***Step LM***

[1] "Wages" "Deciles"

[3] "Gini\_market" "Corporate\_ta"

[5] "Unempl\_rate" "Trade"

[7] "arp\_mid" "`Researchers\_(1mill\_Pop)"

[9] "mrp\_all" "Family"

[11] "Net\_len\_wi" "`gro%pop`"

[13] "instdepth" "Secondary\_ed"

[15] "Gov\_debt" "ins\_effic"

[17] "Savings\_percapit" "Deficit"

[19] "Social\_prot" "Soc\_kind"

[21] "employ\_rate" "Tertiary\_ed"

[23] "TOT" "property\_tx"

[25] "GDP\_pc"

***Relaimpo*** (ordenado por importancia)

Social\_prot Secondary\_ed Savings\_percapit Gov\_ex Soc\_kind

0.105 0.083 0.073 0.063 0.061

Wages employ\_rate GDP\_pc TOT Corporate\_ta

0.053 0.047 0.043 0.042 0.040

Tertiary\_ed Health\_exp Deficit property\_tx Unempl\_rate

0.034 0.028 0.027 0.024 0.022

regqua Gov\_debt Net\_len\_wi instdepth ins\_effic

0.020 0.018 0.017 0.017 0.014

HICP

0.010

***Relaimpo2***

Social\_prot\_ex\_pen insaccess arp\_mid

0.143 0.066 0.061

Trade Savings % GDP Researchers\_(1mill\_Pop)\r\r\n

0.060 0.059 0.056

R&D%GDP\r\r\n Net\_mig ICT

0.049 0.046 0.042

Savings\_percapit Family ind\_tx

0.042 0.038 0.032

ruleoflaw voice prod&imp\_tx

0.029 0.029 0.021

Soc\_payable mrp\_all Education\_exp

0.020 0.020 0.012

gro%pop Deficit ins\_effic

0.009 0.004 0.004

**Realimpo final altos**

Social\_prot\_ex\_pen Secondary\_ed arp\_mid

0.097 0.061 0.060

Social\_prot Savings % GDP Researchers\_(1mill\_Pop)\r\r\n

0.059 0.051 0.051

Trade insaccess R&D%GDP\r\r\n

0.049 0.047 0.042

Gov\_ex Savings\_percapit Family

0.039 0.038 0.037

ICT ind\_tx Soc\_kind

0.034 0.034 0.032

Net\_mig TOT Corporate\_ta

0.032 0.027 0.027

employ\_rate GDP\_pc Wages

0.025 0.025 0.018

**Realimpo bajos**

Social\_prot\_ex\_pen Secondary\_ed arp\_mid

0.097 0.061 0.060

Social\_prot Savings % GDP Researchers\_(1mill\_Pop)\r\r\n

0.059 0.051 0.051

Trade insaccess R&D%GDP\r\r\n

0.049 0.047 0.042

Gov\_ex Savings\_percapit Family

0.039 0.038 0.037

ICT ind\_tx Soc\_kind

0.034 0.034 0.032

Net\_mig TOT Corporate\_ta

0.032 0.027 0.027

employ\_rate GDP\_pc Wages

0.025 0.025 0.018

*CARET*

Maximum search iterations: 10

Restart after 5 iterations without improvement (0.4 restarts on average)

Internal performance values: RMSE, Rsquared

Subset selection driven to minimize internal RMSE

External performance values: RMSE, Rsquared, MAE

Best iteration chose by minimizing external RMSE

External resampling method: Cross-Validated (10 fold, repeated 3 times)

During resampling:

\* the top 5 selected variables (out of a possible 46):

GDP\_pc (53.3%), Unemp\_tra (50%), Gov\_ex (46.7%), Health\_exp (43.3%), ind\_tx (43.3%)

\* on average, 13.5 variables were selected (min = 11, max = 18)

In the final search using the entire training set:

\* 15 features selected at iteration 9 including:

property\_tx, Net\_mig, Gini\_market, Education\_exp, ind\_tx ...

\* external performance at this iteration is

RMSE Rsquared MAE

0.01537 0.93770 0.01149

> print(sa\_obj$optVariables)

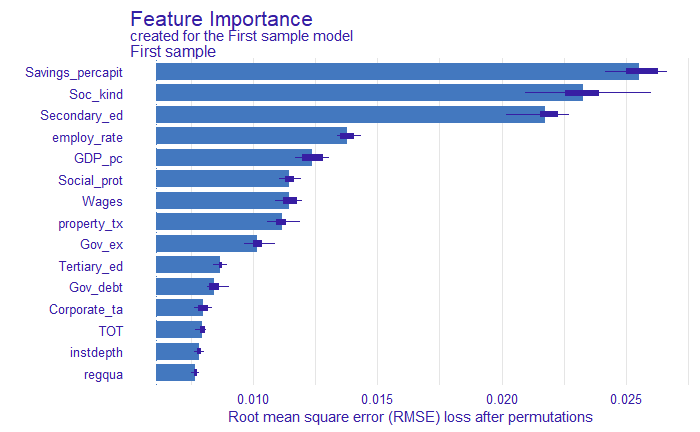
[1] "property\_tx" "Net\_mig" "Gini\_market" "Education\_exp" "ind\_tx"

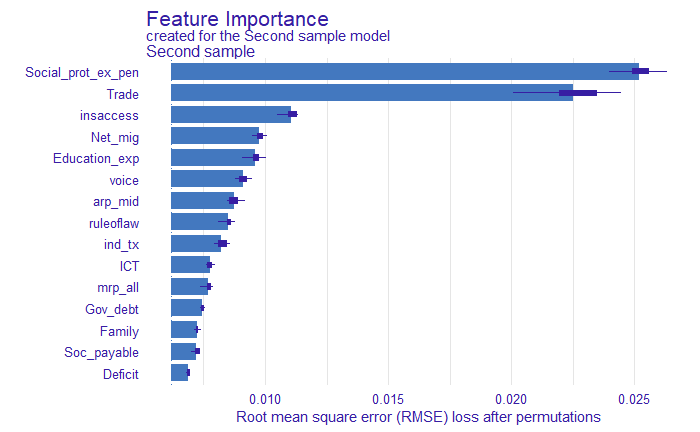
[6] "TOT" "Secondary\_ed" "td\_male" "Soc\_payable" "mrp\_all"

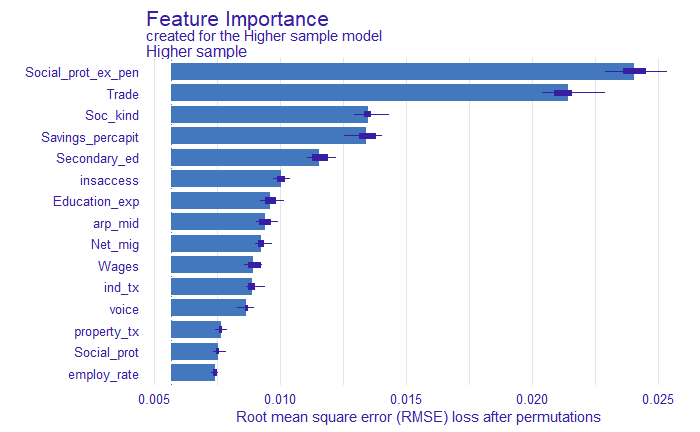
[11] "goveff" "ruleoflaw" "instdepth" "R&D%GDP\r\r\n" "Savings\_percapit"

***library(randomForest)***

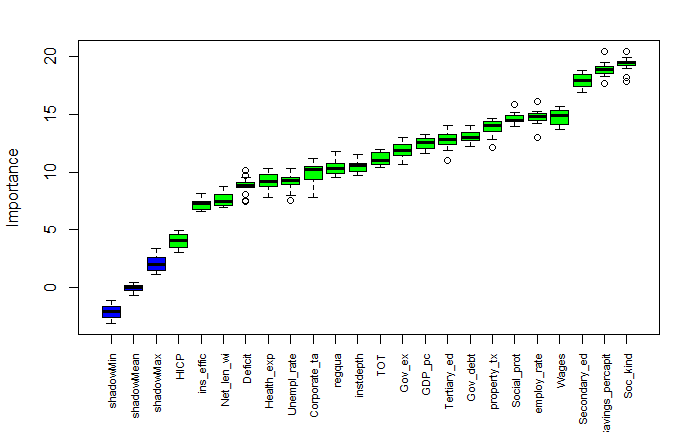
***library(DALEX)***

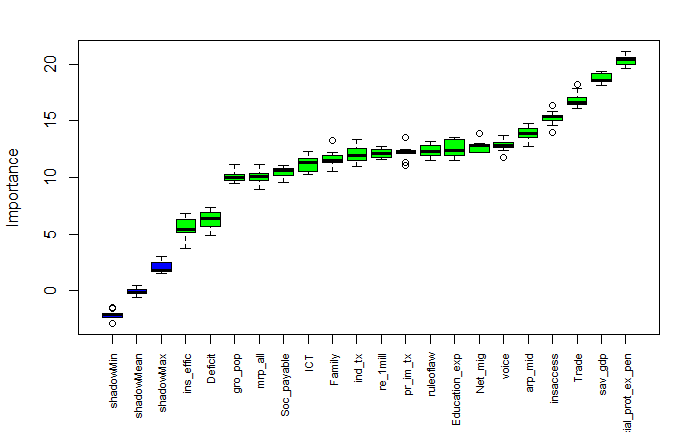






**BORUTA**





***RFE CARET***

The top 20 variables (out of 46):

gro\_pop, Gini\_market, employ\_rate, Social\_prot, TOT, Deciles, arp\_mid, Trade, mrp\_all, ind\_tx, ins\_effic, Tertiary\_ed, re\_1mill, Secondary\_ed, GDP\_pc, instdepth, pr\_im\_tx, Social\_prot\_ex\_pen, Corporate\_ta, Family