2.7889e+16 16001
## - REB   1 1.9418e+14 2.7908e+16 16002
## - A.TO  1 2.0295e+14 2.7916e+16 16002
## - X3PM  1 2.1124e+14 2.7925e+16 16002
## + PF    1 4.3360e+12 2.7709e+16 16002
## + TO    1 1.5572e+12 2.7712e+16 16002
## - FTM   1 3.0499e+14 2.8018e+16 16004
## - GP    1 2.2141e+15 2.9927e+16 16037
##
## Step:  AIC=15998.41
## SALARY ~ PTS + REB + AST + STL + FG. + X3PM + GP + MIN + FTM +
##     A.TO
##
##        Df  Sum of Sq        RSS   AIC
## - STL   1 2.1241e+13 2.7744e+16 15997
```

```
## - MIN   1 6.0620e+13 2.7783e+16 15998
## - FG.   1 7.1500e+13 2.7794e+16 15998
## - PTS   1 9.1517e+13 2.7814e+16 15998
## <none>               2.7723e+16 15998
## - AST   1 1.6697e+14 2.7890e+16 15999
## - A.TO  1 1.9964e+14 2.7922e+16 16000
## + BLK   1 9.2226e+12 2.7713e+16 16000
## - X3PM  1 2.1124e+14 2.7934e+16 16000
## + PF    1 2.6880e+12 2.7720e+16 16000
## + TO    1 1.2796e+12 2.7721e+16 16000
## - REB   1 2.8960e+14 2.8012e+16 16002
## - FTM   1 3.0843e+14 2.8031e+16 16002
## - GP    1 2.2180e+15 2.9941e+16 16035
##
## Step:  AIC=15996.8
## SALARY ~ PTS + REB + AST + FG. + X3PM + GP + MIN + FTM + A.TO
##
##        Df  Sum of Sq        RSS   AIC
## - FG.   1 7.0304e+13 2.7814e+16 15996
## - PTS   1 9.4960e+13 2.7839e+16 15996
## - MIN   1 1.0542e+14 2.7849e+16 15997
## <none>               2.7744e+16 15997
## - AST   1 1.8890e+14 2.7933e+16 15998
## - X3PM  1 1.9767e+14 2.7941e+16 15998
## + STL   1 2.1241e+13 2.7723e+16 15998
## + BLK   1 1.3846e+13 2.7730e+16 15998
## - A.TO  1 2.1226e+14 2.7956e+16 15999
## + TO    1 1.3140e+12 2.7742e+16 15999
## + PF    1 1.0380e+12 2.7743e+16 15999
## - REB   1 2.7398e+14 2.8018e+16 16000
## - FTM   1 3.0352e+14 2.8047e+16 16000
## - GP    1 2.2070e+15 2.9951e+16 16034
##
## Step:  AIC=15996.08
## SALARY ~ PTS + REB + AST + X3PM + GP + MIN + FTM + A.TO
##
##        Df  Sum of Sq        RSS   AIC
## - MIN   1 8.8156e+13 2.7902e+16 15996
## <none>               2.7814e+16 15996
## - PTS   1 1.3046e+14 2.7945e+16 15996
## + FG.   1 7.0304e+13 2.7744e+16 15997
## - X3PM  1 1.5672e+14 2.7971e+16 15997
## - AST   1 1.6468e+14 2.7979e+16 15997
## + STL   1 2.0045e+13 2.7794e+16 15998
## + BLK   1 1.9022e+13 2.7795e+16 15998
## + TO    1 6.8921e+11 2.7813e+16 15998
## + PF    1 4.2674e+09 2.7814e+16 15998
## - FTM   1 2.7713e+14 2.8091e+16 15999
## - A.TO  1 2.8023e+14 2.8094e+16 15999
## - REB   1 3.2704e+14 2.8141e+16 16000
## - GP    1 2.1683e+15 2.9982e+16 16032
##
## Step:  AIC=15995.68
## SALARY ~ PTS + REB + AST + X3PM + GP + FTM + A.TO
```

```
##
##        Df  Sum of Sq        RSS   AIC
## <none>               2.7902e+16 15996
## + MIN   1 8.8156e+13 2.7814e+16 15996
## + STL   1 5.9299e+13 2.7843e+16 15997
## + FG.   1 5.3037e+13 2.7849e+16 15997
## + BLK   1 2.4127e+13 2.7878e+16 15997
## + PF    1 1.2991e+13 2.7889e+16 15997
## + TO    1 2.4391e+12 2.7900e+16 15998
## - PTS   1 2.2164e+14 2.8124e+16 15998
## - FTM   1 2.4282e+14 2.8145e+16 15998
## - AST   1 2.6632e+14 2.8169e+16 15998
## - A.TO  1 2.7242e+14 2.8175e+16 15999
## - X3PM  1 2.8557e+14 2.8188e+16 15999
## - REB   1 6.6876e+14 2.8571e+16 16006
## - GP    1 2.6803e+15 3.0583e+16 16040
```

```
##
## Call:
## lm(formula = SALARY ~ PTS + REB + AST + X3PM + GP + FTM + A.TO,
##     data = df)
##
## Coefficients:
## (Intercept)          PTS          REB          AST         X3PM           GP
##     4447601         7521        13464        11216        29029      -170558
##         FTM         A.TO
##       24637       757681
```

During this short experiment we are able to see the best regression model to identify what are the contributing factors for salary. When running all of the types of stepwise we actually get the same model.

The explanatory variables based on the model were: PTS, REB, AST, X3PM, GP, FTM, A.TO.;

(Points, Rebounds, Assists, 3-pointers Made, Games Played, Free Throws Made,Assists to Turnovers)

Regresstion Equation: $\hat{y} = 4447601 + 7521(PTS) + 13464(REB) + 11216(AST) + 29029(X3PM) - 170558(GP) + 24637(FTM) + 757681(A.TO)$

NOTE: I want to note again that this is not advised only looking at the AIC as there is other criteria to consider.

DATA SOURCES:

SALARY DATA LINK: https://www.basketball-reference.com/contracts/players.html

NBA PLAYER STATISTICS LINK: https://www.fantasypros.com/nba/stats/overall.php