R code

```r
#load data and packages
library(tidyverse)
library(plm)
library(Stat2Data)
library(mosaic)
library(ggformula)
library(Lock5Data)
library(tinytex)
library(car)
library(stargazer)



worldbank<-read.csv("https://raw.githubusercontent.com/Migueldesanta/plsc421/main/worldbank.csv")
polity<-read.csv("https://raw.githubusercontent.com/Migueldesanta/plsc421/main/p5v2018.csv")
#Data Wrangling
# Pivot the data from long to wide format, ensuring each row corresponds to a single country
worldbank_long <- worldbank %>%
  pivot_longer(
    cols = matches("^X\\d{4}\\.\\.YR\\d{4}\\.$"),
    names_to = "Year",
    values_to = "Value",
    names_pattern = "X(\\d{4})\\.\\.YR\\d{4}\\.$"
  )

# Spread 'Series.Name' into separate columns and then rename those columns
worldbank_wide <- worldbank_long %>%
  pivot_wider(
    names_from = Series.Name,
    values_from = Value,
    id_cols = c(Country.Name, Year)
  )%>%
  rename(
    Exchangerate = `Official exchange rate (LCU per US$, period average)`,
    Marketsize = `GDP, PPP (current international $)`,
    Economicdevelopment = `GDP per capita, PPP (current international $)`,
    Economicgrowth = `GDP growth (annual %)`,
    FDI = `Foreign direct investment, net inflows (BoP, current US$)`,
    Fiscal = `Total tax and contribution rate (% of profit)`,
    Impediments = `Ease of doing business score (0 = lowest performance to 100 = best performance)`
  ) %>%
  # Filter out the data for the year 2019
  filter(Year != "2019") %>%
  # Ensure Year is numeric
  mutate(
    Year = as.numeric(Year),
```

```
    Marketsize = as.numeric(Marketsize),
    Economicdevelopment = as.numeric(Economicdevelopment),
    Economicgrowth = as.numeric(Economicgrowth),
    FDI = as.numeric(FDI),
    Fiscal = as.numeric(Fiscal),
    Impediments = as.numeric(Impediments),
    Exchangerate=as.numeric(Exchangerate)

  )%>%
  # Drop rows with any NA values
  drop_na()
# Subset and rename the columns of polity
polity_subset <- polity %>%
  filter(year >= 2015, year <= 2018) %>%  # Filter years from 2015 to 2018
  select(
    Country.Name = country,  # Rename scode to Country.Code
    Polity2 = polity2,     # Rename polity2 to Polity2
    Year = year            # Rename year to Year
  )
# Merge the datasets using 'Country.Code' and 'Year' as keys
merged_data <- inner_join(worldbank_wide, polity_subset, by = c("Country.Name", "Year"))%>%
  # Drop rows with any NA values
mutate( # Take the logarithm and create new variables
    Log_Marketsize = log(Marketsize),
    Log_Economicdevelopment = log(Economicdevelopment),
    Log_Fiscal=log(Fiscal),
    Log_Exchangerate=log(Exchangerate),
    FDI=FDI/1000000000)%>%
  # Drop rows with any NA values
  drop_na()

final_data <- merged_data %>%
  select(Country.Name, Year, Log_Marketsize, Log_Economicdevelopment,
         Log_Fiscal, Log_Exchangerate, Polity2, Economicgrowth,FDI,Impediments)
```

```
#Model Fitting
#Model 1:Independent Variables Only
model1<-lm(FDI~Polity2+Log_Fiscal+Impediments, data =final_data)
summary(model1)
```

```
##
## Call:
## lm(formula = FDI ~ Polity2 + Log_Fiscal + Impediments, data = final_data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -29.263  -7.120  -2.626   2.011 218.052
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) -75.8421    14.6459  -5.178 3.75e-07 ***
## Polity2      -0.7672     0.2433  -3.153  0.00175 **
## Log_Fiscal   14.1160     2.9414   4.799 2.35e-06 ***
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## Impediments   0.5679     0.1141   4.977 1.01e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 22.26 on 357 degrees of freedom
## Multiple R-squared:  0.112,  Adjusted R-squared:  0.1046
## F-statistic: 15.01 on 3 and 357 DF,  p-value: 3.175e-09
```

```
#Model 2: Dependent variables Only
model2<-lm(FDI~Log_Marketsize+Log_Economicdevelopment+Economicgrowth+Log_Exchangerate,data=final_data)
summary(model2)
```

```
##
## Call:
## lm(formula = FDI ~ Log_Marketsize + Log_Economicdevelopment +
##     Economicgrowth + Log_Exchangerate, data = final_data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -23.444  -9.550  -1.188   4.551 196.196
##
## Coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)             -142.9812    15.9631  -8.957  < 2e-16 ***
## Log_Marketsize             7.1305     0.6747  10.568  < 2e-16 ***
## Log_Economicdevelopment   -2.9582     1.4186  -2.085  0.03775 *
## Economicgrowth             0.3076     0.3203   0.960  0.33753
## Log_Exchangerate          -1.3370     0.4557  -2.934  0.00356 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 20.09 on 356 degrees of freedom
## Multiple R-squared:  0.2787, Adjusted R-squared:  0.2706
## F-statistic: 34.38 on 4 and 356 DF,  p-value: < 2.2e-16
```

```
#Model 3: Full Model
model3<-lm(FDI~Polity2+Log_Fiscal+Impediments+Log_Marketsize+Log_Economicdevelopment+Economicgrowth+Log
summary(model3)
```

```
##
## Call:
## lm(formula = FDI ~ Polity2 + Log_Fiscal + Impediments + Log_Marketsize +
##     Log_Economicdevelopment + Economicgrowth + Log_Exchangerate,
##     data = final_data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -22.605 -10.705  -0.951   6.915 187.972
##
## Coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)             -164.4383    17.6552  -9.314  < 2e-16 ***
## Polity2                   -0.5329     0.2173  -2.452  0.01470 *
```

```
## Log_Fiscal                  8.5644     2.7089   3.162  0.00170 **
## Impediments                 0.1663     0.1381   1.204  0.22924
## Log_Marketsize              6.4258     0.6826   9.414  < 2e-16 ***
## Log_Economicdevelopment    -2.8844     1.6967  -1.700  0.09000 .
## Economicgrowth              0.3832     0.3285   1.167  0.24418
## Log_Exchangerate           -1.4783     0.4571  -3.234  0.00133 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 19.69 on 353 degrees of freedom
## Multiple R-squared:  0.3129, Adjusted R-squared:  0.2993
## F-statistic: 22.97 on 7 and 353 DF,  p-value: < 2.2e-16
```

```
#regression table
stargazer(model1, model2, model3,
          type = "text",
          dep.var.labels = "FDI inflows", covariate.labels =c("Regime Type", "Fiscal Incentives(log)",
          title = "Figure 1. Regression Results of FDI Inflows Across Models")
```

```
##
## Figure 1. Regression Results of FDI Inflows Across Models
## ====================================================================================================
##                                                   Dependent variable:
##                              -----------------------------------------------------------------------
##                                                       FDI inflows
##                                        (1)                     (2)                     (3)
## ----------------------------------------------------------------------------------------------------
## Regime Type                         -0.767***                                      -0.533**
##                                      (0.243)                                        (0.217)
##
## Fiscal Incentives(log)              14.116***                                      8.564***
##                                      (2.941)                                        (2.709)
##
## Regulatory Impediments              0.568***                                        0.166
##                                      (0.114)                                        (0.138)
##
## Market Size(log)                                             7.131***              6.426***
##                                                              (0.675)                (0.683)
##
## Economic Development(log)                                   -2.958**               -2.884*
##                                                              (1.419)                (1.697)
##
## Economic Growth                                               0.308                  0.383
##                                                              (0.320)                (0.329)
##
## Exchange Rate(log)                                          -1.337***              -1.478***
##                                                              (0.456)                (0.457)
##
## Constant                           -75.842***              -142.981***            -164.438***
##                                     (14.646)                (15.963)               (17.655)
##
## ----------------------------------------------------------------------------------------------------
## Observations                          361                     361                    361
## R2                                   0.112                   0.279                  0.313
```

```
## Adjusted R2                         0.105                    0.271                    0.299
## Residual Std. Error           22.262 (df = 357)        20.093 (df = 356)        19.693 (df = 353)
## F Statistic                15.014*** (df = 3; 357) 34.384*** (df = 4; 356) 22.968*** (df = 7; 353)
## ================================================================================================
## Note:                                                              *p<0.1; **p<0.05; ***p<0.01
```