Final Results

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12/10/2023

```
library(readxl)
```

```
## Warning: package 'readxl' was built under R version 4.1.2
```

```
df <- read_excel("final_ism.xlsx")
str(df)
```

```
## tibble [575 x 13] (S3: tbl_df/tbl/data.frame)
##  $ Country: chr [1:575] "Afghanistan" "Afghanistan" "Afghanistan" "Afghanistan" ...
##  $ Year   : num [1:575] 2005 2010 2015 2017 2019 ...
##  $ UHI    : num [1:575] 25.5 27.5 32.2 35.8 37.3 ...
##  $ SE     : num [1:575] 91.7 89.8 84.8 82.5 83.2 ...
##  $ GDP    : num [1:575] 255 555 592 530 501 ...
##  $ UR     : num [1:575] 8.11 8.07 8.99 11.18 11.09 ...
##  $ INF    : num [1:575] 12.686 2.179 -0.662 4.976 2.302 ...
##  $ LFP    : num [1:575] 47.1 46.9 47.2 47.3 47.5 ...
##  $ EDU    : num [1:575] 12.686 2.179 -0.662 4.976 2.302 ...
##  $ PA     : num [1:575] 11738147 13722048 17485014 18706224 20127704 ...
##  $ SR     : num [1:575] 1.06 1.06 1.06 1.05 1.05 ...
##  $ TR     : num [1:575] NA 9.17 7.59 9.9 NA ...
##  $ HE     : num [1:575] 9.95 8.57 10.11 12.62 14.83 ...
```

```
library(plm)
```

```
## Warning: package 'plm' was built under R version 4.1.2
```

```
df$Country <- as.factor(df$Country)
df$Year <- as.factor(df$Year)
panel_data <- pdata.frame(df, index = c("Country", "Year"))
panel_model <- plm(SE ~ UHI + GDP + UR + INF + LFP + EDU + SR + TR + HE, data = panel_data, model = "wi
summary(panel_model)
```

```
## Oneway (individual) effect Within Model
##
## Call:
## plm(formula = SE ~ UHI + GDP + UR + INF + LFP + EDU + SR + TR +
##     HE, data = panel_data, model = "within")
##
## Unbalanced Panel: n = 51, T = 1-5, N = 226
```

```
##
## Residuals:
##        Min.     1st Qu.      Median     3rd Qu.        Max.
## -6.08488236 -0.98350500 -0.00063255  0.77995896  7.35943520
##
## Coefficients: (1 dropped because of singularities)
##        Estimate  Std. Error t-value  Pr(>|t|)
## UHI -2.1051e-01  3.8724e-02 -5.4363 1.901e-07 ***
## GDP -9.0627e-05  5.9788e-05 -1.5158   0.13146
## UR   3.3744e-02  8.2269e-02  0.4102   0.68221
## INF  5.3155e-02  7.0409e-02  0.7549   0.45135
## LFP  2.2017e-01  1.0114e-01  2.1769   0.03089 *
## SR   1.6157e+02  3.0888e+01  5.2308 5.002e-07 ***
## TR   6.0836e-02  8.6939e-02  0.6998   0.48505
## HE   5.5982e-01  2.5816e-01  2.1685   0.03154 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Total Sum of Squares:    1346.4
## Residual Sum of Squares: 789.3
## R-Squared:      0.41378
## Adj. R-Squared: 0.21018
## F-statistic: 14.7346 on 8 and 167 DF, p-value: 3.3344e-16
```

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