knox_hw1

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Consider the following linear model:

$$\text{Price}_{\text{ i}} = \beta_0 + \beta_1 NOx_i + \beta_2 \text{ Rooms}_{\text{ i}} + \beta_3 \text{ STratio}_{\text{ }i} + u_i$$

Where *Price* is the value of the house, *NOx* is a measure of NOx concentration in the Census track (in parts per 100 million), *Rooms* is the number of rooms in the house, and *STratio* is the student-teacher ratio in the nearest school. The provided data consist of n = 506 observations. The table are summary statistics followed by the a linear model of the eqaution above.

```
stargazer(df)
```

```
##
## % Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harva
## % Date and time: Sun, Jan 26, 2020 - 15:34:27
## \begin{table}[!htbp] \centering
##   \caption{}
##   \label{}
## \begin{tabular}{@{\extracolsep{5pt}}lccccccc}
## \\[-1.8ex]\hline
## \hline \\[-1.8ex]
## Statistic & \multicolumn{1}{c}{N} & \multicolumn{1}{c}{Mean} & \multicolumn{1}{c}{St. Dev.} & \multi
## \hline \\[-1.8ex]
## price & 506 & 22,511.510 & 9,208.856 & 5,000 & 16,850 & 24,999 & 50,001 \\
## nox & 506 & 5.464 & 1.252 & 4 & 4 & 6 & 9 \\
## rooms & 506 & 6.267 & 0.730 & 4 & 6 & 7 & 9 \\
## stratio & 506 & 18.439 & 2.090 & 13 & 17 & 20 & 22 \\
## \hline \\[-1.8ex]
## \end{tabular}
## \end{table}
```

```
lm <- glm(data=df, price ~ nox + rooms +stratio)
stargazer(lm, title="Linear Model")
```

```
##
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## % Date and time: Sun, Jan 26, 2020 - 15:34:27
## \begin{table}[!htbp] \centering
##   \caption{Linear Model}
##   \label{}
## \begin{tabular}{@{\extracolsep{5pt}}lc}
## \\[-1.8ex]\hline
## \hline \\[-1.8ex]
##  & \multicolumn{1}{c}{\textit{Dependent variable:}} \\
## \cline{2-2}
## \\[-1.8ex] & price \\
## \hline \\[-1.8ex]
##  nox & $-$1,530.824$^{***}$ \\
##   & (226.460) \\
##   & \\
```

```
##  rooms & 6,419.067$^{***}$ \\
##   & (410.092) \\
##   & \\
##  stratio & $-$1,258.481$^{***}$ \\
##   & (137.567) \\
##   & \\
##  Constant & 13,854.390$^{***}$ \\
##   & (4,507.252) \\
##   & \\
## \hline \\[-1.8ex]
## Observations & 506 \\
## Log Likelihood & $-$5,121.689 \\
## Akaike Inf. Crit. & 10,251.380 \\
## \hline
## \hline \\[-1.8ex]
## \textit{Note:}  & \multicolumn{1}{r}{$^{*}$p$<$0.1; $^{**}$p$<$0.05; $^{***}$p$<$0.01} \\
## \end{tabular}
## \end{table}
```