R Notebook

#install.packages(c("sjPlot", "stargazer", "texreg", "jtools", "huxtable"))  
library(sjPlot)

## Warning: package 'sjPlot' was built under R version 3.6.2

## Learn more about sjPlot with 'browseVignettes("sjPlot")'.

library(jtools)

## Warning: package 'jtools' was built under R version 3.6.2

library(texreg)

## Warning: package 'texreg' was built under R version 3.6.2

## Version: 1.37.5  
## Date: 2020-06-17  
## Author: Philip Leifeld (University of Essex)  
##   
## Consider submitting praise using the praise or praise\_interactive functions.  
## Please cite the JSS article in your publications -- see citation("texreg").

library(stargazer)

##   
## Please cite as:

## Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables.

## R package version 5.2.2. https://CRAN.R-project.org/package=stargazer

library(huxtable)

## Warning: package 'huxtable' was built under R version 3.6.2

##   
## Attaching package: 'huxtable'

## The following object is masked from 'package:sjPlot':  
##   
## font\_size

Zacznijmy od zbudowania trzech modeli

## etykieta dla zmiennej  
attr(mtcars$wt, "label") <- "waga"  
  
## typ factor (zmienna jakościowa)  
mtcars$cyl <- factor(mtcars$cyl,   
 levels = c(4, 6, 8),  
 label = c("4ry", "6ść", "8siem"))  
  
model1 <- lm(formula = mpg ~ wt, data = mtcars)  
model2 <- lm(formula = mpg ~ am + wt + cyl, data = mtcars)  
model3 <- lm(formula = mpg ~ wt + am + cyl + hp, data = mtcars)

Zaczniemy od pakiety sjPlot

tab\_model(  
 model1,   
 model2,  
 dv.labels = c("Model 1", "Model 2"), ## etykiety dla modeli  
 string.pred = "Zmienne", ## etykieta dla zmiennych  
 string.est = "Parametr", ## etykieta dla parametrów  
 string.se = "Błąd std.", ## etykieta dla błędu std.  
 string.p = "P-value", ## etykieta dla p-value  
 show.stat = TRUE, ## pokazanie statystyki t / z / Walda  
 show.reflvl = TRUE, ## pokazanie poziomu referncyjnego dla zmiennych jak.  
 prefix.labels = "varname", ## pokazanie nazwy zmiennej jak.  
 collapse.se = TRUE, ## błędy standardowe poniżej  
 digits = 4, ## 4 miejsca po przecinku  
 show.ci = FALSE, ## brak przedziału ufności  
 show.se = TRUE, ## pokazanie błędów standardowych  
 show.aic = TRUE, ## pokazanie statystyki AIC  
 emph.p = FALSE,  
 CSS = css\_theme("cells"),  
 file = "../reports/sjplot-modele.html" ## zapis wyniów do pliku HTML  
 )

Model 1

Model 2

Zmienne

Parametr

Statistic

P-value

Parametr

Statistic

P-value

(Intercept)

37.2851(1.8776)

19.8576

<0.001

33.7536(2.8135)

11.9971

<0.001

am

0.1501(1.3002)

0.1154

0.909

waga

-5.3445(0.5591)

-9.5590

<0.001

-3.1496(0.9080)

-3.4685

0.002

cyl: 4ry

Reference

Reference

cyl: 6ść

-4.2573(1.4112)

-3.0167

0.006

cyl: 8siem

-6.0791(1.6837)

-3.6105

0.001

Observations

32

32

R2 / R2 adjusted

0.753 / 0.745

0.838 / 0.813

AIC

166.029

158.607

Przejdziemy do pakietu jtools – pakiet umożliwia raportowanie wyników regresji do języka markdown, html oraz latex

Centrowanie zmiennych:

summ(model = model3,  
 vifs = TRUE,   
 center = TRUE,   
 confint = TRUE,   
 pvals = FALSE)

## MODEL INFO:  
## Observations: 32  
## Dependent Variable: mpg  
## Type: OLS linear regression   
##   
## MODEL FIT:  
## F(5,26) = 33.57, p = 0.00  
## R² = 0.87  
## Adj. R² = 0.84   
##   
## Standard errors: OLS  
## ---------------------------------------------------------  
## Est. 2.5% 97.5% t val. VIF  
## ----------------- ------- ------- ------- -------- ------  
## (Intercept) 20.97 17.74 24.19 13.37   
## wt -2.50 -4.32 -0.68 -2.82 4.01  
## am 1.81 -1.06 4.68 1.30 2.59  
## cyl6ść -3.03 -5.92 -0.14 -2.15 5.82  
## cyl8siem -2.16 -6.86 2.53 -0.95 5.82  
## hp -0.03 -0.06 -0.00 -2.35 4.70  
## ---------------------------------------------------------  
##   
## Continuous predictors are mean-centered.

Można określić globalne opcje

set\_summ\_defaults(digits = 4, vifs = FALSE)

export\_summs(model1,model2, model3,   
 model.names = c("M1", "M2", "M3")   
 #coefs = c("Waga" = "wt")  
 )

|  |  |  |  |
| --- | --- | --- | --- |
|  | M1 | M2 | M3 |
| (Intercept) | 37.2851 \*\*\* | 33.7536 \*\*\* | 33.7083 \*\*\* |
|  | (1.8776) | (2.8135) | (2.6049) |
| wt | -5.3445 \*\*\* | -3.1496 \*\* | -2.4968 \*\* |
|  | (0.5591) | (0.9080) | (0.8856) |
| am |  | 0.1501 | 1.8092 |
|  |  | (1.3002) | (1.3963) |
| cyl6ść |  | -4.2573 \*\* | -3.0313 \* |
|  |  | (1.4112) | (1.4073) |
| cyl8siem |  | -6.0791 \*\* | -2.1637 |
|  |  | (1.6837) | (2.2843) |
| hp |  |  | -0.0321 \* |
|  |  |  | (0.0137) |
| N | 32 | 32 | 32 |
| R2 | 0.7528 | 0.8375 | 0.8659 |
| \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05. | | | |

Przejdzmy teraz do pakietu texreg

screenreg – języka markdown texreg – do LaTeXa

screenreg(l = list(M1 = model1, M2 = model2))

##   
## =================================  
## M1 M2   
## ---------------------------------  
## (Intercept) 37.29 \*\*\* 33.75 \*\*\*  
## (1.88) (2.81)   
## wt -5.34 \*\*\* -3.15 \*\*   
## (0.56) (0.91)   
## am 0.15   
## (1.30)   
## cyl6ść -4.26 \*\*   
## (1.41)   
## cyl8siem -6.08 \*\*   
## (1.68)   
## ---------------------------------  
## R^2 0.75 0.84   
## Adj. R^2 0.74 0.81   
## Num. obs. 32 32   
## =================================  
## \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05