Multipel regression

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3. januar 2021

Vi har vores regression:

```
fit <- lm(Imp~MS+GDP+USD+Interest_Rent, data=dat)
summary(fit)
@> summary(fit)

Call:
lm(formula = Imp ~ MS + GDP + USD + Interest_Rent, data = dat)

Residuals:
       1        2        3        4        5        6        7        8
9       10
-0.01811 -0.58021 -0.17861  0.47967  0.36234  0.29555  0.82810 -1.62710
0.82139 -0.38302

Coefficients:
               Estimate Std. Error t value Pr(>|t|)
(Intercept)    78.86721  112.71893   0.700  0.51533
MS             -0.01965    0.73298  -0.027  0.97965
GDP             0.44565    0.08984   4.961  0.00425 **
USD            -1.12241    1.49887  -0.749  0.48767
Interest_Rent  -8.26347   10.25854  -0.806  0.45710
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.9972 on 5 degrees of freedom
Multiple R-squared:  0.9918,    Adjusted R-squared:  0.9853
F-statistic:   152 on 4 and 5 DF,  p-value: 2.091e-05
```

Vi reducerer modellen, siden den bedste ikke nødvendigvis er den største. Dermed vil vi finde den model der forklarer data bedst.

Vi ender med modellen:

```
@> fit <- lm(Imp~GDP+Interest_Rent, data=dat)
@> summary(fit)

Call:
lm(formula = Imp ~ GDP + Interest_Rent, data = dat)

Residuals:
     Min       1Q   Median       3Q      Max
-1.86205 -0.14718 -0.01399  0.49931  0.96762

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)   70.30293    7.70310   9.127 3.89e-05 ***
GDP            0.43748    0.02061  21.223 1.30e-07 ***
Interest_Rent -8.20412    0.77713 -10.557 1.50e-05 ***
---
```

```
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '␣' 1

Residual standard error: 0.9035 on 7 degrees of freedom
Multiple R-squared:  0.9906,    Adjusted R-squared:  0.9879
F-statistic: 369.9 on 2 and 7 DF,  p-value: 7.976e-08
```