ACE_Metric ELRES

2022-06-03

Data loading

```
library(readr); library(readxl)

# Getting predictions for ACE calculation
outData_All_pred_ELRETSALRES <- read_excel("outData_All_pred_ELRETSALRES.xlsx")
```

```
## New names:
## * `True` -> `True...4`
## * `True` -> `True...8`
## * `True` -> `True...12`
## * `True` -> `True...16`
```

```
# Same name for the calculations
df <- outData_All_pred_ELRETSALRES
colnames(df) <- colnames(outData_All_pred_ELRETSALRES)
```

Playing with the data to PICP

```
library(dplyr); library(tidyr); library(magrittr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union

##
## Attaching package: 'magrittr'

## The following object is masked from 'package:tidyr':
##
##     extract
```

```r
# Dplyr remove a column by name:

df_w_true <- df %>%
  select(-c(4,8,12))

#true <- df %>% select(c(4))

colnames(df_w_true)[dim(df_w_true)[2]] <- c("True")
#head(true)
```

```r
# For alpha = 0.1

observ <- df_w_true$True
n <- (dim(df_w_true)[2]-1)
ci <- rep(0, n)
ci
```

```
##  [1] 0 0 0 0 0 0 0 0 0 0 0 0
```

```r
for (j in 1:(dim(df_w_true)[2]-1)) {
  ci[j] <- df_w_true %>%
  mutate(ci = ifelse(.[[j]] >= observ, 0, 1)) %>%
  select(ci) %>% sum()
  ci
}

#ci <- df_w_true %>%
#  mutate(ci = ifelse(DVQR_01 >= observ, 0, 1)) %>%
#  select(ci) %>% sum()
#ci

PICP <- ci/dim(df_w_true)[1]
PICP
```

```
##  [1] 0.60992908 0.58156028 0.56028369 0.55319149 0.44680851 0.47517730
##  [7] 0.43971631 0.31914894 0.38297872 0.12765957 0.05673759 0.06382979
```

```r
# ORDER FOR MODELS: DVQR - NPDVQR - LQR
# For 0.1 case
ACE_01 <- PICP[c(1,2,3)] - 0.1
ACE_01
```

```
## [1] 0.5099291 0.4815603 0.4602837
```

```r
# For 0.25 case
ACE_025 <- PICP[c(4,5,6)] - 0.25
ACE_025
```

```
## [1] 0.3031915 0.1968085 0.2251773
```

```r
# For 0.5 case
ACE_05 <- PICP[c(7,8,9)] - 0.5
ACE_05
```

```
## [1] -0.06028369 -0.18085106 -0.11702128
```

```r
# For 0.9 case
ACE_09 <- PICP[c(10,11,12)] - 0.9
ACE_09
```

```
## [1] -0.7723404 -0.8432624 -0.8361702
```

```r
# combine all of them

ACE_All <- cbind(ACE_01, ACE_025, ACE_05, ACE_09)

rownames(ACE_All) <- c("DVQR", "NPDVQR", "LQR")
library(pander)
pander(ACE_All)
```

	ACE_01	ACE_025	ACE_05	ACE_09
DVQR	0.5099	0.3032	-0.06028	-0.7723
NPDVQR	0.4816	0.1968	-0.1809	-0.8433
LQR	0.4603	0.2252	-0.117	-0.8362