# Modeling

# Group 6

# Predictors

```
# Revenue and Labor Share
cor(couldabeens$totRev, couldabeens$labShare)

## [1] -0.5044864

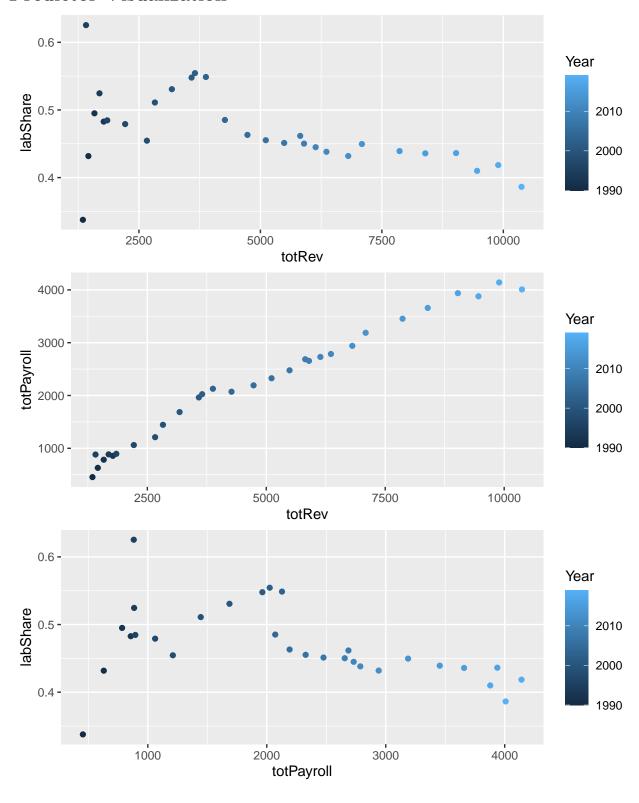
cor(couldabeens$totRev, couldabeens$totPayroll)

## [1] 0.9897413

cor(couldabeens$totPayroll, couldabeens$labShare)

## [1] -0.4059079
```

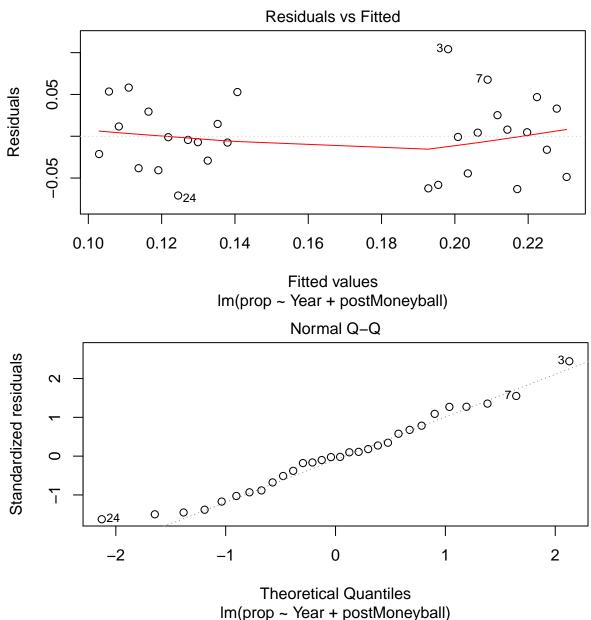
# Predictor Visualization

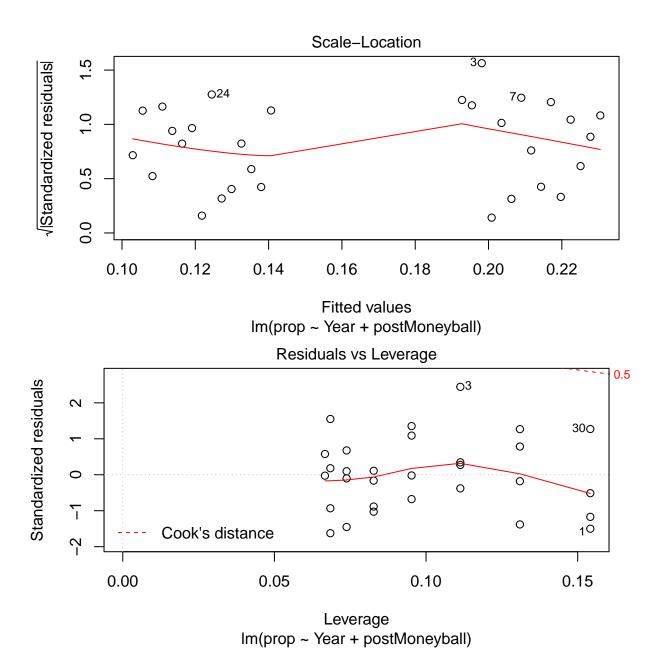


### Linear Model: Year

```
##
## Call:
## lm(formula = prop ~ Year + postMoneyball, data = couldabeens)
## Residuals:
##
         Min
                    1Q
                          Median
                                        ЗQ
                                                 Max
## -0.070924 -0.035965 -0.000981 0.028370 0.104168
##
## Coefficients:
                  Estimate Std. Error t value Pr(>|t|)
##
                             3.812552 -1.356 0.186475
## (Intercept)
                 -5.168095
                  0.002695
                             0.001910
                                       1.411 0.169645
## postMoneyball -0.130262
                             0.033065 -3.940 0.000519 ***
## Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
## Residual standard error: 0.0452 on 27 degrees of freedom
## Multiple R-squared: 0.5394, Adjusted R-squared: 0.5052
## F-statistic: 15.81 on 2 and 27 DF, p-value: 2.853e-05
    0.3 -
   0.2 -
                                                                    factor(postMoneyball)
    0.1 -
                           2000
         1990
                                             2010
                                  Year
```

# Diagnostic Plots: Year Linear Model

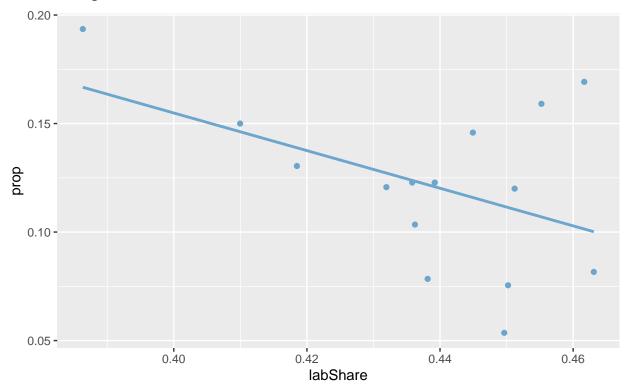




#### Linear Model: Labor Share

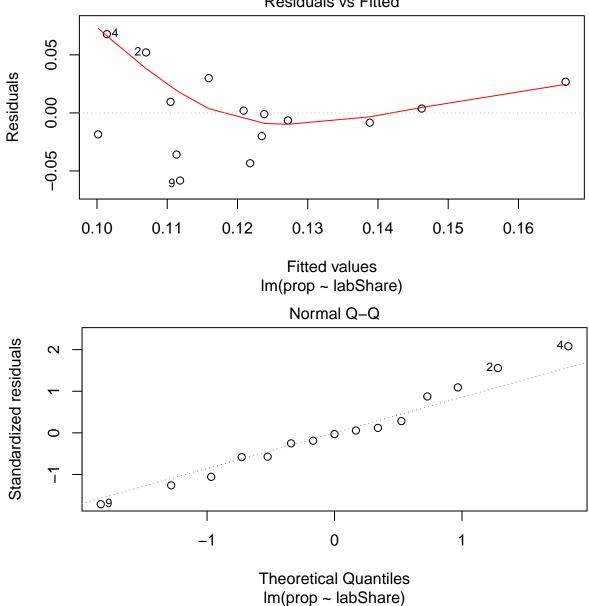
```
## Call:
## lm(formula = prop ~ labShare, data = couldabeens_post)
## Residuals:
##
        Min
                   1Q
                         Median
                                       ЗQ
                                                Max
## -0.058253 -0.019268 -0.001008 0.018178 0.067824
##
## Coefficients:
##
              Estimate Std. Error t value Pr(>|t|)
                0.5017
                           0.2036
                                    2.464
                                            0.0284 *
## (Intercept)
## labShare
               -0.8670
                           0.4642 -1.868
                                            0.0845 .
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
##
\#\# Residual standard error: 0.03558 on 13 degrees of freedom
## Multiple R-squared: 0.2116, Adjusted R-squared: 0.151
## F-statistic: 3.49 on 1 and 13 DF, p-value: 0.08446
```

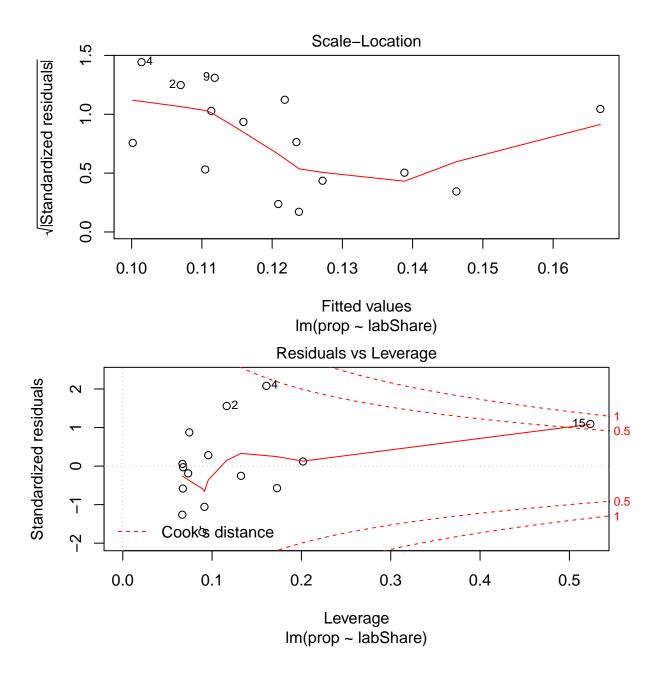
#### Relationship between Labor Share and Couldabeen Rates



### Diagnostic Plots: Labor Share Linear Model

# Residuals vs Fitted





# Couldabeen Rates across the Years

