

Trabalho_Final_ML

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Pacotes necessários:

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.3.1 --
```

```
## v ggplot2 3.4.4      v purrr  1.0.1
## v tibble  3.2.1      v dplyr  1.1.2
## v tidyr   1.2.0      v stringr 1.4.0
## v readr   2.1.2      v forcats 0.5.1
```

```
## -- Conflicts ----- tidyverse_conflicts() --
```

```
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
```

```
library(sidrar)
library(readr)
library(rbcB)
```

1)

a) Baixando e modelando a base de dados

```
inf <- get_sidra(1737, variable = 63, period = "201201-202405")
```

```
## Considering all categories once 'classific' was set to 'all' (default)
```

```
inf <- inf %>% select("Mês (Código)", "Valor")
```

```
colnames(inf) <- c("date", "inf")
```

```
inf$date <- as.Date(paste0(str_sub(inf$date, end = 4), "-",
str_sub(inf$date, start = 5), "-01"))
```

```
dim(inf)
```

```
## [1] 149  2
```

```
head(Inf)
```

```
##           date  Inf
## 2 2012-01-01 0.56
## 3 2012-02-01 0.45
## 4 2012-03-01 0.21
## 5 2012-04-01 0.64
## 6 2012-05-01 0.36
## 7 2012-06-01 0.08
```

```
tail(Inf)
```

```
##           date  Inf
## 145 2023-12-01 0.56
## 146 2024-01-01 0.42
## 147 2024-02-01 0.83
## 148 2024-03-01 0.16
## 149 2024-04-01 0.38
## 150 2024-05-01 0.46
```

2) Gerando estatísticas descritivas:

```
mean(Inf$Inf)
```

```
## [1] 0.4787248
```

```
median(Inf$Inf)
```

```
## [1] 0.44
```

```
min(Inf$Inf)
```

```
## [1] -0.68
```

```
max(Inf$Inf)
```

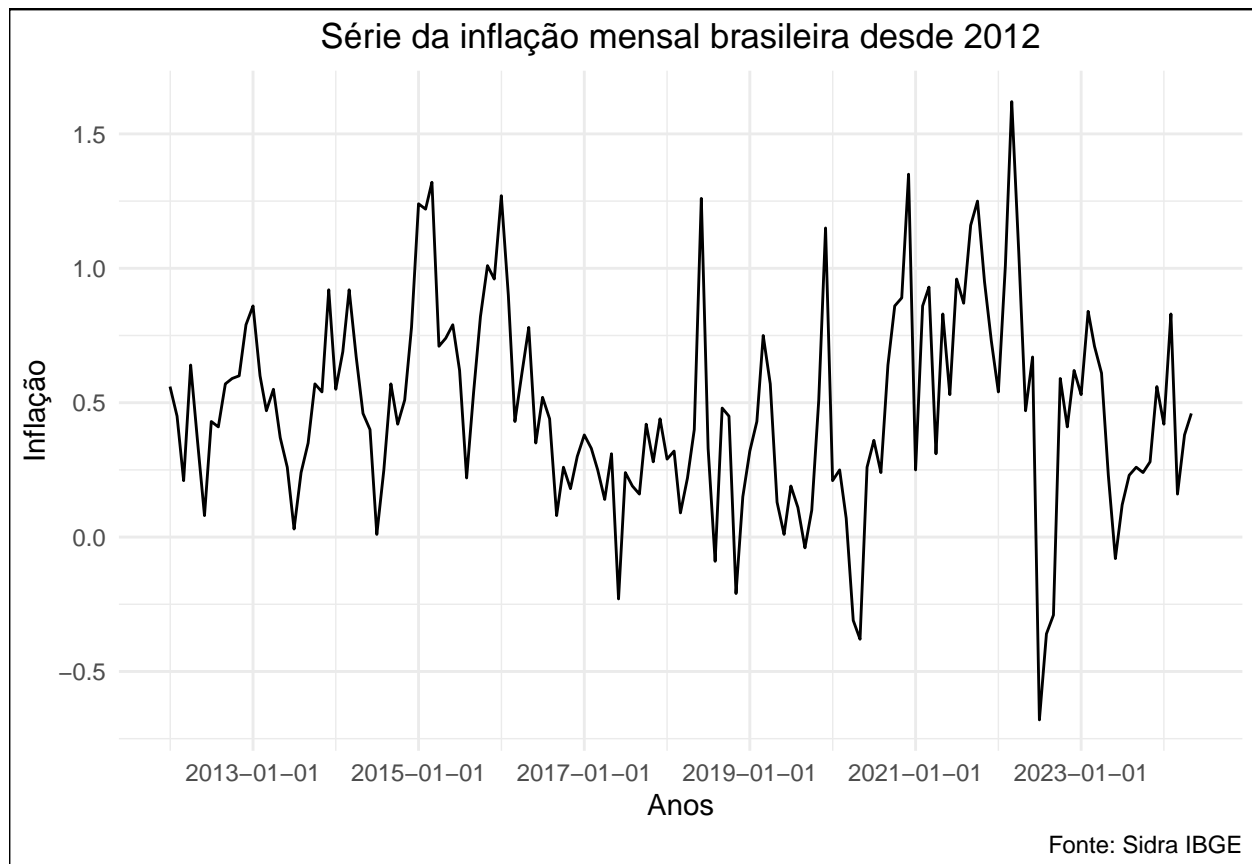
```
## [1] 1.62
```

```
sd(Inf$Inf)
```

```
## [1] 0.3780288
```

Gerando o gráfico da série histórica da inflação:

```
ggplot(data = Inf) +
  geom_line(aes(x = date, y = Inf)) +
  labs(x = "Anos", y = "Inflação", title = "Série da inflação mensal brasileira desde 2012", caption = "I") +
  theme_minimal() +
  scale_y_continuous(breaks = seq(-1, 2, by = 0.5)) +
  scale_x_date(date_breaks = "2 years") +
  theme(plot.title = element_text(hjust = 0.5), plot.subtitle = element_text(hjust = 0.5), plot.background = element_rect(fill = "white", stroke = "black", strokewidth = 1))
```



Observamos que a inflação brasileira variou em torno de sua média de aproximadamente 0.5% ao mês desde jan 2012 até maio 2024, tendo seu período de maior volatilidade ao longo de 2022.

3)

Baixando as variáveis:

3.1) ipca

```
index <- list(433)
ipca <- get_series(index, start_date = "2011-12-01", end_date = "2024-04-30", as = c("data.frame"))
colnames(ipca)[2] <- "ipca"
```

3.2) igpm

```
index <- list(189)
igpm <- get_series(index, start_date = "2011-12-01", end_date = "2024-04-30", as = "data.frame")
colnames(igpm)[2] <- "igpm"
```

3.3) ipca15

```
index <- list(7478)
ipca15 <- get_series(index, start_date = "2011-12-01", end_date = "2024-04-30", as = "data.frame")
colnames(ipca15)[2] <- "ipca15"
```

3.4) bm_broad

```

index <- list(1833)
bm_broad <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-31", as = "data.frame")

colnames(bm_broad)[2] <- "bm_broad_old"
bm_broad$bm_broad <- rep(NA, nrow(bm_broad))

for (t in 2:nrow(bm_broad)) {
  bm_broad$bm_broad[t] <- ((bm_broad$bm_broad_old[t] - bm_broad$bm_broad_old[t-1])/bm_broad$bm_broad_old[t-1])
}

bm_broad <- bm_broad[-1, ]
bm_broad <- bm_broad %>% select(date, bm_broad)

```

3.5) m1

```

index <- list(27788)
m1 <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-01", as = "data.frame")

# coluna a partir da qual computaremos a variação percentual
colnames(m1)[2] <- "m1_old"
# coluna que receberá o resultado da variação percentual
m1$m1 <- rep(NA, nrow(m1))
# calculamos a variação percentual a partir da segunda linha
for (t in 2:nrow(m1)) {
  m1$m1[t] <- ((m1$m1_old[t] - m1$m1_old[t-1])/m1$m1_old[t-1])*100
}

m1 <- m1[-1, ]
m1 <- m1 %>% select(date, m1)

```

3.6) icbr

```

index <- list(27574)
icbr <- get_series(index, start_date = "2011-11-01", end_date = "2024-04-30", as = "data.frame")

# coluna a partir da qual computaremos a variação percentual
colnames(icbr)[2] <- "icbr_old"
# coluna que receberá o resultado da variação percentual
icbr$icbr <- rep(NA, nrow(icbr))
# calculamos a variação percentual a partir da segunda linha
for (t in 2:nrow(icbr)) {
  icbr$icbr[t] <- ((icbr$icbr_old[t] - icbr$icbr_old[t-1])/icbr$icbr_old[t-1])*100
}

icbr <- icbr[-1, ]
icbr <- icbr %>% select(date, icbr)

```

3.7) ibcbr

```

index <- list(24363)
ibcbr <- get_series(index, start_date = "2011-09-01", end_date = "2024-02-29", as = "data.frame")

```

```

# coluna a partir da qual computaremos a variação percentual
colnames(ibcbr)[2] <- "ibcbr_old"
# coluna que receberá o resultado da variação percentual
ibcbr$ibcbr <- rep(NA, nrow(ibcbr))
# calculamos a variação percentual a partir da segunda linha
for (t in 2:nrow(ibcbr)) {
  ibcbr$ibcbr[t] <- ((ibcbr$ibcbr_old[t] - ibcbr$ibcbr_old[t-1])/ibcbr$ibcbr_old[t-1])*100
}

ibcbr <- ibcbr[-1, ]
ibcbr <- ibcbr %>% select(date, ibcbr)

```

3.8) pimpf

```

index <- list(21859)
pimpf <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-31", as = "data.frame")

# coluna a partir da qual computaremos a variação percentual
colnames(pimpf)[2] <- "pimpf_old"
pimpf$pimpf <- rep(NA, nrow(pimpf))

for (t in 2:nrow(pimpf)) {
  pimpf$pimpf[t] <- ((pimpf$pimpf_old[t] - pimpf$pimpf_old[t-1])/pimpf$pimpf_old[t-1])*100
}

pimpf <- pimpf[-1, ]
pimpf <- pimpf %>% select(date, pimpf)

```

3.9) tcu

```

index <- list(24352)
tcu <- get_series(index, start_date = "2011-11-01", end_date = "2024-04-30", as = "data.frame")

# coluna a partir da qual computaremos a variação percentual
colnames(tcu)[2] <- "tcu_old"
tcu$tcu <- rep(NA, nrow(tcu))

for (t in 2:nrow(tcu)) {
  tcu$tcu[t] <- (tcu$tcu_old[t] - tcu$tcu_old[t-1])
}

tcu <- tcu[-1, ]
tcu <- tcu %>% select(date, tcu)

```

3.10) aggreg_wage

```

index <- list(22078)
aggreg_wage <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-01", as = "data.frame")

# coluna a partir da qual computaremos a variação percentual
colnames(aggreg_wage)[2] <- "aggreg_wage_old"
# coluna que receberá o resultado da variação percentual

```

```

aggreg_wage$aggreg_wage <- rep(NA, nrow(aggreg_wage))
# calculamos a variação percentual a partir da segunda linha
for (t in 2:nrow(aggreg_wage)) {
  aggrege_wage$aggreg_wage[t] <- ((aggreg_wage$aggreg_wage_old[t] - aggrege_wage$aggreg_wage_old[t-1])/aggrege_wage$aggreg_wage_old[t-1]) * 100
}

aggreg_wage <- aggrege_wage[-1, ]
aggreg_wage <- aggrege_wage %>% select(date, aggrege_wage)

```

3.11) elec

```

index <- list(1406)
elec <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-31", as = "data.frame")

colnames(elec)[2] <- "elec_old"

elec$elec <- rep(NA, nrow(elec))

for (t in 2:nrow(elec)) {
  elec$elec[t] <- ((elec$elec_old[t] - elec$elec_old[t-1]) / elec$elec_old[t-1]) * 100
}

elec <- elec[-1, ]

elec <- elec %>% select(date, elec)

```

3.12) confidence

```

index <- list(4393)
confidence <- get_series(index, start_date = "2011-11-01", end_date = "2024-04-30", as = "data.frame")

colnames(confidence)[2] <- "confidence_old"
confidence$confidence <- rep(NA, nrow(confidence))

for (t in 2:nrow(confidence)) {
  confidence$confidence[t] <- ((confidence$confidence_old[t] - confidence$confidence_old[t-1]) / confidence$confidence_old[t-1]) * 100
}

confidence <- confidence[-1, ]
confidence <- confidence %>% select(date, confidence)

```

3.13) brl_usd

```

index <- list(3695)
brl_usd <- get_series(index, start_date = "2011-11-01", end_date = "2024-04-30", as = "data.frame")

colnames(brl_usd)[2] <- "brl_usd_old"
brl_usd$brl_usd <- rep(NA, nrow(brl_usd))

for (t in 2:nrow(brl_usd)) {
  brl_usd$brl_usd[t] <- ((brl_usd$brl_usd_old[t] - brl_usd$brl_usd_old[t-1]) / brl_usd$brl_usd_old[t-1]) * 100
}

```

```
brl_usd <- brl_usd[-1, ]
brl_usd <- brl_usd %>% select(date, brl_usd)
```

3.14) selic

```
index <- list(4390)
selic <- get_series(index, start_date = "2011-12-01", end_date = "2024-04-30", as = "data.frame")
colnames(selic)[2] <- "selic"
```

3.15) saving

```
index <- list(1835)
saving <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-31", as = "data.frame")

colnames(saving)[2] <- "saving_old"
saving$saving <- rep(NA, nrow(saving))

for (t in 2:nrow(saving)) {
  saving$saving[t] <- ((saving$saving_old[t] - saving$saving_old[t-1]) / saving$saving_old[t-1]) * 100
}

saving <- saving[-1, ]
saving <- saving %>% select(date, saving)
```

3.16) cred

```
index <- list(20539)
cred <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-31", as = "data.frame")

colnames(cred)[2] <- "cred_old"
cred$cred <- rep(NA, nrow(cred))

for (t in 2:nrow(cred)) {
  cred$cred[t] <- ((cred$cred_old[t] - cred$cred_old[t-1]) / cred$cred_old[t-1]) * 100
}

cred <- cred[-1, ]
cred <- cred %>% select(date, cred)
```

3.17) net_debt_gdp

```
index <- list(4513)
net_debt_gdp <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-31", as = "data.frame")

colnames(net_debt_gdp)[2] <- "net_debt_gdp_old"
net_debt_gdp$net_debt_gdp <- rep(NA, nrow(net_debt_gdp))

for (t in 2:nrow(net_debt_gdp)) {
  net_debt_gdp$net_debt_gdp[t] <- (net_debt_gdp$net_debt_gdp_old[t] - net_debt_gdp$net_debt_gdp_old[t-1])
}

net_debt_gdp <- net_debt_gdp[-1, ]
net_debt_gdp <- net_debt_gdp %>% select(date, net_debt_gdp)
```

3.18) primary

```
index <- list(4649)

primary <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-31", as = "data.frame")

colnames(primary)[2] <- "primary_old"
primary$primary <- rep(NA, nrow(primary))

for (t in 2:nrow(primary)) {
  primary$primary[t] <- (primary$primary_old[t] - primary$primary_old[t-1])
}

primary <- primary[-1, ]
primary <- primary %>% select(date, primary)
```

3.19) current_account

```
index <- list(22701)
current_account <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-01", as = "data.frame")

colnames(current_account)[2] <- "current_account_old"
current_account$current_account <- rep(NA, nrow(current_account))

for (t in 2:nrow(current_account)) {
  current_account$current_account[t] <- (current_account$current_account_old[t] - current_account$current_account_old[t-1])
}

current_account <- current_account[-1, ]
current_account <- current_account %>% select(date, current_account)
```

3.20) trade_balance

```
index <- list(22704)
trade_balance <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-31", as = "data.frame")

colnames(trade_balance)[2] <- "trade_balance_old"
trade_balance$trade_balance <- rep(NA, nrow(trade_balance))

for (t in 2:nrow(trade_balance)) {
  trade_balance$trade_balance[t] <- ((trade_balance$trade_balance_old[t] - trade_balance$trade_balance_old[t-1]) * 100)
}

trade_balance <- trade_balance[-1, ]
trade_balance <- trade_balance %>% select(date, trade_balance)
```

3.21) imports

```
index <- list(22709)
imports <- get_series(index, start_date = "2011-10-01", end_date = "2024-03-31", as = "data.frame")

colnames(imports)[2] <- "imports_old"
imports$imports <- rep(NA, nrow(imports))
```



```

for (t in 2:nrow(imports)) {
  imports$imports[t] <- ((imports$imports_old[t] - imports$imports_old[t-1]) / imports$imports_old[t-1])
}

imports <- imports[-1, ]
imports <- imports %>% select(date, imports)

```

4) Retiramos a variável de salário médio por conta de falta de dados recentes

```

X = cbind(ipca,
igpm,
ipca15,
bm_broad,
m1,
icbr,
ibcbr,
pimpf,
tcu,
#'aggreg_wage',
elec,
confidence,
brl_usd,
selic,
saving,
cred,
net_debt_gdp,
primary,
current_account,
trade_balance,
imports)

print(X)

```

##	date	ipca	date	igpm	date	ipca15	date	bm_broad
## 2	2011-12-01	0.50	2011-12-01	-0.12	2011-12-01	0.56	2011-11-01	0.19196047
## 3	2012-01-01	0.56	2012-01-01	0.25	2012-01-01	0.65	2011-12-01	0.82774563
## 4	2012-02-01	0.45	2012-02-01	-0.06	2012-02-01	0.53	2012-01-01	1.46996853
## 5	2012-03-01	0.21	2012-03-01	0.43	2012-03-01	0.25	2012-02-01	0.12063843
## 6	2012-04-01	0.64	2012-04-01	0.85	2012-04-01	0.43	2012-03-01	1.19837492
## 7	2012-05-01	0.36	2012-05-01	1.02	2012-05-01	0.51	2012-04-01	0.85801558
## 8	2012-06-01	0.08	2012-06-01	0.66	2012-06-01	0.18	2012-05-01	0.37675927
## 9	2012-07-01	0.43	2012-07-01	1.34	2012-07-01	0.33	2012-06-01	1.02782992
## 10	2012-08-01	0.41	2012-08-01	1.43	2012-08-01	0.39	2012-07-01	0.60619146
## 11	2012-09-01	0.57	2012-09-01	0.97	2012-09-01	0.48	2012-08-01	0.37923260
## 12	2012-10-01	0.59	2012-10-01	0.02	2012-10-01	0.65	2012-09-01	1.28519844
## 13	2012-11-01	0.60	2012-11-01	-0.03	2012-11-01	0.54	2012-10-01	1.24713023
## 14	2012-12-01	0.79	2012-12-01	0.68	2012-12-01	0.69	2012-11-01	0.54858463
## 15	2013-01-01	0.86	2013-01-01	0.34	2013-01-01	0.88	2012-12-01	-0.60340224
## 16	2013-02-01	0.60	2013-02-01	0.29	2013-02-01	0.68	2013-01-01	1.08474727
## 17	2013-03-01	0.47	2013-03-01	0.21	2013-03-01	0.49	2013-02-01	0.18270082
## 18	2013-04-01	0.55	2013-04-01	0.15	2013-04-01	0.51	2013-03-01	0.76281025
## 19	2013-05-01	0.37	2013-05-01	0.00	2013-05-01	0.46	2013-04-01	0.71046044

## 20	2013-06-01	0.26	2013-06-01	0.75	2013-06-01	0.38	2013-05-01	0.23192304
## 21	2013-07-01	0.03	2013-07-01	0.26	2013-07-01	0.07	2013-06-01	0.71865314
## 22	2013-08-01	0.24	2013-08-01	0.15	2013-08-01	0.16	2013-07-01	0.72594713
## 23	2013-09-01	0.35	2013-09-01	1.50	2013-09-01	0.27	2013-08-01	0.50373721
## 24	2013-10-01	0.57	2013-10-01	0.86	2013-10-01	0.48	2013-09-01	0.63753624
## 25	2013-11-01	0.54	2013-11-01	0.29	2013-11-01	0.57	2013-10-01	0.48239420
## 26	2013-12-01	0.92	2013-12-01	0.60	2013-12-01	0.75	2013-11-01	-0.09243554
## 27	2014-01-01	0.55	2014-01-01	0.48	2014-01-01	0.67	2013-12-01	0.07352534
## 28	2014-02-01	0.69	2014-02-01	0.38	2014-02-01	0.70	2014-01-01	1.97055206
## 29	2014-03-01	0.92	2014-03-01	1.67	2014-03-01	0.73	2014-02-01	-0.13819716
## 30	2014-04-01	0.67	2014-04-01	0.78	2014-04-01	0.78	2014-03-01	0.82795816
## 31	2014-05-01	0.46	2014-05-01	-0.13	2014-05-01	0.58	2014-04-01	0.60673267
## 32	2014-06-01	0.40	2014-06-01	-0.74	2014-06-01	0.47	2014-05-01	0.75218729
## 33	2014-07-01	0.01	2014-07-01	-0.61	2014-07-01	0.17	2014-06-01	1.88342320
## 34	2014-08-01	0.25	2014-08-01	-0.27	2014-08-01	0.14	2014-07-01	1.48754566
## 35	2014-09-01	0.57	2014-09-01	0.20	2014-09-01	0.39	2014-08-01	0.22339327
## 36	2014-10-01	0.42	2014-10-01	0.28	2014-10-01	0.48	2014-09-01	1.96853406
## 37	2014-11-01	0.51	2014-11-01	0.98	2014-11-01	0.38	2014-10-01	0.77631142
## 38	2014-12-01	0.78	2014-12-01	0.62	2014-12-01	0.79	2014-11-01	1.06696373
## 39	2015-01-01	1.24	2015-01-01	0.76	2015-01-01	0.89	2014-12-01	1.02052197
## 40	2015-02-01	1.22	2015-02-01	0.27	2015-02-01	1.33	2015-01-01	1.15943946
## 41	2015-03-01	1.32	2015-03-01	0.98	2015-03-01	1.24	2015-02-01	1.47563490
## 42	2015-04-01	0.71	2015-04-01	1.17	2015-04-01	1.07	2015-03-01	2.02809125
## 43	2015-05-01	0.74	2015-05-01	0.41	2015-05-01	0.60	2015-04-01	-0.12196174
## 44	2015-06-01	0.79	2015-06-01	0.67	2015-06-01	0.99	2015-05-01	1.78740323
## 45	2015-07-01	0.62	2015-07-01	0.69	2015-07-01	0.59	2015-06-01	1.11827763
## 46	2015-08-01	0.22	2015-08-01	0.28	2015-08-01	0.43	2015-07-01	2.13109101
## 47	2015-09-01	0.54	2015-09-01	0.95	2015-09-01	0.39	2015-08-01	1.47729312
## 48	2015-10-01	0.82	2015-10-01	1.89	2015-10-01	0.66	2015-09-01	1.23806234
## 49	2015-11-01	1.01	2015-11-01	1.52	2015-11-01	0.85	2015-10-01	0.90687576
## 50	2015-12-01	0.96	2015-12-01	0.49	2015-12-01	1.18	2015-11-01	0.86847498
## 51	2016-01-01	1.27	2016-01-01	1.14	2016-01-01	0.92	2015-12-01	2.18426389
## 52	2016-02-01	0.90	2016-02-01	1.29	2016-02-01	1.42	2016-01-01	1.39592161
## 53	2016-03-01	0.43	2016-03-01	0.51	2016-03-01	0.43	2016-02-01	0.85337320
## 54	2016-04-01	0.61	2016-04-01	0.33	2016-04-01	0.51	2016-03-01	-0.17309551
## 55	2016-05-01	0.78	2016-05-01	0.82	2016-05-01	0.86	2016-04-01	0.84141354
## 56	2016-06-01	0.35	2016-06-01	1.69	2016-06-01	0.40	2016-05-01	1.56075161
## 57	2016-07-01	0.52	2016-07-01	0.18	2016-07-01	0.54	2016-06-01	0.85162277
## 58	2016-08-01	0.44	2016-08-01	0.15	2016-08-01	0.45	2016-07-01	2.27423367
## 59	2016-09-01	0.08	2016-09-01	0.20	2016-09-01	0.23	2016-08-01	1.22769960
## 60	2016-10-01	0.26	2016-10-01	0.16	2016-10-01	0.19	2016-09-01	1.54177609
## 61	2016-11-01	0.18	2016-11-01	-0.03	2016-11-01	0.26	2016-10-01	0.07789160
## 62	2016-12-01	0.30	2016-12-01	0.54	2016-12-01	0.19	2016-11-01	1.53695415
## 63	2017-01-01	0.38	2017-01-01	0.64	2017-01-01	0.31	2016-12-01	-0.19782394
## 64	2017-02-01	0.33	2017-02-01	0.08	2017-02-01	0.54	2017-01-01	1.05273965
## 65	2017-03-01	0.25	2017-03-01	0.01	2017-03-01	0.15	2017-02-01	1.20586526
## 66	2017-04-01	0.14	2017-04-01	-1.10	2017-04-01	0.21	2017-03-01	1.03263251
## 67	2017-05-01	0.31	2017-05-01	-0.93	2017-05-01	0.24	2017-04-01	0.84552756
## 68	2017-06-01	-0.23	2017-06-01	-0.67	2017-06-01	0.16	2017-05-01	1.22319232
## 69	2017-07-01	0.24	2017-07-01	-0.72	2017-07-01	-0.18	2017-06-01	1.31228568
## 70	2017-08-01	0.19	2017-08-01	0.10	2017-08-01	0.35	2017-07-01	1.27465143
## 71	2017-09-01	0.16	2017-09-01	0.47	2017-09-01	0.11	2017-08-01	1.01432364
## 72	2017-10-01	0.42	2017-10-01	0.20	2017-10-01	0.34	2017-09-01	0.56582783
## 73	2017-11-01	0.28	2017-11-01	0.52	2017-11-01	0.32	2017-10-01	0.45162549

## 74	2017-12-01	0.44	2017-12-01	0.89	2017-12-01	0.35	2017-11-01	0.45772224
## 75	2018-01-01	0.29	2018-01-01	0.76	2018-01-01	0.39	2017-12-01	0.37152025
## 76	2018-02-01	0.32	2018-02-01	0.07	2018-02-01	0.38	2018-01-01	0.68240513
## 77	2018-03-01	0.09	2018-03-01	0.64	2018-03-01	0.10	2018-02-01	0.62266938
## 78	2018-04-01	0.22	2018-04-01	0.57	2018-04-01	0.21	2018-03-01	0.55411112
## 79	2018-05-01	0.40	2018-05-01	1.38	2018-05-01	0.14	2018-04-01	0.76113097
## 80	2018-06-01	1.26	2018-06-01	1.87	2018-06-01	1.11	2018-05-01	0.88951407
## 81	2018-07-01	0.33	2018-07-01	0.51	2018-07-01	0.64	2018-06-01	0.42032018
## 82	2018-08-01	-0.09	2018-08-01	0.70	2018-08-01	0.13	2018-07-01	0.96489399
## 83	2018-09-01	0.48	2018-09-01	1.52	2018-09-01	0.09	2018-08-01	-0.06170365
## 84	2018-10-01	0.45	2018-10-01	0.89	2018-10-01	0.58	2018-09-01	0.78859072
## 85	2018-11-01	-0.21	2018-11-01	-0.49	2018-11-01	0.19	2018-10-01	0.31601615
## 86	2018-12-01	0.15	2018-12-01	-1.08	2018-12-01	-0.16	2018-11-01	0.58919697
## 87	2019-01-01	0.32	2019-01-01	0.01	2019-01-01	0.30	2018-12-01	0.41659107
## 88	2019-02-01	0.43	2019-02-01	0.88	2019-02-01	0.34	2019-01-01	0.53779762
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## 90	2019-04-01	0.57	2019-04-01	0.92	2019-04-01	0.72	2019-03-01	1.31556145
## 91	2019-05-01	0.13	2019-05-01	0.45	2019-05-01	0.35	2019-04-01	0.71028792
## 92	2019-06-01	0.01	2019-06-01	0.80	2019-06-01	0.06	2019-05-01	-0.01218789
## 93	2019-07-01	0.19	2019-07-01	0.40	2019-07-01	0.09	2019-06-01	0.47985497
## 94	2019-08-01	0.11	2019-08-01	-0.67	2019-08-01	0.08	2019-07-01	0.63940824
## 95	2019-09-01	-0.04	2019-09-01	-0.01	2019-09-01	0.09	2019-08-01	0.86831138
## 96	2019-10-01	0.10	2019-10-01	0.68	2019-10-01	0.09	2019-09-01	-0.63456596
## 97	2019-11-01	0.51	2019-11-01	0.30	2019-11-01	0.14	2019-10-01	-0.22265399
## 98	2019-12-01	1.15	2019-12-01	2.09	2019-12-01	1.05	2019-11-01	0.55074309
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## 100	2020-02-01	0.25	2020-02-01	-0.04	2020-02-01	0.22	2020-01-01	0.72895760
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## 103	2020-05-01	-0.38	2020-05-01	0.28	2020-05-01	-0.59	2020-04-01	1.56539350
## 104	2020-06-01	0.26	2020-06-01	1.56	2020-06-01	0.02	2020-05-01	2.72275184
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## 107	2020-09-01	0.64	2020-09-01	4.34	2020-09-01	0.45	2020-08-01	2.04700078
## 108	2020-10-01	0.86	2020-10-01	3.23	2020-10-01	0.94	2020-09-01	1.93363132
## 109	2020-11-01	0.89	2020-11-01	3.28	2020-11-01	0.81	2020-10-01	0.75594732
## 110	2020-12-01	1.35	2020-12-01	0.96	2020-12-01	1.06	2020-11-01	0.14615341
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## 114	2021-04-01	0.31	2021-04-01	1.51	2021-04-01	0.60	2021-03-01	-0.54858662
## 115	2021-05-01	0.83	2021-05-01	4.10	2021-05-01	0.44	2021-04-01	-0.07124556
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## 118	2021-08-01	0.87	2021-08-01	0.66	2021-08-01	0.89	2021-07-01	1.03537163
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## 121	2021-11-01	0.95	2021-11-01	0.02	2021-11-01	1.17	2021-10-01	0.65494271
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## 131	2022-09-01	-0.29	2022-09-01	-0.95	2022-09-01	-0.37	2022-08-01	0.62754522
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## 138	2023-04-01	0.61	2023-04-01	-0.95	2023-04-01	0.57	2023-03-01	1.11502991
## 139	2023-05-01	0.23	2023-05-01	-1.84	2023-05-01	0.51	2023-04-01	0.86748171
## 140	2023-06-01	-0.08	2023-06-01	-1.93	2023-06-01	0.04	2023-05-01	1.32663871
## 141	2023-07-01	0.12	2023-07-01	-0.72	2023-07-01	-0.07	2023-06-01	1.01154138
## 142	2023-08-01	0.23	2023-08-01	-0.14	2023-08-01	0.28	2023-07-01	1.32351877
## 143	2023-09-01	0.26	2023-09-01	0.37	2023-09-01	0.35	2023-08-01	1.13871710
## 144	2023-10-01	0.24	2023-10-01	0.50	2023-10-01	0.21	2023-09-01	0.85287260
## 145	2023-11-01	0.28	2023-11-01	0.59	2023-11-01	0.33	2023-10-01	0.88304173
## 146	2023-12-01	0.56	2023-12-01	0.74	2023-12-01	0.40	2023-11-01	0.65668677
## 147	2024-01-01	0.42	2024-01-01	0.07	2024-01-01	0.31	2023-12-01	1.65050400
## 148	2024-02-01	0.83	2024-02-01	-0.52	2024-02-01	0.78	2024-01-01	1.32774898
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## 150	2024-04-01	0.38	2024-04-01	0.31	2024-04-01	0.21	2024-03-01	0.45239355
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## 2	2011-11-01	-0.18216761	2011-12-01	-1.18281440	2011-10-01	-0.19676739		
## 3	2011-12-01	9.34721613	2012-01-01	0.75690899	2011-11-01	-0.10561893		
## 4	2012-01-01	-3.87886904	2012-02-01	-2.42837177	2011-12-01	-1.86085853		
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## 6	2012-03-01	-1.18158140	2012-04-01	-0.26292726	2012-02-01	1.50742463		
## 7	2012-04-01	0.31240341	2012-05-01	1.58172232	2012-03-01	8.12707795		
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## 23	2013-08-01	-1.02958943	2013-09-01	-2.14106750	2013-07-01	5.01138952		
## 24	2013-09-01	2.05176848	2013-10-01	-2.80083792	2013-08-01	-0.21034641		
## 25	2013-10-01	-0.28155618	2013-11-01	3.15293742	2013-09-01	-2.99058033		
## 26	2013-11-01	1.24005756	2013-12-01	2.80120715	2013-10-01	3.14388538		
## 27	2013-12-01	10.14107057	2014-01-01	1.89687618	2013-11-01	-2.70572745		
## 28	2014-01-01	-4.51687630	2014-02-01	3.78222649	2013-12-01	-1.36680425		
## 29	2014-02-01	-3.40545128	2014-03-01	0.12100505	2014-01-01	-2.09233724		
## 30	2014-03-01	-0.16549601	2014-04-01	-2.75131523	2014-02-01	0.56754484		
## 31	2014-04-01	0.61274111	2014-05-01	-1.83492945	2014-03-01	3.83195151		

## 32	2014-05-01	-1.91133588	2014-06-01	-0.54364015	2014-04-01	-0.89914782
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## 34	2014-07-01	0.49129666	2014-08-01	-1.08910891	2014-06-01	-4.25445154
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## 36	2014-09-01	3.14617570	2014-10-01	5.20432057	2014-08-01	-1.05438772
## 37	2014-10-01	0.33813638	2014-11-01	4.08529581	2014-09-01	-0.10116679
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## 47	2015-08-01	-1.84675621	2015-09-01	9.29761905	2015-07-01	3.33982543
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## 49	2015-10-01	1.46314822	2015-11-01	-4.79922175	2015-09-01	-1.96551479
## 50	2015-11-01	-0.08937879	2015-12-01	1.13539597	2015-10-01	1.54892878
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## 68	2017-05-01	-0.38284541	2017-06-01	-0.18745314	2017-04-01	-5.73320186
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## 72	2017-09-01	1.58944154	2017-10-01	3.16110194	2017-08-01	1.24178760
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## 3	1.41913825	2011-12-01	2.280031359	2011-12-01	-0.29	2011-12-01
## 4	0.56767291	2012-01-01	-0.037808131	2012-01-01	0.53	2012-01-01
## 5	0.42343625	2012-02-01	0.386339659	2012-02-01	0.15	2012-02-01
## 6	1.13086318	2012-03-01	1.855524635	2012-03-01	-0.89	2012-03-01
## 7	0.98082740	2012-04-01	1.331128975	2012-04-01	-0.76	2012-04-01
## 8	1.94675003	2012-05-01	1.684052625	2012-05-01	-0.73	2012-05-01
## 9	1.64377332	2012-06-01	1.544026991	2012-06-01	0.01	2012-06-01
## 10	2.32110474	2012-07-01	0.816179226	2012-07-01	-0.27	2012-07-01
## 11	1.23631841	2012-08-01	1.230249789	2012-08-01	0.09	2012-08-01
## 12	1.74285471	2012-09-01	1.108535380	2012-09-01	0.02	2012-09-01
## 13	1.14300414	2012-10-01	1.417347673	2012-10-01	-0.18	2012-10-01

## 14	1.30266949	2012-11-01	1.518042988	2012-11-01	-0.36	2012-11-01
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## 16	0.91137113	2013-01-01	-0.091752106	2013-01-01	-0.02	2013-01-01
## 17	0.94640049	2013-02-01	0.736719544	2013-02-01	0.42	2013-02-01
## 18	1.62658387	2013-03-01	1.823504561	2013-03-01	-0.19	2013-03-01
## 19	0.95091358	2013-04-01	0.909947912	2013-04-01	-0.26	2013-04-01
## 20	1.59976551	2013-05-01	1.557562694	2013-05-01	-0.63	2013-05-01
## 21	2.17003961	2013-06-01	1.780328341	2013-06-01	-0.32	2013-06-01
## 22	2.19602806	2013-07-01	0.535279209	2013-07-01	-0.39	2013-07-01
## 23	1.32275210	2013-08-01	1.286654851	2013-08-01	-0.22	2013-08-01
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## 25	1.31840374	2013-10-01	0.272335097	2013-10-01	0.11	2013-10-01
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## 27	2.57273947	2013-12-01	2.436762172	2013-12-01	-0.08	2013-12-01
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## 30	0.81951854	2014-03-01	0.977270759	2014-03-01	0.42	2014-03-01
## 31	0.31797931	2014-04-01	0.692441818	2014-04-01	0.00	2014-04-01
## 32	0.89311036	2014-05-01	0.962275745	2014-05-01	0.32	2014-05-01
## 33	1.05838116	2014-06-01	0.951067096	2014-06-01	0.38	2014-06-01
## 34	1.19574466	2014-07-01	0.220135338	2014-07-01	0.12	2014-07-01
## 35	0.64691365	2014-08-01	0.947773879	2014-08-01	0.54	2014-08-01
## 36	0.76652353	2014-09-01	1.361106970	2014-09-01	-0.07	2014-09-01
## 37	0.64698211	2014-10-01	0.789796207	2014-10-01	0.15	2014-10-01
## 38	0.94759471	2014-11-01	1.272569771	2014-11-01	-0.04	2014-11-01
## 39	1.37861509	2014-12-01	2.058344740	2014-12-01	0.41	2014-12-01
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## 41	-0.49843241	2015-02-01	0.398283087	2015-02-01	-0.20	2015-02-01
## 42	-1.16039881	2015-03-01	1.223502993	2015-03-01	-0.71	2015-03-01
## 43	-0.32249768	2015-04-01	0.002898439	2015-04-01	0.76	2015-04-01
## 44	0.09755894	2015-05-01	0.705570411	2015-05-01	0.04	2015-05-01
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## 50	0.43251183	2015-11-01	0.625778789	2015-11-01	0.84	2015-11-01
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## 86	0.47280863	2018-11-01	1.113861308	2018-11-01	-0.23	2018-11-01
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## 97	0.31845063	2019-10-01	0.341605218	2019-10-01	0.47	2019-10-01
## 98	0.62061034	2019-11-01	1.266511434	2019-11-01	-0.33	2019-11-01
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## 105	2.43836724	2020-06-01	0.751065502	2020-06-01	2.52	2020-06-01
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## 118	0.91924399	2021-07-01	1.368497271	2021-07-01	-0.67	2021-07-01
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##	126	-0.95495447	2022-03-01	1.410617543	2022-03-01	1.22	2022-03-01
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## 50	8036.77	2015-11-01	1165.1	2015-11-01	18.4061354	2015-11-01
## 51	52161.77	2015-12-01	3944.7	2015-12-01	-233.7369755	2015-12-01
## 52	-99641.57	2016-01-01	-6124.4	2016-01-01	-124.6683512	2016-01-01
## 53	50952.80	2016-02-01	4256.5	2016-02-01	-150.3343292	2016-02-01
## 54	-12396.43	2016-03-01	-207.8	2016-03-01	95.4776710	2016-03-01
## 55	-20825.24	2016-04-01	869.1	2016-04-01	117.6402545	2016-04-01
## 56	28307.04	2016-05-01	1965.3	2016-05-01	108.3244752	2016-05-01
## 57	-8063.92	2016-06-01	-4020.3	2016-06-01	-116.3504162	2016-06-01
## 58	2754.66	2016-07-01	-1228.9	2016-07-01	-378.6034718	2016-07-01
## 59	9450.88	2016-08-01	2930.9	2016-08-01	-26.2531504	2016-08-01
## 60	4375.69	2016-09-01	-337.2	2016-09-01	-61.0499335	2016-09-01
## 61	-66231.55	2016-10-01	-1841.9	2016-10-01	-406.6780405	2016-10-01
## 62	78729.73	2016-11-01	2779.4	2016-11-01	-224.8430422	2016-11-01
## 63	31596.54	2016-12-01	-4117.2	2016-12-01	-86.4918200	2016-12-01
## 64	-107449.40	2017-01-01	-1997.8	2017-01-01	-380.3958530	2017-01-01
## 65	60179.79	2017-02-01	6454.3	2017-02-01	-324.9579832	2017-02-01
## 66	-12420.79	2017-03-01	414.8	2017-03-01	140.6425103	2017-03-01
## 67	-23955.15	2017-04-01	-931.1	2017-04-01	-6.9202111	2017-04-01
## 68	43644.62	2017-05-01	2534.6	2017-05-01	20.2061305	2017-05-01
## 69	-11184.05	2017-06-01	-2038.6	2017-06-01	-32.6562890	2017-06-01
## 70	-3414.53	2017-07-01	-3843.8	2017-07-01	-29.5550062	2017-07-01
## 71	-6608.82	2017-08-01	3098.1	2017-08-01	-44.8441247	2017-08-01
## 72	11730.42	2017-09-01	-367.7	2017-09-01	-21.5800636	2017-09-01
## 73	-26017.03	2017-10-01	-936.9	2017-10-01	2.5963489	2017-10-01
## 74	5666.76	2017-11-01	-1331.4	2017-11-01	-256.5309081	2017-11-01
## 75	31412.28	2017-12-01	329.1	2017-12-01	-78.1239475	2017-12-01
## 76	-79261.60	2018-01-01	-4275.3	2018-01-01	472.7097768	2018-01-01
## 77	64353.68	2018-02-01	1905.5	2018-02-01	-36.6624101	2018-02-01
## 78	7721.74	2018-03-01	2648.1	2018-03-01	-331.4728353	2018-03-01
## 79	-28035.19	2018-04-01	595.6	2018-04-01	-36.7012011	2018-04-01

## 80	11123.96	2018-05-01	871.4	2018-05-01	30.6199305	2018-05-01
## 81	5267.15	2018-06-01	-680.1	2018-06-01	-32.1412730	2018-06-01
## 82	-10090.55	2018-07-01	-6014.7	2018-07-01	-171.0107035	2018-07-01
## 83	13474.90	2018-08-01	3644.2	2018-08-01	153.3195259	2018-08-01
## 84	7745.63	2018-09-01	2456.6	2018-09-01	-148.8008721	2018-09-01
## 85	-32419.28	2018-10-01	-760.3	2018-10-01	-28.4810127	2018-10-01
## 86	23400.03	2018-11-01	-941.9	2018-11-01	-154.7891723	2018-11-01
## 87	25531.04	2018-12-01	-2952.2	2018-12-01	-464.5130641	2018-12-01
## 88	-88030.35	2019-01-01	-2434.7	2019-01-01	-302.9453929	2019-01-01
## 89	61828.17	2019-02-01	6591.4	2019-02-01	-69.1337015	2019-02-01
## 90	3698.45	2019-03-01	-815.7	2019-03-01	-122.7504421	2019-03-01
## 91	-25266.32	2019-04-01	665.1	2019-04-01	118.0612711	2019-04-01
## 92	19645.07	2019-05-01	-503.4	2019-05-01	-26.3577270	2019-05-01
## 93	-301.77	2019-06-01	652.5	2019-06-01	-128.6446469	2019-06-01
## 94	-9943.24	2019-07-01	-8908.4	2019-07-01	3237.8727634	2019-07-01
## 95	10684.67	2019-08-01	5443.9	2019-08-01	-62.7743530	2019-08-01
## 96	7093.04	2019-09-01	2432.1	2019-09-01	-56.9120000	2019-09-01
## 97	-29985.04	2019-10-01	-5543.1	2019-10-01	519.2536205	2019-10-01
## 98	24756.81	2019-11-01	5065.7	2019-11-01	-77.4323149	2019-11-01
## 99	-1799.81	2019-12-01	-1296.9	2019-12-01	-157.1011027	2019-12-01
## 100	-69788.48	2020-01-01	-5348.0	2020-01-01	-1505.6305258	2020-01-01
## 101	77176.83	2020-02-01	5937.8	2020-02-01	-67.3022809	2020-02-01
## 102	2754.32	2020-03-01	1551.8	2020-03-01	-93.0950694	2020-03-01
## 103	70647.23	2020-04-01	5762.9	2020-04-01	-2494.2815249	2020-04-01
## 104	37135.51	2020-05-01	-1798.5	2020-05-01	-65.2336334	2020-05-01
## 105	57243.45	2020-06-01	2471.4	2020-06-01	298.8814515	2020-06-01
## 106	-107610.63	2020-07-01	-3582.4	2020-07-01	-6.2023891	2020-07-01
## 107	6522.77	2020-08-01	1646.1	2020-08-01	-23.1897363	2020-08-01
## 108	-23035.07	2020-09-01	-1268.3	2020-09-01	-26.9453554	2020-09-01
## 109	-67511.09	2020-10-01	-1079.0	2020-10-01	-29.2234761	2020-10-01
## 110	21092.32	2020-11-01	-1447.2	2020-11-01	-132.2980262	2020-11-01
## 111	33697.40	2020-12-01	-5974.4	2020-12-01	652.6885667	2020-12-01
## 112	-110211.83	2021-01-01	228.8	2021-01-01	3.9449944	2021-01-01
## 113	70144.40	2021-02-01	4249.8	2021-02-01	-46.1343592	2021-02-01
## 114	-16750.95	2021-03-01	-4139.7	2021-03-01	-4.7944609	2021-03-01
## 115	-19274.26	2021-04-01	11958.1	2021-04-01	-416.3746970	2021-04-01
## 116	39796.85	2021-05-01	-1406.6	2021-05-01	-26.2675476	2021-05-01
## 117	49966.67	2021-06-01	-326.9	2021-06-01	1.0745098	2021-06-01
## 118	-55224.95	2021-07-01	-5345.4	2021-07-01	-21.2403973	2021-07-01
## 119	-27011.74	2021-08-01	1457.6	2021-08-01	-20.5078943	2021-08-01
## 120	3795.13	2021-09-01	-1411.9	2021-09-01	-93.1087906	2021-09-01
## 121	-22465.89	2021-10-01	-2381.6	2021-10-01	-599.2805755	2021-10-01
## 122	20365.28	2021-11-01	-2496.4	2021-11-01	358.7896254	2021-11-01
## 123	14910.89	2021-12-01	767.5	2021-12-01	-93.6381124	2021-12-01
## 124	-101709.93	2022-01-01	380.2	2022-01-01	1118.9447701	2022-01-01
## 125	98362.22	2022-02-01	5479.2	2022-02-01	-116.7392295	2022-02-01
## 126	-841.35	2022-03-01	-425.4	2022-03-01	310.4491154	2022-03-01
## 127	-34564.20	2022-04-01	3382.6	2022-04-01	31.7061489	2022-04-01
## 128	71869.03	2022-05-01	-5344.8	2022-05-01	-103.2868052	2022-05-01
## 129	-47387.20	2022-06-01	4532.1	2022-06-01	-2755.0638298	2022-06-01
## 130	-6045.86	2022-07-01	-5928.9	2022-07-01	-70.1958522	2022-07-01
## 131	50719.65	2022-08-01	-1493.0	2022-08-01	-228.6190579	2022-08-01
## 132	-41024.97	2022-09-01	41.6	2022-09-01	-13.9058450	2022-09-01
## 133	-16348.82	2022-10-01	1909.9	2022-10-01	51.2043512	2022-10-01

## 134	47183.81	2022-11-01	4116.3	2022-11-01	-230.9031346	2022-11-01
## 135	-8275.80	2022-12-01	-6438.1	2022-12-01	-131.9937190	2022-12-01
## 136	-110826.09	2023-01-01	-1433.7	2023-01-01	131.8865031	2023-01-01
## 137	125465.73	2023-02-01	4608.6	2023-02-01	-106.5083670	2023-02-01
## 138	-12270.55	2023-03-01	5052.2	2023-03-01	6197.0528455	2023-03-01
## 139	-34506.97	2023-04-01	-944.8	2023-04-01	-31.6688992	2023-04-01
## 140	70496.76	2023-05-01	1340.4	2023-05-01	44.5347189	2023-05-01
## 141	-1273.68	2023-06-01	-1935.3	2023-06-01	-24.4051899	2023-06-01
## 142	-13089.23	2023-07-01	-4381.2	2023-07-01	-23.6116815	2023-07-01
## 143	-12979.28	2023-08-01	3229.0	2023-08-01	36.5414002	2023-08-01
## 144	-4759.03	2023-09-01	1818.3	2023-09-01	-13.1416965	2023-09-01
## 145	-32869.52	2023-10-01	-373.0	2023-10-01	-3.3929850	2023-10-01
## 146	52068.20	2023-11-01	-1906.9	2023-11-01	-22.5622407	2023-11-01
## 147	92303.07	2023-12-01	-5357.5	2023-12-01	11.3099225	2023-12-01
## 148	-231719.15	2024-01-01	2415.2	2024-01-01	-78.1770251	2024-01-01
## 149	150838.12	2024-02-01	808.4	2024-02-01	-158.1932773	2024-02-01
## 150	-49868.77	2024-03-01	-248.1	2024-03-01	-352.7527076	2024-03-01
##	imports					
## 2	7.3425958					
## 3	-13.4834566					
## 4	-4.7859610					
## 5	-6.4635734					
## 6	15.7112372					
## 7	-0.9447098					
## 8	8.3049993					
## 9	-8.3993692					
## 10	-2.2135250					
## 11	5.5010607					
## 12	-8.8057714					
## 13	15.8289858					
## 14	2.1720678					
## 15	-15.2500456					
## 16	14.0765504					
## 17	-15.8025709					
## 18	13.6496906					
## 19	12.9311553					
## 20	-2.6167133					
## 21	-10.5333459					
## 22	20.4871461					
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## 24	-6.5019225					
## 25	21.8487395					
## 26	-16.8193000					
## 27	-5.2807438					
## 28	8.7445223					
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## 30	-2.8225474					
## 31	9.4791879					
## 32	4.5814468					
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## 34	18.5934384					
## 35	-10.0461072					
## 36	6.2278192					
## 37	-4.7531100					

38 -7.3461183
39 -4.5959568
40 -5.3560046
41 -8.3306030
42 10.8396654
43 -11.7298953
44 -3.7688238
45 7.3716845
46 3.6449228
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48 3.0075419
49 6.2862351
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52 -5.8213153
53 4.8306380
54 12.0651376
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56 5.7466443
57 14.5180484
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59 9.3230032
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61 -4.8913799
62 0.7261027
63 0.5005082
64 5.8325614
65 -10.6263551
66 22.9925335
67 -15.4843046
68 13.2136467
69 3.3372017
70 -0.9767342
71 11.5633417
72 -3.7665942
73 2.5616257
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76 13.4655995
77 0.4880557
78 -3.3959112
79 1.8890312
80 -5.3041218
81 7.8550437
82 28.2351729
83 1.7189847
84 -24.3341745
85 14.1647848
86 4.3493920
87 -22.8615727
88 27.8948864
89 -21.9557298
90 3.6872327
91 5.1317243

92 9.6691232
93 -11.7705878
94 33.8392833
95 -7.1779957
96 -1.4645113
97 4.9636283
98 -16.1860060
99 -10.6566106
100 27.4178621
101 -18.0183898
102 9.4935095
103 -21.6545087
104 12.8907320
105 -18.7635154
106 10.9199031
107 -3.0629120
108 10.4653839
109 1.4409470
110 12.1505452
111 29.6819654
112 -13.7383209
113 -4.8591200
114 48.7657434
115 -30.5175384
116 9.2224958
117 14.6091032
118 -10.6571057
119 11.5762788
120 1.3779654
121 -2.5451642
122 7.3847343
123 -4.9941258
124 -2.7004212
125 -5.4470931
126 17.1943973
127 -5.1112005
128 18.6072754
129 -3.0290268
130 1.0222126
131 9.8595820
132 -1.5185557
133 -9.3515276
134 -7.2065443
135 1.8601473
136 -8.2587955
137 -14.1375979
138 25.2571981
139 -13.1284940
140 13.9897675
141 -8.1040416
142 1.6465043
143 8.1508941
144 -9.9346778
145 3.7386399

```
## 146 -3.5293642
## 147  1.3442374
## 148  5.6344756
## 149 -10.6683073
## 150 13.6886626
```

5)

```
preditores_adicionais <- read_csv2("preditores_adicionais.csv")
```

```
## i Using "','" as decimal and "'..'" as grouping mark. Use 'read_delim()' for more control.
```

```
## Rows: 149 Columns: 3
## -- Column specification -----
## Delimiter: ";"
## chr (1): date
## dbl (2): expec, ibovespa
##
## i Use 'spec()' to retrieve the full column specification for this data.
## i Specify the column types or set 'show_col_types = FALSE' to quiet this message.
```

```
print(preditores_adicionais)
```

```
## # A tibble: 149 x 3
##   date      expec ibovespa
##   <chr>    <dbl>    <dbl>
## 1 01/01/2012  0.59     11.1
## 2 01/02/2012  0.55      4.34
## 3 01/03/2012  0.45     -1.98
## 4 01/04/2012  0.51     -4.17
## 5 01/05/2012  0.48    -11.9
## 6 01/06/2012  0.23     -0.25
## 7 01/07/2012  0.2       3.21
## 8 01/08/2012  0.33      1.72
## 9 01/09/2012  0.44       3.7
## 10 01/10/2012 0.51     -3.56
## # i 139 more rows
```

```
X = cbind(preditores_adicionais, X)
```

```
X = X %>%
  select(-date)
print(X)
```

```
##   expec ibovespa ipca igpm ipca15   bm_broad      m1      icbr
## 2  0.590   11.13  0.50 -0.12  0.56  0.19196047 -0.18216761 -1.18281440
## 3  0.550    4.34  0.56  0.25  0.65  0.82774563  9.34721613  0.75690899
## 4  0.450   -1.98  0.45 -0.06  0.53  1.46996853 -3.87886904 -2.42837177
## 5  0.510   -4.17  0.21  0.43  0.25  0.12063843 -2.89641693  2.14861235
## 6  0.480  -11.86  0.64  0.85  0.43  1.19837492 -1.18158140 -0.26292726
## 7  0.230   -0.25  0.36  1.02  0.51  0.85801558  0.31240341  1.58172232
```

## 8	0.200	3.21	0.08	0.66	0.18	0.37675927	0.27921314	-0.31141869
## 9	0.330	1.72	0.43	1.34	0.33	1.02782992	1.67179007	7.42797640
## 10	0.440	3.70	0.41	1.43	0.39	0.60619146	2.15639408	0.74313409
## 11	0.510	-3.56	0.57	0.97	0.48	0.37923260	-0.91303702	1.77998717
## 12	0.500	0.71	0.59	0.02	0.65	1.28519844	3.28540082	-1.04773909
## 13	0.540	6.05	0.60	-0.03	0.54	1.24713023	0.42944075	1.05883290
## 14	0.780	-1.95	0.79	0.68	0.69	0.54858463	0.83435871	1.42587049
## 15	0.410	-3.91	0.86	0.34	0.88	-0.60340224	12.06026614	-2.05048544
## 16	0.450	-1.87	0.60	0.29	0.68	1.08474727	-3.91509836	-3.25905955
## 17	0.420	-0.78	0.47	0.21	0.49	0.18270082	-3.22903292	-1.54918033
## 18	0.330	-4.30	0.55	0.15	0.51	0.76281025	0.10218389	-1.74839730
## 19	0.320	-11.31	0.37	0.00	0.46	0.71046044	0.06764038	0.15252945
## 20	0.200	1.64	0.26	0.75	0.38	0.23192304	0.13640080	4.94119638
## 21	0.290	3.68	0.03	0.26	0.07	0.71865314	2.09983940	2.08820447
## 22	0.450	4.65	0.24	0.15	0.16	0.72594713	1.53434479	4.01990207
## 23	0.570	3.66	0.35	1.50	0.27	0.50373721	-1.02958943	-2.14106750
## 24	0.670	-3.27	0.57	0.86	0.48	0.63753624	2.05176848	-2.80083792
## 25	0.710	-1.86	0.54	0.29	0.57	0.48239420	-0.28155618	3.15293742
## 26	0.740	-7.51	0.92	0.60	0.75	-0.09243554	1.24005756	2.80120715
## 27	0.650	-1.14	0.55	0.48	0.67	0.07352534	10.14107057	1.89687618
## 28	0.560	7.05	0.69	0.38	0.70	1.97055206	-4.51687630	3.78222649
## 29	0.690	2.40	0.92	1.67	0.73	-0.13819716	-3.40545128	0.12100505
## 30	0.470	-0.75	0.67	0.78	0.78	0.82795816	-0.16549601	-2.75131523
## 31	0.340	3.76	0.46	-0.13	0.58	0.60673267	0.61274111	-1.83492945
## 32	0.240	5.00	0.40	-0.74	0.47	0.75218729	-1.91133588	-0.54364015
## 33	0.250	9.78	0.01	-0.61	0.17	1.88342320	0.47348563	-1.68476226
## 34	0.400	-11.70	0.25	-0.27	0.14	1.48754566	0.49129666	-1.08910891
## 35	0.500	0.95	0.57	0.20	0.39	0.22339327	-0.75018729	1.94040194
## 36	0.590	0.18	0.42	0.28	0.48	1.96853406	3.14617570	5.20432057
## 37	0.750	-8.62	0.51	0.98	0.38	0.77631142	0.33813638	4.08529581
## 38	1.050	-6.20	0.78	0.62	0.79	1.06696373	0.67605796	-0.29661309
## 39	1.020	9.97	1.24	0.76	0.89	1.02052197	9.32630700	-4.77376505
## 40	1.140	-0.84	1.22	0.27	1.33	1.15943946	-5.06850538	4.59168846
## 41	0.650	9.93	1.32	0.98	1.24	1.47563490	-2.82325969	8.14809669
## 42	0.500	-6.17	0.71	1.17	1.07	2.02809125	-1.58293769	-2.39578650
## 43	0.550	0.61	0.74	0.41	0.60	-0.12196174	-1.48721450	1.14503817
## 44	0.450	-4.17	0.79	0.67	0.99	1.78740323	-1.54297209	0.89134678
## 45	0.300	-8.33	0.62	0.69	0.59	1.11827763	-0.62628881	3.39201651
## 46	0.410	-3.36	0.22	0.28	0.43	2.13109101	0.42629841	4.78388324
## 47	0.650	1.80	0.54	0.95	0.39	1.47729312	-1.84675621	9.29761905
## 48	0.620	-1.63	0.82	1.89	0.66	1.23806234	-0.49742826	0.76789021
## 49	0.900	-3.93	1.01	1.52	0.85	0.90687576	1.46314822	-4.79922175
## 50	0.860	-6.79	0.96	0.49	1.18	0.86847498	-0.08937879	1.13539597
## 51	0.910	5.91	1.27	1.14	0.92	2.18426389	9.53582379	2.94134157
## 52	0.540	16.97	0.90	1.29	1.42	1.39592161	-4.08529364	-1.55406511
## 53	0.600	7.70	0.43	0.51	0.43	0.85337320	-2.40626788	-5.61094494
## 54	0.520	-10.09	0.61	0.33	0.51	-0.17309551	-1.55929699	-3.33900593
## 55	0.330	6.30	0.78	0.82	0.86	0.84141354	-0.11843184	0.92884896
## 56	0.400	11.22	0.35	1.69	0.40	1.56075161	-0.10737951	0.43909774
## 57	0.320	1.03	0.52	0.18	0.54	0.85162277	-1.14788420	-4.91675650
## 58	0.350	0.80	0.44	0.15	0.45	2.27423367	1.47061738	-1.99030043
## 59	0.390	11.23	0.08	0.20	0.23	1.22769960	-0.64539381	1.74795964
## 60	0.390	-4.65	0.26	0.16	0.19	1.54177609	2.19652210	-0.16421398
## 61	0.520	-2.71	0.18	-0.03	0.26	0.07789160	0.84142417	5.49756437

## 62	0.580	7.38	0.30	0.54	0.19	1.53695415	-0.12071934	2.12880787
## 63	0.500	3.08	0.38	0.64	0.31	-0.19782394	9.39723505	-2.98279608
## 64	0.270	-2.52	0.33	0.08	0.54	1.05273965	-4.64658129	-3.40737154
## 65	0.310	0.64	0.25	0.01	0.15	1.20586526	-2.58996052	-2.21177945
## 66	0.500	-4.12	0.14	-1.10	0.21	1.03263251	-0.97611716	0.05125905
## 67	0.000	0.30	0.31	-0.93	0.24	0.84552756	1.02918402	2.49119436
## 68	0.190	4.80	-0.23	-0.67	0.16	1.22319232	-0.38284541	-0.18745314
## 69	0.470	7.46	0.24	-0.72	-0.18	1.31228568	0.81235775	-1.35845749
## 70	0.260	4.88	0.19	0.10	0.35	1.27465143	1.41032653	-2.11969283
## 71	0.380	0.02	0.16	0.47	0.11	1.01432364	-1.41202713	2.14614537
## 72	0.410	-3.15	0.42	0.20	0.34	0.56582783	1.58944154	3.16110194
## 73	0.370	6.16	0.28	0.52	0.32	0.45162549	-0.09141441	5.31011568
## 74	0.370	11.14	0.44	0.89	0.35	0.45772224	0.94023678	-0.87642419
## 75	0.420	0.52	0.29	0.76	0.39	0.37152025	10.79017408	0.91364574
## 76	0.220	0.01	0.32	0.07	0.38	0.68240513	-4.67303828	0.33878505
## 77	0.330	0.88	0.09	0.64	0.10	0.62266938	-1.98677574	-1.56595646
## 78	0.330	-10.87	0.22	0.57	0.21	0.55411112	0.20788541	3.98604294
## 79	0.530	-5.20	0.40	1.38	0.14	0.76113097	0.62671631	9.15088438
## 80	0.350	8.88	1.26	1.87	1.11	0.88951407	-0.05857130	3.13151313
## 81	0.050	-3.21	0.33	0.51	0.64	0.42032018	0.84195186	-0.44965392
## 82	0.240	3.48	-0.09	0.70	0.13	0.96489399	1.53192225	0.83231831
## 83	0.410	10.19	0.48	1.52	0.09	-0.06170365	0.14670141	5.99456412
## 84	0.150	2.38	0.45	0.89	0.58	0.78859072	2.50604526	-6.10665274
## 85	0.120	-1.81	-0.21	-0.49	0.19	0.31601615	-1.14352408	-2.43261012
## 86	0.370	10.82	0.15	-1.08	-0.16	0.58919697	0.08680447	0.41986316
## 87	0.350	-1.86	0.32	0.01	0.30	0.41659107	9.18591450	-3.52036339
## 88	0.380	-0.18	0.43	0.88	0.34	0.53779762	-4.99752137	0.25145792
## 89	0.450	0.98	0.75	1.26	0.54	0.50195679	-2.45193646	2.56697620
## 90	0.300	0.70	0.57	0.92	0.72	1.31556145	0.39623950	1.52973620
## 91	0.110	4.06	0.13	0.45	0.35	0.71028792	0.56059018	-1.97816840
## 92	0.200	0.84	0.01	0.80	0.06	-0.01218789	-1.56957553	-4.91974695
## 93	0.180	-0.67	0.19	0.40	0.09	0.47985497	0.66959161	-0.75332673
## 94	0.150	3.57	0.11	-0.67	0.08	0.63940824	0.80620751	0.27702366
## 95	0.150	2.36	-0.04	-0.01	0.09	0.86831138	-0.58280691	5.22680811
## 96	0.360	0.95	0.10	0.68	0.09	-0.63456596	2.33050705	2.20530323
## 97	0.700	6.85	0.51	0.30	0.14	-0.22265399	0.66682486	4.94220396
## 98	0.380	-1.63	1.15	2.09	1.05	0.55074309	1.51632722	0.62172615
## 99	0.210	-8.43	0.21	0.48	0.71	-1.07032062	10.63354630	0.98277708
## 100	0.140	-29.90	0.25	-0.04	0.22	0.72895760	-5.75980483	-0.45288109
## 101	0.060	10.25	0.07	1.24	0.02	0.45137694	0.11711548	-4.30742426
## 102	-0.350	8.57	-0.31	0.80	-0.01	-0.24642640	1.82817197	1.56281610
## 103	0.170	8.76	-0.38	0.28	-0.59	1.56539350	7.77970895	12.30516409
## 104	0.390	8.27	0.26	1.56	0.02	2.72275184	7.86898620	-4.85544519
## 105	0.080	-3.44	0.36	2.23	0.30	3.69230419	6.26515134	7.08393531
## 106	0.270	-4.80	0.24	2.74	0.23	1.86086177	3.60838674	9.38764852
## 107	0.450	-0.69	0.64	4.34	0.45	2.04700078	2.44804084	0.53712103
## 108	0.400	15.90	0.86	3.23	0.94	1.93363132	3.60471084	5.54038545
## 109	1.190	9.30	0.89	3.28	0.81	0.75594732	2.42301898	0.11623983
## 110	0.230	-3.32	1.35	0.96	1.06	0.14615341	0.79888939	-1.35580524
## 111	0.560	-4.37	0.25	2.58	0.78	1.01260155	6.11091527	10.55509150
## 112	0.850	6.00	0.86	2.53	0.48	0.78783149	-4.44266853	7.03001580
## 113	0.450	1.94	0.93	2.94	0.93	0.39491893	-1.88702771	5.31686186
## 114	0.455	6.16	0.31	1.51	0.60	-0.54858662	-0.36117133	1.21260130
## 115	0.550	0.46	0.83	4.10	0.44	-0.07124556	0.63188436	1.10475617

## 116	0.580	-3.94	0.53	0.60	0.83	0.42538994	-0.07272637	-3.55196951
## 117	0.450	-2.48	0.96	0.78	0.72	1.03568227	2.17129722	5.17071063
## 118	0.770	-6.57	0.87	0.66	0.89	1.03537163	5.55736831	3.39898441
## 119	0.560	-6.74	1.16	-0.64	1.14	0.44358930	-0.62514374	2.32775996
## 120	0.750	-1.53	1.25	0.64	1.20	0.90287551	-1.57579714	11.28526646
## 121	0.720	2.85	0.95	0.02	1.17	0.65494271	-1.58696176	-0.33403964
## 122	0.450	6.98	0.73	0.87	0.78	0.13906080	-0.78251988	-0.71283860
## 123	0.850	0.89	0.54	1.82	0.58	-0.06858192	3.62262287	2.99274486
## 124	0.900	6.06	1.01	1.83	0.99	0.64037333	-4.00296456	-0.78514822
## 125	0.900	-10.10	1.62	1.74	0.95	0.31019759	-0.94476518	4.37837438
## 126	0.310	3.22	1.06	1.41	1.73	0.37734934	0.34866423	-1.12425896
## 127	0.600	-11.50	0.47	0.52	0.59	1.15026429	1.15879113	3.22002723
## 128	-0.280	4.69	0.67	0.59	0.69	0.66661561	-0.41943515	-0.94651825
## 129	-0.194	0.19	-0.68	0.21	0.13	1.05905870	0.77133802	-2.42979300
## 130	0.170	0.47	-0.36	-0.70	-0.73	0.68123036	-0.58921178	-0.71596188
## 131	0.340	5.45	-0.29	-0.95	-0.37	0.62754522	-0.19777058	-1.37954321
## 132	0.400	-3.06	0.59	-0.97	0.16	0.40374834	-0.60099174	-3.51911178
## 133	0.640	-2.45	0.41	-0.56	0.53	0.51381180	-0.82373659	1.25975869
## 134	0.530	3.37	0.62	0.45	0.52	-0.04354646	-0.02911452	-2.18528624
## 135	0.800	-7.49	0.53	0.21	0.55	-0.55844107	5.62750093	-2.58214761
## 136	0.650	-2.91	0.84	-0.06	0.76	0.83802085	-3.56546502	-1.56303360
## 137	0.590	2.50	0.71	0.05	0.69	0.81508953	-1.19693925	-2.84479078
## 138	0.440	3.74	0.61	-0.95	0.57	1.11502991	-0.52824210	-0.44498160
## 139	0.300	9.00	0.23	-1.84	0.51	0.86748171	0.04564279	-4.68215429
## 140	0.260	3.26	-0.08	-1.93	0.04	1.32663871	-2.09171932	-0.77286016
## 141	0.300	-5.09	0.12	-0.72	-0.07	1.01154138	0.75492063	1.83780630
## 142	0.410	0.71	0.23	-0.14	0.28	1.32351877	6.18178159	2.85877972
## 143	0.380	-2.94	0.26	0.37	0.35	1.13871710	-0.49983753	3.72897404
## 144	0.300	12.54	0.24	0.50	0.21	0.85287260	-1.05837111	0.98531425
## 145	0.460	5.38	0.28	0.59	0.33	0.88304173	-0.22575951	-5.09118945
## 146	0.400	-4.79	0.56	0.74	0.40	0.65668677	0.39688771	-3.98330485
## 147	0.480	0.99	0.42	0.07	0.31	1.65050400	6.89789159	0.78770021
## 148	0.350	-0.71	0.83	-0.52	0.78	1.32774898	-4.33303935	4.26086201
## 149	0.350	-1.70	0.16	-0.47	0.36	1.01823747	-0.49963319	2.55143119
## 150	0.390	-3.04	0.38	0.31	0.21	0.45239355	1.30755313	5.85846554
##		ibcbr	pimprf	tcu		elec	confidence	brl_usd selic
## 2	-0.19676739	-1.9386107	-1.1	-1.02329632		1.808702369	3.58523920	0.91
## 3	-0.10561893	-8.1548600	-2.4	1.02837659		0.101156983	-7.28494480	0.89
## 4	-1.86085853	-7.2645740	1.3	-1.18937456		7.484368092	-1.71987345	0.75
## 5	-4.23041011	1.2572534	-1.0	1.64164716		-3.384651545	6.60774903	0.82
## 6	1.50742463	10.9837631	-0.1	4.66654020		0.346673154	3.82651661	0.71
## 7	8.12707795	-6.9707401	1.0	-1.62338503		-1.175828838	6.90038071	0.74
## 8	-4.44140758	10.4532840	-0.2	-3.12138120		-0.429316161	-0.04946332	0.64
## 9	3.36789417	-4.1038526	0.2	-0.76609617		-1.102556206	1.42029990	0.68
## 10	-1.57719978	6.3755459	1.2	-1.67268944		-2.653213752	-0.62457305	0.69
## 11	3.64070846	6.7323481	0.0	3.51644068		1.273192578	-0.32406953	0.54
## 12	1.66146752	-7.3076923	1.0	1.29639591		1.952113210	0.03940887	0.61
## 13	-5.54332600	8.1327801	0.0	0.35579629		-1.047217747	3.74236754	0.55
## 14	4.31497175	-6.2164236	0.1	2.24362366		1.327572171	-3.03303588	0.55
## 15	-2.41012795	-12.0294599	-3.6	-2.27460925		-0.778691057	-2.70204122	0.60
## 16	-3.21193202	2.4186047	1.3	1.59406858		3.301152289	-0.64396036	0.49
## 17	-0.14334862	-6.8119891	-0.6	-0.94091276		-3.551401869	1.93933870	0.55
## 18	-2.28251507	11.0136452	-0.2	1.14718729		-2.713178295	-0.60103318	0.61
## 19	8.71896577	4.2142230	0.9	0.55148015		-6.201002442	6.51141872	0.60

## 20	1.20262144	3.0328559	0.4	-0.79939980	-0.637117216	3.92230459	0.61
## 21	-1.84257961	-3.1071137	0.0	-1.86986569	-5.729453944	3.37246050	0.72
## 22	-1.46908794	6.2447257	0.7	0.18603168	-2.698749360	3.58998996	0.71
## 23	5.01138952	3.7331215	0.1	2.42718447	2.781118461	-6.00784181	0.71
## 24	-0.21034641	-4.2879020	1.1	-0.22790252	1.828287260	-1.22903023	0.81
## 25	-2.99058033	4.9600000	0.9	2.24269955	-0.883366849	5.55404178	0.72
## 26	3.14388538	-5.7164634	-1.1	1.34809211	-1.043402652	0.76151960	0.79
## 27	-2.70572745	-15.1172191	-3.0	-0.91182365	-3.536647873	3.57386849	0.85
## 28	-1.36680425	2.7619048	1.0	1.83031651	3.529679672	-3.83394484	0.79
## 29	-2.09233724	-0.3707136	-0.5	3.40863952	-7.779162695	-3.01367514	0.77
## 30	0.56754484	5.4883721	-0.7	-3.32268984	-4.396565432	-1.19342291	0.82
## 31	3.83195151	-1.3227513	0.5	-1.68119397	-8.956340956	0.13420417	0.87
## 32	-0.89914782	5.8981233	-0.2	-1.24267529	-1.927292656	-1.63062902	0.82
## 33	-0.37240165	-6.6666667	-1.0	-3.51406650	2.030362299	2.94745447	0.95
## 34	-4.25445154	10.0361664	0.7	0.37374755	0.903696942	-1.22639845	0.87
## 35	6.36712095	1.8077239	0.6	1.80632213	7.580966166	9.44171505	0.91
## 36	-1.05438772	-0.6456820	0.1	0.89232445	-2.606794484	-0.27750571	0.95
## 37	-0.10116679	3.4118603	1.1	3.09808459	0.146779485	4.74300213	0.84
## 38	1.06670267	-8.6410055	-2.2	2.12219451	-2.620915596	3.75463958	0.96
## 39	-3.19305277	-12.1238177	-2.8	-2.71788235	-0.230190350	0.22970327	0.94
## 40	0.38642009	0.4892368	1.0	2.30935288	0.177478037	8.11511440	0.82
## 41	-4.57107506	-4.9659202	-1.3	-0.09568674	-5.341482859	11.45706641	1.04
## 42	-1.58467190	12.6024590	-0.9	-2.35762175	-4.959760434	-6.68454200	0.95
## 43	9.47815268	-5.8234759	-0.4	-0.40745492	-9.639621898	6.18443034	0.99
## 44	-4.71988234	4.7342995	-0.7	-3.52299417	-1.296720061	-2.39765898	1.07
## 45	-1.82430536	-0.5535055	-0.8	-2.45536883	-6.657098697	9.39746607	1.18
## 46	-0.92195540	3.1539889	0.8	-1.20223272	0.130100532	7.44680851	1.11
## 47	3.33982543	2.2482014	0.4	2.83300739	1.027639972	8.94380297	1.11
## 48	-1.62641351	-3.3421284	0.8	-0.04490346	3.788144511	-2.86994613	1.11
## 49	-1.96551479	3.0937216	0.3	3.79208287	-3.627351583	-0.21512622	1.06
## 50	1.54892878	-9.9735216	-0.4	-0.13239300	1.893629456	1.41042624	1.16
## 51	-3.03635068	-11.7647059	-4.0	-1.41491396	2.145233452	3.53465499	1.06
## 52	0.21317260	-1.2222222	1.1	-0.69562969	6.951931716	-1.56350502	1.00
## 53	-5.94880070	-0.5624297	-0.9	0.84893623	-6.216528405	-10.57300829	1.16
## 54	1.98876930	10.2941176	0.6	1.85400367	-1.825103572	-3.03796757	1.06
## 55	7.24172211	-0.8205128	-0.1	2.08898466	3.615419708	4.18236624	1.11
## 56	-3.03051911	3.9296794	0.3	-4.02294569	7.925151348	-10.71915426	1.16
## 57	-1.80895654	1.5920398	0.1	-2.84354058	-0.387557369	0.90988408	1.11
## 58	1.28061110	2.2526934	0.4	-0.78561917	2.436776902	0.04014328	1.22
## 59	1.05737947	3.8314176	1.5	1.17836532	6.896551724	0.18211563	1.11
## 60	1.07558352	-2.4907749	-0.2	1.72706532	-0.906965872	-2.00579246	1.05
## 61	-3.10554510	-0.5676443	1.0	-0.38336159	4.076240800	6.77880836	1.04
## 62	-0.85917071	-4.0913416	-2.2	1.45557359	0.389845875	-4.05170637	1.12
## 63	-0.27128862	-10.7142857	-0.8	0.06967023	-7.658267859	-4.05401258	1.09
## 64	0.70273538	0.8888889	0.5	1.51620639	11.295843521	-0.88600307	0.87
## 65	-3.52667517	-2.6431718	-0.4	-1.35385710	-3.884007030	2.22996741	1.05
## 66	0.70000778	12.6696833	0.1	4.40313112	-0.338270251	0.94702948	0.79
## 67	9.66247007	-7.2289157	0.6	-2.75242934	-5.063755619	1.41659891	0.93
## 68	-5.73320186	13.6363636	-0.4	-3.23357849	-3.314329887	1.98883784	0.81
## 69	1.68858338	-1.8095238	0.4	-0.10745643	4.717169698	-5.36642883	0.80
## 70	-0.81557678	4.0737148	0.2	-1.92580154	-3.149456003	0.52394492	0.80
## 71	2.60760056	4.9394222	0.7	1.30016051	-1.783602680	0.66423010	0.64
## 72	1.24178760	-3.8188277	1.1	3.01853906	3.150396308	3.43815116	0.64
## 73	-3.78663624	2.4007387	0.6	0.83826809	1.118568233	-0.46699020	0.57

## 74	0.92647495	-4.7790803	-0.7	1.24822046	5.290496345	1.42287642	0.54
## 75	-0.71968862	-10.6060606	-2.6	-0.55489994	6.851818016	-4.40224950	0.58
## 76	0.51039278	1.5889831	1.9	1.13366662	3.086525308	2.60927320	0.47
## 77	-2.69355314	-6.1522419	-0.1	-2.21195856	-4.088911006	2.43195759	0.53
## 78	-1.64876721	11.6666667	0.4	4.94779034	-4.929090280	4.73338950	0.52
## 79	8.95109197	0.2985075	0.4	-1.00226239	3.238129889	7.35239190	0.52
## 80	-1.75748165	-2.3809524	-0.3	-3.51885981	-8.370044053	3.17953110	0.52
## 81	-4.88540843	7.8252033	-0.5	-2.69974276	-0.500000000	-2.61724424	0.54
## 82	3.53501020	5.1837889	0.9	0.79836662	0.869733282	10.13238154	0.57
## 83	3.00576348	2.5985663	1.7	1.40490288	2.308871431	-3.17798147	0.47
## 84	1.66442383	-7.6855895	0.2	-0.02560885	1.048787340	-7.14910199	0.54
## 85	-5.32255817	5.5818354	-0.6	3.47088809	6.106940969	3.91703209	0.49
## 86	3.00956586	-6.5412186	-1.6	0.03465861	11.615720524	0.29771921	0.49
## 87	-1.56439746	-12.9434324	-3.0	-1.31904573	0.657276995	-5.75344587	0.54
## 88	-0.98693759	3.5242291	1.4	4.44388715	8.356654229	2.37175800	0.49
## 89	-2.04485488	-1.9148936	-0.5	-1.15974740	-9.943324485	4.23232296	0.47
## 90	0.26187804	2.3861171	-0.1	-0.03886891	-3.043097268	1.24740125	0.52
## 91	3.82835821	2.8601695	1.3	-3.46310878	-3.861638321	-0.11661216	0.54
## 92	0.48156400	9.1658084	-0.3	1.90821438	-8.230065806	-2.75373721	0.47
## 93	-0.18597997	-5.6603774	0.4	-5.03940120	3.296703297	-1.75644639	0.57
## 94	-3.08155368	8.9000000	1.0	-0.24713197	3.299675442	9.92482002	0.50
## 95	5.93759243	2.9384757	0.6	0.77191884	-2.085878862	0.62592136	0.46
## 96	-0.84455922	-4.6387154	1.0	1.60447182	-0.329797665	-3.84984870	0.48
## 97	-2.56229762	5.7998129	-0.2	4.59986756	6.099087820	5.49269389	0.38
## 98	3.35211675	-9.3722370	-1.3	1.76292978	2.208361430	-4.57688119	0.37
## 99	-2.83098001	-12.4878049	-2.0	-2.36887443	0.008246743	5.92541128	0.38
## 100	-1.05028415	4.0133779	1.6	1.29160335	8.674857755	5.36906463	0.29
## 101	-2.56633951	-1.5005359	-1.4	-0.88315711	-5.470824797	15.56212623	0.34
## 102	0.33577078	-1.1969532	-17.7	0.42720437	-10.122009953	4.39198938	0.28
## 103	1.22703949	-22.6872247	3.4	-9.41928584	-13.530409931	-0.01289990	0.24
## 104	-12.98853952	18.0911681	6.2	-3.05925290	3.728568478	0.91601084	0.21
## 105	0.95406957	10.1326900	5.7	-0.98272617	2.399681370	-4.98045805	0.19
## 106	5.31905996	16.1007667	3.7	5.87100562	-0.213924543	5.15117151	0.16
## 107	7.95680140	3.2075472	3.8	3.62565687	5.593451569	3.09649588	0.16
## 108	-0.15446855	1.5539305	2.4	2.82860201	-0.692137320	2.32442687	0.16
## 109	1.04611758	2.0702070	0.1	6.37390960	3.754297928	-7.62579706	0.15
## 110	1.96850394	-7.3192240	-1.6	-3.47824061	0.053739364	-2.53231040	0.16
## 111	-1.18690119	-7.6117983	-2.1	1.76196568	3.920866529	5.37326071	0.15
## 112	0.82489146	-1.6477858	0.4	2.21057375	0.120596089	0.99172648	0.13
## 113	-5.84182575	-3.4554974	-1.3	-3.68041213	-2.865009034	3.02191840	0.20
## 114	2.31707317	8.7852495	-1.6	5.18948611	-7.041629761	-5.15561641	0.21
## 115	7.82926103	-5.5832502	1.7	-2.29953505	0.905192949	-3.17231168	0.27
## 116	-3.76511226	8.7645195	1.5	-4.38849427	1.340887630	-4.39636058	0.31
## 117	-1.15577889	-0.5825243	0.7	-0.87286993	3.410361536	2.38723608	0.36
## 118	0.16704191	4.9804687	0.4	-0.58868634	0.910073887	0.42374536	0.43
## 119	3.73404872	1.2093023	1.4	1.78398149	2.384141441	5.75767593	0.44
## 120	-0.78982316	-2.0220588	1.9	2.55451256	-4.613640328	3.74347282	0.49
## 121	-2.26151895	-1.8761726	-0.4	1.53505113	-0.018286550	-0.40940026	0.59
## 122	-0.51899373	-3.8240918	-2.2	-1.70904054	2.423411065	-0.70115495	0.77
## 123	1.21730309	-8.2504970	-1.7	2.50065681	-3.258928571	-3.99827954	0.73
## 124	1.31004367	-2.3835320	0.4	-0.89244105	-3.968620212	-4.06959379	0.76
## 125	-7.05200678	-0.3329634	-0.3	-1.60816307	1.028351754	-7.81505410	0.93
## 126	3.89995439	9.5768374	-0.3	6.75045999	-0.732496195	3.82715528	0.83
## 127	9.46806175	-3.8617886	1.6	-3.27483547	1.456636320	-3.86703263	1.03

## 128	-4.19758038	8.5623679	0.5	-2.68681586	-2.144139038	10.76708331	1.02
## 129	-0.39070676	-0.8763389	0.9	-2.64209275	1.911196911	-0.94703479	1.03
## 130	-0.60236744	5.2062868	0.7	0.71814163	1.117635916	-0.18119434	1.17
## 131	4.84109647	3.3613445	-0.5	2.15361482	4.402397902	4.39517998	1.07
## 132	0.38983734	-4.6070461	0.7	0.44870730	2.485196483	-2.76729560	1.02
## 133	-3.35431173	0.2840909	-0.7	0.49397306	2.241092533	0.70580626	1.02
## 134	-1.14305507	-4.2492918	-1.4	0.55269409	5.180238034	-1.44327949	1.12
## 135	-1.21233357	-9.2702170	-3.5	1.11334612	2.067730381	-2.26946004	1.12
## 136	0.86543236	-1.7391304	1.1	-1.57529493	2.711756261	2.12799341	0.92
## 137	-4.38146142	-3.2079646	-0.2	1.24562269	-1.056064606	-2.44661238	1.17
## 138	3.64077670	13.6000000	1.7	6.11666937	-1.820750275	-1.56895941	0.92
## 139	12.41217799	-7.4446680	0.0	-1.81344883	-2.302158273	1.90396192	1.12
## 140	-6.09217172	13.8043478	0.2	-3.83201515	2.495499918	-5.43049477	1.07
## 141	-1.25042017	-2.5787966	0.6	-1.19309626	-0.646603337	-1.61250156	1.07
## 142	-0.85097692	3.6274510	0.6	-1.51699883	5.270769725	3.80518467	1.14
## 143	3.26146663	5.2980132	1.8	3.37118777	1.236452450	1.74140979	0.97
## 144	0.59179467	-4.4923630	-0.1	2.43672125	0.082931242	0.99660475	1.00
## 145	-4.27022739	0.6585136	0.3	3.53216269	-2.267419962	-2.41254524	0.92
## 146	0.07595636	-3.9252336	-0.9	1.35076442	2.867273008	-1.90885327	0.89
## 147	-0.47609191	-9.7276265	-2.9	1.16563103	-0.157350517	2.31784659	0.97
## 148	-0.06932890	0.9698276	0.8	-0.80272800	3.729831144	0.60166771	0.80
## 149	-2.31719162	-1.4941302	0.1	-1.12309170	-4.123860512	0.25889578	0.83
## 150	2.96164773	4.6587216	1.0	3.27798052	-2.210987021	3.51509328	0.89
##	saving	cred	net_debt_gdp	primary	current_account		
## 2	0.54900930	1.945753689	-0.89	5731.26	-2486.8		
## 3	1.41913825	2.280031359	-0.29	6270.66	1302.2		
## 4	0.56767291	-0.037808131	0.53	-24082.32	-5204.4		
## 5	0.42343625	0.386339659	0.15	16501.74	7018.3		
## 6	1.13086318	1.855524635	-0.89	-927.65	-1481.2		
## 7	0.98082740	1.331128975	-0.76	-3797.78	-6.7		
## 8	1.94675003	1.684052625	-0.73	11586.72	-15.2		
## 9	1.64377332	1.544026991	0.01	-141.24	-857.7		
## 10	2.32110474	0.816179226	-0.27	-2775.31	-904.5		
## 11	1.23631841	1.230249789	0.09	2572.92	3767.4		
## 12	1.74285471	1.108535380	0.02	1406.02	-677.0		
## 13	1.14300414	1.417347673	-0.18	-10807.82	-2405.5		
## 14	1.30266949	1.518042988	-0.36	17913.77	-1909.1		
## 15	2.35161351	2.488141763	0.11	-27767.67	291.7		
## 16	0.91137113	-0.091752106	-0.02	-7999.10	-4199.5		
## 17	0.94640049	0.736719544	0.42	33282.74	7185.9		
## 18	1.62658387	1.823504561	-0.19	-6531.35	-550.1		
## 19	0.95091358	0.909947912	-0.26	-6828.32	-352.9		
## 20	1.59976551	1.557562694	-0.63	4647.38	440.8		
## 21	2.17003961	1.780328341	-0.32	252.40	2801.2		
## 22	2.19602806	0.535279209	-0.39	3141.77	-8111.6		
## 23	1.32275210	1.286654851	-0.22	2718.66	6404.9		
## 24	1.68910972	0.748446200	0.93	8616.00	974.1		
## 25	1.31840374	0.272335097	0.11	-15236.28	-2607.3		
## 26	1.63583331	1.637022073	-1.04	-23556.95	1491.6		
## 27	2.57273947	2.436762172	-0.08	19338.02	1089.4		
## 28	0.83334452	0.070075250	-0.49	-9513.96	-9109.3		
## 29	0.83542732	0.456312694	0.35	17791.08	5220.4		
## 30	0.81951854	0.977270759	0.42	-1449.35	606.3		
## 31	0.31797931	0.692441818	0.00	-13316.23	-654.4		

## 32	0.89311036	0.962275745	0.32	27942.16	1484.1
## 33	1.05838116	0.951067096	0.38	-8945.88	2047.9
## 34	1.19574466	0.220135338	0.12	2614.66	-5679.0
## 35	0.64691365	0.947773879	0.54	9744.88	4383.2
## 36	0.76652353	1.361106970	-0.07	11030.97	-2029.6
## 37	0.64698211	0.789796207	0.15	-29219.63	-1304.1
## 38	0.94759471	1.272569771	-0.04	11812.86	-475.2
## 39	1.37861509	2.058344740	0.41	4810.02	348.1
## 40	-0.20002398	0.132992826	-0.09	-33957.05	-2619.1
## 41	-0.49843241	0.398283087	-0.20	23362.46	4636.3
## 42	-1.16039881	1.223502993	-0.71	-2539.01	1600.1
## 43	-0.32249768	0.002898439	0.76	-13205.65	194.3
## 44	0.09755894	0.705570411	0.04	20345.42	2146.3
## 45	-0.33790446	0.568948183	0.84	2422.74	303.7
## 46	0.28276708	0.293733020	-0.32	695.50	-2667.3
## 47	-0.48784974	0.797825784	-0.45	-2708.67	3594.2
## 48	-0.17931444	0.957478514	-0.44	8.35	-12.5
## 49	0.12672313	-0.230491259	1.04	4211.86	-2027.0
## 50	0.43251183	0.625778789	0.84	8036.77	1165.1
## 51	1.38596735	1.348933704	1.74	52161.77	3944.7
## 52	-1.21528513	-0.664266764	-0.30	-99641.57	-6124.4
## 53	-0.41581346	-0.493621971	0.94	50952.80	4256.5
## 54	-0.19847822	-0.671399533	2.05	-12396.43	-207.8
## 55	-0.65378021	-0.631722558	0.54	-20825.24	869.1
## 56	-0.39306297	0.221275521	0.21	28307.04	1965.3
## 57	0.06770079	-0.556210900	2.27	-8063.92	-4020.3
## 58	0.48809996	-0.430828178	0.58	2754.66	-1228.9
## 59	-0.02303935	-0.037323672	0.88	9450.88	2930.9
## 60	0.27568625	-0.114380418	0.82	4375.69	-337.2
## 61	0.21185193	-0.526432113	0.25	-66231.55	-1841.9
## 62	0.90937361	0.291802513	0.11	78729.73	2779.4
## 63	2.54392446	0.103448708	2.15	31596.54	-4117.2
## 64	-1.05856328	-1.016515123	0.32	-107449.40	-1997.8
## 65	0.28758936	-0.099737016	0.80	60179.79	6454.3
## 66	-0.17864681	0.240574394	0.27	-12420.79	414.8
## 67	0.34119241	-0.260188225	-0.05	-23955.15	-931.1
## 68	0.57383045	-0.156565601	0.52	43644.62	2534.6
## 69	1.45681094	0.410223851	0.44	-11184.05	-2038.6
## 70	0.87860042	-0.813827396	1.24	-3414.53	-3843.8
## 71	0.83274759	-0.042348219	0.42	-6608.82	3098.1
## 72	1.01348254	-0.004112586	0.66	11730.42	-367.7
## 73	0.16839968	0.159385567	-0.22	-26017.03	-936.9
## 74	1.00300304	0.385820800	0.32	5666.76	-1331.4
## 75	3.17369683	0.808833507	0.51	31412.28	329.1
## 76	-0.30867618	-0.782635494	0.06	-79261.60	-4275.3
## 77	0.29133846	-0.216230322	0.15	64353.68	1905.5
## 78	0.95853397	0.652959101	0.25	7721.74	2648.1
## 79	0.54024299	0.307427709	-0.61	-28035.19	595.6
## 80	0.70985865	0.441187036	-0.55	11123.96	871.4
## 81	1.14037479	0.681583517	0.04	5267.15	-680.1
## 82	0.87718530	-0.140051650	0.59	-10090.55	-6014.7
## 83	1.16646053	1.016383756	-0.97	13474.90	3644.2
## 84	1.46702139	0.484571286	0.99	7745.63	2456.6
## 85	0.05765773	-0.141467611	1.11	-32419.28	-760.3

## 86	0.47280863	1.113861308	-0.23	23400.03	-941.9
## 87	2.23478931	1.635126154	0.57	25531.04	-2952.2
## 88	-1.03823296	-0.857196061	0.34	-88030.35	-2434.7
## 89	-0.14580916	0.318806231	0.00	61828.17	6591.4
## 90	0.62496389	0.788447113	-0.07	3698.45	-815.7
## 91	0.01730149	-0.013137794	0.01	-25266.32	665.1
## 92	0.29724010	0.569644041	0.19	19645.07	-503.4
## 93	0.67651839	0.315962630	0.58	-301.77	652.5
## 94	0.17960831	-0.164283436	0.44	-9943.24	-8908.4
## 95	0.53944978	1.117048274	-0.94	10684.67	5443.9
## 96	1.42584914	1.073925137	0.32	7093.04	2432.1
## 97	0.31845063	0.341605218	0.47	-29985.04	-5543.1
## 98	0.62061034	1.266511434	-0.33	24756.81	5065.7
## 99	2.39098926	1.541020607	0.92	-1799.81	-1296.9
## 100	-1.15878663	-0.305074525	-1.51	-69788.48	-5348.0
## 101	-0.15668592	0.559956690	-0.64	77176.83	5937.8
## 102	1.74406974	2.838947252	-1.92	2754.32	1551.8
## 103	3.85047331	0.002483536	0.96	70647.23	5762.9
## 104	4.44503188	0.342356717	2.13	37135.51	-1798.5
## 105	2.43836724	0.751065502	2.52	57243.45	2471.4
## 106	3.17594596	1.304373268	1.88	-107610.63	-3582.4
## 107	1.34278223	1.953014844	0.54	6522.77	1646.1
## 108	1.50130825	2.107537261	0.64	-23035.07	-1268.3
## 109	0.86088004	1.510666058	-0.14	-67511.09	-1079.0
## 110	0.30009189	2.025791521	1.43	21092.32	-1447.2
## 111	2.23608364	1.629495074	0.78	33697.40	-5974.4
## 112	-1.66888879	-0.067611016	-1.66	-110211.83	228.8
## 113	-0.35122181	0.680175624	-0.20	70144.40	4249.8
## 114	-0.17408273	1.521940610	-0.98	-16750.95	-4139.7
## 115	0.56015888	0.497987940	-0.83	-19274.26	11958.1
## 116	0.21874864	1.176327811	-0.17	39796.85	-1406.6
## 117	0.97309831	0.884085150	0.90	49966.67	-326.9
## 118	0.91924399	1.368497271	-0.67	-55224.95	-5345.4
## 119	-0.26060999	1.744020666	-0.58	-27011.74	1457.6
## 120	-0.44257119	2.184369844	-1.01	3795.13	-1411.9
## 121	-0.38466688	1.594749906	-0.97	-22465.89	-2381.6
## 122	-0.82359319	1.886523961	-0.23	20365.28	-2496.4
## 123	1.24231077	1.843565696	0.14	14910.89	767.5
## 124	-1.39755945	-0.004357640	-0.30	-101709.93	380.2
## 125	-0.02239488	0.946119064	0.63	98362.22	5479.2
## 126	-0.95495447	1.410617543	1.22	-841.35	-425.4
## 127	-0.40801654	0.803642936	-0.26	-34564.20	3382.6
## 128	0.45521511	1.136442206	0.51	71869.03	-5344.8
## 129	0.24842027	1.596020786	-0.88	-47387.20	4532.1
## 130	-0.61039193	0.714003227	-0.44	-6045.86	-5928.9
## 131	-1.52863835	1.459571038	0.46	50719.65	-1493.0
## 132	0.04686551	1.793288482	-0.02	-41024.97	41.6
## 133	-0.48814772	0.992364401	-0.05	-16348.82	1909.9
## 134	-0.11581830	1.282623442	-0.16	47183.81	4116.3
## 135	1.28513343	1.518887870	0.31	-8275.80	-6438.1
## 136	-2.64038848	0.166341867	-0.92	-110826.09	-1433.7
## 137	-0.51482396	-0.016591666	0.49	125465.73	4608.6
## 138	-0.01254788	0.959626765	0.27	-12270.55	5052.2
## 139	-0.03864151	0.041082497	-0.03	-34506.97	-944.8

## 140	-0.58877453	0.514048704	0.72	70496.76	1340.4
## 141	0.91812011	0.465243930	1.26	-1273.68	-1935.3
## 142	0.26109246	0.078301557	0.61	-13089.23	-4381.2
## 143	-0.38152084	1.338368836	0.39	-12979.28	3229.0
## 144	0.01622266	1.094113652	0.24	-4759.03	1818.3
## 145	-0.68149699	0.397387700	0.04	-32869.52	-373.0
## 146	0.21931563	1.158208828	0.29	52068.20	-1906.9
## 147	1.98210712	1.610341710	1.42	92303.07	-5357.5
## 148	-1.51965982	-0.195543945	-0.78	-231719.15	2415.2
## 149	0.10113107	0.345319297	0.88	150838.12	808.4
## 150	0.70368184	1.670781682	0.35	-49868.77	-248.1
##	trade_balance	imports			
## 2	78.1149398	7.3425958			
## 3	-82.8931954	-13.4834566			
## 4	974.6429270	-4.7859610			
## 5	-67.7014110	-6.4635734			
## 6	18.4329200	15.7112372			
## 7	45.7639219	-0.9447098			
## 8	-47.9379592	8.3049993			
## 9	108.4859508	-8.3993692			
## 10	-56.4333203	-2.2135250			
## 11	-52.8656263	5.5010607			
## 12	151.7579842	-8.8057714			
## 13	96.0430608	15.8289858			
## 14	25.4645295	2.1720678			
## 15	-32.6693321	-15.2500456			
## 16	197.1644413	14.0765504			
## 17	-38.4697244	-15.8025709			
## 18	-16.7166302	13.6496906			
## 19	31.1013175	12.9311553			
## 20	-23.7530360	-2.6167133			
## 21	-59.6902267	-10.5333459			
## 22	288.8392602	20.4871461			
## 23	-44.2322136	-10.9467702			
## 24	-11.5374459	-6.5019225			
## 25	77.8172483	21.8487395			
## 26	-55.6801585	-16.8193000			
## 27	-12.7159091	-5.2807438			
## 28	243.3624094	8.7445223			
## 29	-17.7424451	-8.3954585			
## 30	-30.9758309	-2.8225474			
## 31	6.2239833	9.4791879			
## 32	-0.6202980	4.5814468			
## 33	-53.2927061	-9.7973708			
## 34	75.2099323	18.5934384			
## 35	-6.9519957	-10.0461072			
## 36	79.9036305	6.2278192			
## 37	-0.5603017	-4.7531100			
## 38	9.8822000	-7.3461183			
## 39	-21.0734662	-4.5959568			
## 40	29.7040660	-5.3560046			
## 41	-8.4163593	-8.3306030			
## 42	-33.5091357	10.8396654			
## 43	-10.7590789	-11.7298953			

## 44	-58.1995442	-3.7688238
## 45	-108.6145272	7.3716845
## 46	-1094.0225035	3.6449228
## 47	-34.1917227	-17.9153506
## 48	7.0629972	3.0075419
## 49	80.6807912	6.2862351
## 50	18.4061354	-10.1074075
## 51	-233.7369755	-16.8779275
## 52	-124.6683512	-5.8213153
## 53	-150.3343292	4.8306380
## 54	95.4776710	12.0651376
## 55	117.6402545	-8.7824911
## 56	108.3244752	5.7466443
## 57	-116.3504162	14.5180484
## 58	-378.6034718	-7.8020244
## 59	-26.2531504	9.3230032
## 60	-61.0499335	-6.6676340
## 61	-406.6780405	-4.8913799
## 62	-224.8430422	0.7261027
## 63	-86.4918200	0.5005082
## 64	-380.3958530	5.8325614
## 65	-324.9579832	-10.6263551
## 66	140.6425103	22.9925335
## 67	-6.9202111	-15.4843046
## 68	20.2061305	13.2136467
## 69	-32.6562890	3.3372017
## 70	-29.5550062	-0.9767342
## 71	-44.8441247	11.5633417
## 72	-21.5800636	-3.7665942
## 73	2.5963489	2.5616257
## 74	-256.5309081	-4.0757831
## 75	-78.1239475	-4.3301969
## 76	472.7097768	13.4655995
## 77	-36.6624101	0.4880557
## 78	-331.4728353	-3.3959112
## 79	-36.7012011	1.8890312
## 80	30.6199305	-5.3041218
## 81	-32.1412730	7.8550437
## 82	-171.0107035	28.2351729
## 83	153.3195259	1.7189847
## 84	-148.8008721	-24.3341745
## 85	-28.4810127	14.1647848
## 86	-154.7891723	4.3493920
## 87	-464.5130641	-22.8615727
## 88	-302.9453929	27.8948864
## 89	-69.1337015	-21.9557298
## 90	-122.7504421	3.6872327
## 91	118.0612711	5.1317243
## 92	-26.3577270	9.6691232
## 93	-128.6446469	-11.7705878
## 94	3237.8727634	33.8392833
## 95	-62.7743530	-7.1779957
## 96	-56.9120000	-1.4645113
## 97	519.2536205	4.9636283

```

## 98      -77.4323149 -16.1860060
## 99     -157.1011027 -10.6566106
## 100    -1505.6305258  27.4178621
## 101     -67.3022809 -18.0183898
## 102     -93.0950694   9.4935095
## 103   -2494.2815249 -21.6545087
## 104     -65.2336334  12.8907320
## 105     298.8814515 -18.7635154
## 106      -6.2023891  10.9199031
## 107    -23.1897363  -3.0629120
## 108    -26.9453554  10.4653839
## 109    -29.2234761   1.4409470
## 110   -132.2980262  12.1505452
## 111    652.6885667  29.6819654
## 112     3.9449944 -13.7383209
## 113    -46.1343592  -4.8591200
## 114    -4.7944609  48.7657434
## 115   -416.3746970 -30.5175384
## 116    -26.2675476   9.2224958
## 117     1.0745098  14.6091032
## 118   -21.2403973 -10.6571057
## 119   -20.5078943  11.5762788
## 120   -93.1087906   1.3779654
## 121  -599.2805755  -2.5451642
## 122    358.7896254   7.3847343
## 123   -93.6381124  -4.9941258
## 124   1118.9447701  -2.7004212
## 125  -116.7392295  -5.4470931
## 126    310.4491154  17.1943973
## 127     31.7061489  -5.1112005
## 128  -103.2868052  18.6072754
## 129 -2755.0638298  -3.0290268
## 130   -70.1958522   1.0222126
## 131  -228.6190579   9.8595820
## 132   -13.9058450  -1.5185557
## 133    51.2043512  -9.3515276
## 134  -230.9031346  -7.2065443
## 135  -131.9937190   1.8601473
## 136   131.8865031  -8.2587955
## 137  -106.5083670 -14.1375979
## 138  6197.0528455  25.2571981
## 139   -31.6688992 -13.1284940
## 140    44.5347189  13.9897675
## 141   -24.4051899  -8.1040416
## 142   -23.6116815   1.6465043
## 143    36.5414002   8.1508941
## 144   -13.1416965  -9.9346778
## 145    -3.3929850   3.7386399
## 146   -22.5622407  -3.5293642
## 147    11.3099225   1.3442374
## 148   -78.1770251   5.6344756
## 149  -158.1932773 -10.6683073
## 150  -352.7527076  13.6886626

```


6) Acrescentando defasagens aos preditores:

```
nomes <- colnames(X)

X <- as.matrix(X)
X <- embed(X, 2)
nomes <- paste0(rep(nomes, 2), "-", rep(1:2, each = ncol(X)/2))
colnames(X) <- nomes

X <- as.data.frame(X)
X <- X %>% select(-`expec-2`)
X <- X %>% rename(expec = `expec-1`)
print(colnames(X))

## [1] "expec"          "ibovespa-1"      "ipca-1"
## [4] "igpm-1"         "ipca15-1"        "bm_broad-1"
## [7] "m1-1"          "icbr-1"          "ibcbr-1"
## [10] "pimpf-1"        "tcu-1"           "elec-1"
## [13] "confidence-1"   "brl_usd-1"       "selic-1"
## [16] "saving-1"       "cred-1"          "net_debt_gdp-1"
## [19] "primary-1"      "current_account-1" "trade_balance-1"
## [22] "imports-1"      "ibovespa-2"      "ipca-2"
## [25] "igpm-2"         "ipca15-2"        "bm_broad-2"
## [28] "m1-2"          "icbr-2"          "ibcbr-2"
## [31] "pimpf-2"        "tcu-2"           "elec-2"
## [34] "confidence-2"   "brl_usd-2"       "selic-2"
## [37] "saving-2"       "cred-2"          "net_debt_gdp-2"
## [40] "primary-2"      "current_account-2" "trade_balance-2"
## [43] "imports-2"
```

7)

```
dim(X)

## [1] 148 43
```

8)

```
y = inf$inf
y_lags = embed(y, 3)[, -1]
colnames(y_lags) = c("y(-1)", "y(-2)")

X <- X[-1, ]

X <- cbind(y_lags, X)

print(X)

##      y(-1) y(-2)  expec ibovespa-1 ipca-1 igpm-1 ipca15-1  bm_broad-1
## 2    0.45 0.56 0.450      -1.98   0.45 -0.06    0.53 1.46996853
## 3    0.21 0.45 0.510      -4.17   0.21  0.43    0.25 0.12063843
```

## 4	0.64	0.21	0.480	-11.86	0.64	0.85	0.43	1.19837492
## 5	0.36	0.64	0.230	-0.25	0.36	1.02	0.51	0.85801558
## 6	0.08	0.36	0.200	3.21	0.08	0.66	0.18	0.37675927
## 7	0.43	0.08	0.330	1.72	0.43	1.34	0.33	1.02782992
## 8	0.41	0.43	0.440	3.70	0.41	1.43	0.39	0.60619146
## 9	0.57	0.41	0.510	-3.56	0.57	0.97	0.48	0.37923260
## 10	0.59	0.57	0.500	0.71	0.59	0.02	0.65	1.28519844
## 11	0.60	0.59	0.540	6.05	0.60	-0.03	0.54	1.24713023
## 12	0.79	0.60	0.780	-1.95	0.79	0.68	0.69	0.54858463
## 13	0.86	0.79	0.410	-3.91	0.86	0.34	0.88	-0.60340224
## 14	0.60	0.86	0.450	-1.87	0.60	0.29	0.68	1.08474727
## 15	0.47	0.60	0.420	-0.78	0.47	0.21	0.49	0.18270082
## 16	0.55	0.47	0.330	-4.30	0.55	0.15	0.51	0.76281025
## 17	0.37	0.55	0.320	-11.31	0.37	0.00	0.46	0.71046044
## 18	0.26	0.37	0.200	1.64	0.26	0.75	0.38	0.23192304
## 19	0.03	0.26	0.290	3.68	0.03	0.26	0.07	0.71865314
## 20	0.24	0.03	0.450	4.65	0.24	0.15	0.16	0.72594713
## 21	0.35	0.24	0.570	3.66	0.35	1.50	0.27	0.50373721
## 22	0.57	0.35	0.670	-3.27	0.57	0.86	0.48	0.63753624
## 23	0.54	0.57	0.710	-1.86	0.54	0.29	0.57	0.48239420
## 24	0.92	0.54	0.740	-7.51	0.92	0.60	0.75	-0.09243554
## 25	0.55	0.92	0.650	-1.14	0.55	0.48	0.67	0.07352534
## 26	0.69	0.55	0.560	7.05	0.69	0.38	0.70	1.97055206
## 27	0.92	0.69	0.690	2.40	0.92	1.67	0.73	-0.13819716
## 28	0.67	0.92	0.470	-0.75	0.67	0.78	0.78	0.82795816
## 29	0.46	0.67	0.340	3.76	0.46	-0.13	0.58	0.60673267
## 30	0.40	0.46	0.240	5.00	0.40	-0.74	0.47	0.75218729
## 31	0.01	0.40	0.250	9.78	0.01	-0.61	0.17	1.88342320
## 32	0.25	0.01	0.400	-11.70	0.25	-0.27	0.14	1.48754566
## 33	0.57	0.25	0.500	0.95	0.57	0.20	0.39	0.22339327
## 34	0.42	0.57	0.590	0.18	0.42	0.28	0.48	1.96853406
## 35	0.51	0.42	0.750	-8.62	0.51	0.98	0.38	0.77631142
## 36	0.78	0.51	1.050	-6.20	0.78	0.62	0.79	1.06696373
## 37	1.24	0.78	1.020	9.97	1.24	0.76	0.89	1.02052197
## 38	1.22	1.24	1.140	-0.84	1.22	0.27	1.33	1.15943946
## 39	1.32	1.22	0.650	9.93	1.32	0.98	1.24	1.47563490
## 40	0.71	1.32	0.500	-6.17	0.71	1.17	1.07	2.02809125
## 41	0.74	0.71	0.550	0.61	0.74	0.41	0.60	-0.12196174
## 42	0.79	0.74	0.450	-4.17	0.79	0.67	0.99	1.78740323
## 43	0.62	0.79	0.300	-8.33	0.62	0.69	0.59	1.11827763
## 44	0.22	0.62	0.410	-3.36	0.22	0.28	0.43	2.13109101
## 45	0.54	0.22	0.650	1.80	0.54	0.95	0.39	1.47729312
## 46	0.82	0.54	0.620	-1.63	0.82	1.89	0.66	1.23806234
## 47	1.01	0.82	0.900	-3.93	1.01	1.52	0.85	0.90687576
## 48	0.96	1.01	0.860	-6.79	0.96	0.49	1.18	0.86847498
## 49	1.27	0.96	0.910	5.91	1.27	1.14	0.92	2.18426389
## 50	0.90	1.27	0.540	16.97	0.90	1.29	1.42	1.39592161
## 51	0.43	0.90	0.600	7.70	0.43	0.51	0.43	0.85337320
## 52	0.61	0.43	0.520	-10.09	0.61	0.33	0.51	-0.17309551
## 53	0.78	0.61	0.330	6.30	0.78	0.82	0.86	0.84141354
## 54	0.35	0.78	0.400	11.22	0.35	1.69	0.40	1.56075161
## 55	0.52	0.35	0.320	1.03	0.52	0.18	0.54	0.85162277
## 56	0.44	0.52	0.350	0.80	0.44	0.15	0.45	2.27423367
## 57	0.08	0.44	0.390	11.23	0.08	0.20	0.23	1.22769960

## 58	0.26	0.08	0.390	-4.65	0.26	0.16	0.19	1.54177609
## 59	0.18	0.26	0.520	-2.71	0.18	-0.03	0.26	0.07789160
## 60	0.30	0.18	0.580	7.38	0.30	0.54	0.19	1.53695415
## 61	0.38	0.30	0.500	3.08	0.38	0.64	0.31	-0.19782394
## 62	0.33	0.38	0.270	-2.52	0.33	0.08	0.54	1.05273965
## 63	0.25	0.33	0.310	0.64	0.25	0.01	0.15	1.20586526
## 64	0.14	0.25	0.500	-4.12	0.14	-1.10	0.21	1.03263251
## 65	0.31	0.14	0.000	0.30	0.31	-0.93	0.24	0.84552756
## 66	-0.23	0.31	0.190	4.80	-0.23	-0.67	0.16	1.22319232
## 67	0.24	-0.23	0.470	7.46	0.24	-0.72	-0.18	1.31228568
## 68	0.19	0.24	0.260	4.88	0.19	0.10	0.35	1.27465143
## 69	0.16	0.19	0.380	0.02	0.16	0.47	0.11	1.01432364
## 70	0.42	0.16	0.410	-3.15	0.42	0.20	0.34	0.56582783
## 71	0.28	0.42	0.370	6.16	0.28	0.52	0.32	0.45162549
## 72	0.44	0.28	0.370	11.14	0.44	0.89	0.35	0.45772224
## 73	0.29	0.44	0.420	0.52	0.29	0.76	0.39	0.37152025
## 74	0.32	0.29	0.220	0.01	0.32	0.07	0.38	0.68240513
## 75	0.09	0.32	0.330	0.88	0.09	0.64	0.10	0.62266938
## 76	0.22	0.09	0.330	-10.87	0.22	0.57	0.21	0.55411112
## 77	0.40	0.22	0.530	-5.20	0.40	1.38	0.14	0.76113097
## 78	1.26	0.40	0.350	8.88	1.26	1.87	1.11	0.88951407
## 79	0.33	1.26	0.050	-3.21	0.33	0.51	0.64	0.42032018
## 80	-0.09	0.33	0.240	3.48	-0.09	0.70	0.13	0.96489399
## 81	0.48	-0.09	0.410	10.19	0.48	1.52	0.09	-0.06170365
## 82	0.45	0.48	0.150	2.38	0.45	0.89	0.58	0.78859072
## 83	-0.21	0.45	0.120	-1.81	-0.21	-0.49	0.19	0.31601615
## 84	0.15	-0.21	0.370	10.82	0.15	-1.08	-0.16	0.58919697
## 85	0.32	0.15	0.350	-1.86	0.32	0.01	0.30	0.41659107
## 86	0.43	0.32	0.380	-0.18	0.43	0.88	0.34	0.53779762
## 87	0.75	0.43	0.450	0.98	0.75	1.26	0.54	0.50195679
## 88	0.57	0.75	0.300	0.70	0.57	0.92	0.72	1.31556145
## 89	0.13	0.57	0.110	4.06	0.13	0.45	0.35	0.71028792
## 90	0.01	0.13	0.200	0.84	0.01	0.80	0.06	-0.01218789
## 91	0.19	0.01	0.180	-0.67	0.19	0.40	0.09	0.47985497
## 92	0.11	0.19	0.150	3.57	0.11	-0.67	0.08	0.63940824
## 93	-0.04	0.11	0.150	2.36	-0.04	-0.01	0.09	0.86831138
## 94	0.10	-0.04	0.360	0.95	0.10	0.68	0.09	-0.63456596
## 95	0.51	0.10	0.700	6.85	0.51	0.30	0.14	-0.22265399
## 96	1.15	0.51	0.380	-1.63	1.15	2.09	1.05	0.55074309
## 97	0.21	1.15	0.210	-8.43	0.21	0.48	0.71	-1.07032062
## 98	0.25	0.21	0.140	-29.90	0.25	-0.04	0.22	0.72895760
## 99	0.07	0.25	0.060	10.25	0.07	1.24	0.02	0.45137694
## 100	-0.31	0.07	-0.350	8.57	-0.31	0.80	-0.01	-0.24642640
## 101	-0.38	-0.31	0.170	8.76	-0.38	0.28	-0.59	1.56539350
## 102	0.26	-0.38	0.390	8.27	0.26	1.56	0.02	2.72275184
## 103	0.36	0.26	0.080	-3.44	0.36	2.23	0.30	3.69230419
## 104	0.24	0.36	0.270	-4.80	0.24	2.74	0.23	1.86086177
## 105	0.64	0.24	0.450	-0.69	0.64	4.34	0.45	2.04700078
## 106	0.86	0.64	0.400	15.90	0.86	3.23	0.94	1.93363132
## 107	0.89	0.86	1.190	9.30	0.89	3.28	0.81	0.75594732
## 108	1.35	0.89	0.230	-3.32	1.35	0.96	1.06	0.14615341
## 109	0.25	1.35	0.560	-4.37	0.25	2.58	0.78	1.01260155
## 110	0.86	0.25	0.850	6.00	0.86	2.53	0.48	0.78783149
## 111	0.93	0.86	0.450	1.94	0.93	2.94	0.93	0.39491893

## 112	0.31	0.93	0.455	6.16	0.31	1.51	0.60	-0.54858662
## 113	0.83	0.31	0.550	0.46	0.83	4.10	0.44	-0.07124556
## 114	0.53	0.83	0.580	-3.94	0.53	0.60	0.83	0.42538994
## 115	0.96	0.53	0.450	-2.48	0.96	0.78	0.72	1.03568227
## 116	0.87	0.96	0.770	-6.57	0.87	0.66	0.89	1.03537163
## 117	1.16	0.87	0.560	-6.74	1.16	-0.64	1.14	0.44358930
## 118	1.25	1.16	0.750	-1.53	1.25	0.64	1.20	0.90287551
## 119	0.95	1.25	0.720	2.85	0.95	0.02	1.17	0.65494271
## 120	0.73	0.95	0.450	6.98	0.73	0.87	0.78	0.13906080
## 121	0.54	0.73	0.850	0.89	0.54	1.82	0.58	-0.06858192
## 122	1.01	0.54	0.900	6.06	1.01	1.83	0.99	0.64037333
## 123	1.62	1.01	0.900	-10.10	1.62	1.74	0.95	0.31019759
## 124	1.06	1.62	0.310	3.22	1.06	1.41	1.73	0.37734934
## 125	0.47	1.06	0.600	-11.50	0.47	0.52	0.59	1.15026429
## 126	0.67	0.47	-0.280	4.69	0.67	0.59	0.69	0.66661561
## 127	-0.68	0.67	-0.194	0.19	-0.68	0.21	0.13	1.05905870
## 128	-0.36	-0.68	0.170	0.47	-0.36	-0.70	-0.73	0.68123036
## 129	-0.29	-0.36	0.340	5.45	-0.29	-0.95	-0.37	0.62754522
## 130	0.59	-0.29	0.400	-3.06	0.59	-0.97	0.16	0.40374834
## 131	0.41	0.59	0.640	-2.45	0.41	-0.56	0.53	0.51381180
## 132	0.62	0.41	0.530	3.37	0.62	0.45	0.52	-0.04354646
## 133	0.53	0.62	0.800	-7.49	0.53	0.21	0.55	-0.55844107
## 134	0.84	0.53	0.650	-2.91	0.84	-0.06	0.76	0.83802085
## 135	0.71	0.84	0.590	2.50	0.71	0.05	0.69	0.81508953
## 136	0.61	0.71	0.440	3.74	0.61	-0.95	0.57	1.11502991
## 137	0.23	0.61	0.300	9.00	0.23	-1.84	0.51	0.86748171
## 138	-0.08	0.23	0.260	3.26	-0.08	-1.93	0.04	1.32663871
## 139	0.12	-0.08	0.300	-5.09	0.12	-0.72	-0.07	1.01154138
## 140	0.23	0.12	0.410	0.71	0.23	-0.14	0.28	1.32351877
## 141	0.26	0.23	0.380	-2.94	0.26	0.37	0.35	1.13871710
## 142	0.24	0.26	0.300	12.54	0.24	0.50	0.21	0.85287260
## 143	0.28	0.24	0.460	5.38	0.28	0.59	0.33	0.88304173
## 144	0.56	0.28	0.400	-4.79	0.56	0.74	0.40	0.65668677
## 145	0.42	0.56	0.480	0.99	0.42	0.07	0.31	1.65050400
## 146	0.83	0.42	0.350	-0.71	0.83	-0.52	0.78	1.32774898
## 147	0.16	0.83	0.350	-1.70	0.16	-0.47	0.36	1.01823747
## 148	0.38	0.16	0.390	-3.04	0.38	0.31	0.21	0.45239355
##	m1-1	icbr-1	ibcbr-1	pimpf-1	tcu-1	elec-1		
## 2	-3.87886904	-2.42837177	-1.86085853	-7.2645740	1.3	-1.18937456		
## 3	-2.89641693	2.14861235	-4.23041011	1.2572534	-1.0	1.64164716		
## 4	-1.18158140	-0.26292726	1.50742463	10.9837631	-0.1	4.66654020		
## 5	0.31240341	1.58172232	8.12707795	-6.9707401	1.0	-1.62338503		
## 6	0.27921314	-0.31141869	-4.44140758	10.4532840	-0.2	-3.12138120		
## 7	1.67179007	7.42797640	3.36789417	-4.1038526	0.2	-0.76609617		
## 8	2.15639408	0.74313409	-1.57719978	6.3755459	1.2	-1.67268944		
## 9	-0.91303702	1.77998717	3.64070846	6.7323481	0.0	3.51644068		
## 10	3.28540082	-1.04773909	1.66146752	-7.3076923	1.0	1.29639591		
## 11	0.42944075	1.05883290	-5.54332600	8.1327801	0.0	0.35579629		
## 12	0.83435871	1.42587049	4.31497175	-6.2164236	0.1	2.24362366		
## 13	12.06026614	-2.05048544	-2.41012795	-12.0294599	-3.6	-2.27460925		
## 14	-3.91509836	-3.25905955	-3.21193202	2.4186047	1.3	1.59406858		
## 15	-3.22903292	-1.54918033	-0.14334862	-6.8119891	-0.6	-0.94091276		
## 16	0.10218389	-1.74839730	-2.28251507	11.0136452	-0.2	1.14718729		
## 17	0.06764038	0.15252945	8.71896577	4.2142230	0.9	0.55148015		

## 18	0.13640080	4.94119638	1.20262144	3.0328559	0.4	-0.79939980
## 19	2.09983940	2.08820447	-1.84257961	-3.1071137	0.0	-1.86986569
## 20	1.53434479	4.01990207	-1.46908794	6.2447257	0.7	0.18603168
## 21	-1.02958943	-2.14106750	5.01138952	3.7331215	0.1	2.42718447
## 22	2.05176848	-2.80083792	-0.21034641	-4.2879020	1.1	-0.22790252
## 23	-0.28155618	3.15293742	-2.99058033	4.9600000	0.9	2.24269955
## 24	1.24005756	2.80120715	3.14388538	-5.7164634	-1.1	1.34809211
## 25	10.14107057	1.89687618	-2.70572745	-15.1172191	-3.0	-0.91182365
## 26	-4.51687630	3.78222649	-1.36680425	2.7619048	1.0	1.83031651
## 27	-3.40545128	0.12100505	-2.09233724	-0.3707136	-0.5	3.40863952
## 28	-0.16549601	-2.75131523	0.56754484	5.4883721	-0.7	-3.32268984
## 29	0.61274111	-1.83492945	3.83195151	-1.3227513	0.5	-1.68119397
## 30	-1.91133588	-0.54364015	-0.89914782	5.8981233	-0.2	-1.24267529
## 31	0.47348563	-1.68476226	-0.37240165	-6.6666667	-1.0	-3.51406650
## 32	0.49129666	-1.08910891	-4.25445154	10.0361664	0.7	0.37374755
## 33	-0.75018729	1.94040194	6.36712095	1.8077239	0.6	1.80632213
## 34	3.14617570	5.20432057	-1.05438772	-0.6456820	0.1	0.89232445
## 35	0.33813638	4.08529581	-0.10116679	3.4118603	1.1	3.09808459
## 36	0.67605796	-0.29661309	1.06670267	-8.6410055	-2.2	2.12219451
## 37	9.32630700	-4.77376505	-3.19305277	-12.1238177	-2.8	-2.71788235
## 38	-5.06850538	4.59168846	0.38642009	0.4892368	1.0	2.30935288
## 39	-2.82325969	8.14809669	-4.57107506	-4.9659202	-1.3	-0.09568674
## 40	-1.58293769	-2.39578650	-1.58467190	12.6024590	-0.9	-2.35762175
## 41	-1.48721450	1.14503817	9.47815268	-5.8234759	-0.4	-0.40745492
## 42	-1.54297209	0.89134678	-4.71988234	4.7342995	-0.7	-3.52299417
## 43	-0.62628881	3.39201651	-1.82430536	-0.5535055	-0.8	-2.45536883
## 44	0.42629841	4.78388324	-0.92195540	3.1539889	0.8	-1.20223272
## 45	-1.84675621	9.29761905	3.33982543	2.2482014	0.4	2.83300739
## 46	-0.49742826	0.76789021	-1.62641351	-3.3421284	0.8	-0.04490346
## 47	1.46314822	-4.79922175	-1.96551479	3.0937216	0.3	3.79208287
## 48	-0.08937879	1.13539597	1.54892878	-9.9735216	-0.4	-0.13239300
## 49	9.53582379	2.94134157	-3.03635068	-11.7647059	-4.0	-1.41491396
## 50	-4.08529364	-1.55406511	0.21317260	-1.2222222	1.1	-0.69562969
## 51	-2.40626788	-5.61094494	-5.94880070	-0.5624297	-0.9	0.84893623
## 52	-1.55929699	-3.33900593	1.98876930	10.2941176	0.6	1.85400367
## 53	-0.11843184	0.92884896	7.24172211	-0.8205128	-0.1	2.08898466
## 54	-0.10737951	0.43909774	-3.03051911	3.9296794	0.3	-4.02294569
## 55	-1.14788420	-4.91675650	-1.80895654	1.5920398	0.1	-2.84354058
## 56	1.47061738	-1.99030043	1.28061110	2.2526934	0.4	-0.78561917
## 57	-0.64539381	1.74795964	1.05737947	3.8314176	1.5	1.17836532
## 58	2.19652210	-0.16421398	1.07558352	-2.4907749	-0.2	1.72706532
## 59	0.84142417	5.49756437	-3.10554510	-0.5676443	1.0	-0.38336159
## 60	-0.12071934	2.12880787	-0.85917071	-4.0913416	-2.2	1.45557359
## 61	9.39723505	-2.98279608	-0.27128862	-10.7142857	-0.8	0.06967023
## 62	-4.64658129	-3.40737154	0.70273538	0.8888889	0.5	1.51620639
## 63	-2.58996052	-2.21177945	-3.52667517	-2.6431718	-0.4	-1.35385710
## 64	-0.97611716	0.05125905	0.70000778	12.6696833	0.1	4.40313112
## 65	1.02918402	2.49119436	9.66247007	-7.2289157	0.6	-2.75242934
## 66	-0.38284541	-0.18745314	-5.73320186	13.6363636	-0.4	-3.23357849
## 67	0.81235775	-1.35845749	1.68858338	-1.8095238	0.4	-0.10745643
## 68	1.41032653	-2.11969283	-0.81557678	4.0737148	0.2	-1.92580154
## 69	-1.41202713	2.14614537	2.60760056	4.9394222	0.7	1.30016051
## 70	1.58944154	3.16110194	1.24178760	-3.8188277	1.1	3.01853906
## 71	-0.09141441	5.31011568	-3.78663624	2.4007387	0.6	0.83826809

## 72	0.94023678	-0.87642419	0.92647495	-4.7790803	-0.7	1.24822046
## 73	10.79017408	0.91364574	-0.71968862	-10.6060606	-2.6	-0.55489994
## 74	-4.67303828	0.33878505	0.51039278	1.5889831	1.9	1.13366662
## 75	-1.98677574	-1.56595646	-2.69355314	-6.1522419	-0.1	-2.21195856
## 76	0.20788541	3.98604294	-1.64876721	11.6666667	0.4	4.94779034
## 77	0.62671631	9.15088438	8.95109197	0.2985075	0.4	-1.00226239
## 78	-0.05857130	3.13151313	-1.75748165	-2.3809524	-0.3	-3.51885981
## 79	0.84195186	-0.44965392	-4.88540843	7.8252033	-0.5	-2.69974276
## 80	1.53192225	0.83231831	3.53501020	5.1837889	0.9	0.79836662
## 81	0.14670141	5.99456412	3.00576348	2.5985663	1.7	1.40490288
## 82	2.50604526	-6.10665274	1.66442383	-7.6855895	0.2	-0.02560885
## 83	-1.14352408	-2.43261012	-5.32255817	5.5818354	-0.6	3.47088809
## 84	0.08680447	0.41986316	3.00956586	-6.5412186	-1.6	0.03465861
## 85	9.18591450	-3.52036339	-1.56439746	-12.9434324	-3.0	-1.31904573
## 86	-4.99752137	0.25145792	-0.98693759	3.5242291	1.4	4.44388715
## 87	-2.45193646	2.56697620	-2.04485488	-1.9148936	-0.5	-1.15974740
## 88	0.39623950	1.52973620	0.26187804	2.3861171	-0.1	-0.03886891
## 89	0.56059018	-1.97816840	3.82835821	2.8601695	1.3	-3.46310878
## 90	-1.56957553	-4.91974695	0.48156400	9.1658084	-0.3	1.90821438
## 91	0.66959161	-0.75332673	-0.18597997	-5.6603774	0.4	-5.03940120
## 92	0.80620751	0.27702366	-3.08155368	8.9000000	1.0	-0.24713197
## 93	-0.58280691	5.22680811	5.93759243	2.9384757	0.6	0.77191884
## 94	2.33050705	2.20530323	-0.84455922	-4.6387154	1.0	1.60447182
## 95	0.66682486	4.94220396	-2.56229762	5.7998129	-0.2	4.59986756
## 96	1.51632722	0.62172615	3.35211675	-9.3722370	-1.3	1.76292978
## 97	10.63354630	0.98277708	-2.83098001	-12.4878049	-2.0	-2.36887443
## 98	-5.75980483	-0.45288109	-1.05028415	4.0133779	1.6	1.29160335
## 99	0.11711548	-4.30742426	-2.56633951	-1.5005359	-1.4	-0.88315711
## 100	1.82817197	1.56281610	0.33577078	-1.1969532	-17.7	0.42720437
## 101	7.77970895	12.30516409	1.22703949	-22.6872247	3.4	-9.41928584
## 102	7.86898620	-4.85544519	-12.98853952	18.0911681	6.2	-3.05925290
## 103	6.26515134	7.08393531	0.95406957	10.1326900	5.7	-0.98272617
## 104	3.60838674	9.38764852	5.31905996	16.1007667	3.7	5.87100562
## 105	2.44804084	0.53712103	7.95680140	3.2075472	3.8	3.62565687
## 106	3.60471084	5.54038545	-0.15446855	1.5539305	2.4	2.82860201
## 107	2.42301898	0.11623983	1.04611758	2.0702070	0.1	6.37390960
## 108	0.79888939	-1.35580524	1.96850394	-7.3192240	-1.6	-3.47824061
## 109	6.11091527	10.55509150	-1.18690119	-7.6117983	-2.1	1.76196568
## 110	-4.44266853	7.03001580	0.82489146	-1.6477858	0.4	2.21057375
## 111	-1.88702771	5.31686186	-5.84182575	-3.4554974	-1.3	-3.68041213
## 112	-0.36117133	1.21260130	2.31707317	8.7852495	-1.6	5.18948611
## 113	0.63188436	1.10475617	7.82926103	-5.5832502	1.7	-2.29953505
## 114	-0.07272637	-3.55196951	-3.76511226	8.7645195	1.5	-4.38849427
## 115	2.17129722	5.17071063	-1.15577889	-0.5825243	0.7	-0.87286993
## 116	5.55736831	3.39898441	0.16704191	4.9804687	0.4	-0.58868634
## 117	-0.62514374	2.32775996	3.73404872	1.2093023	1.4	1.78398149
## 118	-1.57579714	11.28526646	-0.78982316	-2.0220588	1.9	2.55451256
## 119	-1.58696176	-0.33403964	-2.26151895	-1.8761726	-0.4	1.53505113
## 120	-0.78251988	-0.71283860	-0.51899373	-3.8240918	-2.2	-1.70904054
## 121	3.62262287	2.99274486	1.21730309	-8.2504970	-1.7	2.50065681
## 122	-4.00296456	-0.78514822	1.31004367	-2.3835320	0.4	-0.89244105
## 123	-0.94476518	4.37837438	-7.05200678	-0.3329634	-0.3	-1.60816307
## 124	0.34866423	-1.12425896	3.89995439	9.5768374	-0.3	6.75045999
## 125	1.15879113	3.22002723	9.46806175	-3.8617886	1.6	-3.27483547

## 126	-0.41943515	-0.94651825	-4.19758038	8.5623679	0.5	-2.68681586
## 127	0.77133802	-2.42979300	-0.39070676	-0.8763389	0.9	-2.64209275
## 128	-0.58921178	-0.71596188	-0.60236744	5.2062868	0.7	0.71814163
## 129	-0.19777058	-1.37954321	4.84109647	3.3613445	-0.5	2.15361482
## 130	-0.60099174	-3.51911178	0.38983734	-4.6070461	0.7	0.44870730
## 131	-0.82373659	1.25975869	-3.35431173	0.2840909	-0.7	0.49397306
## 132	-0.02911452	-2.18528624	-1.14305507	-4.2492918	-1.4	0.55269409
## 133	5.62750093	-2.58214761	-1.21233357	-9.2702170	-3.5	1.11334612
## 134	-3.56546502	-1.56303360	0.86543236	-1.7391304	1.1	-1.57529493
## 135	-1.19693925	-2.84479078	-4.38146142	-3.2079646	-0.2	1.24562269
## 136	-0.52824210	-0.44498160	3.64077670	13.6000000	1.7	6.11666937
## 137	0.04564279	-4.68215429	12.41217799	-7.4446680	0.0	-1.81344883
## 138	-2.09171932	-0.77286016	-6.09217172	13.8043478	0.2	-3.83201515
## 139	0.75492063	1.83780630	-1.25042017	-2.5787966	0.6	-1.19309626
## 140	6.18178159	2.85877972	-0.85097692	3.6274510	0.6	-1.51699883
## 141	-0.49983753	3.72897404	3.26146663	5.2980132	1.8	3.37118777
## 142	-1.05837111	0.98531425	0.59179467	-4.4923630	-0.1	2.43672125
## 143	-0.22575951	-5.09118945	-4.27022739	0.6585136	0.3	3.53216269
## 144	0.39688771	-3.98330485	0.07595636	-3.9252336	-0.9	1.35076442
## 145	6.89789159	0.78770021	-0.47609191	-9.7276265	-2.9	1.16563103
## 146	-4.33303935	4.26086201	-0.06932890	0.9698276	0.8	-0.80272800
## 147	-0.49963319	2.55143119	-2.31719162	-1.4941302	0.1	-1.12309170
## 148	1.30755313	5.85846554	2.96164773	4.6587216	1.0	3.27798052
##	confidence-1	brl_usd-1	selic-1	saving-1	cred-1	net_debt_gdp-1
## 2	7.484368092	-1.71987345	0.75	0.56767291	-0.037808131	0.53
## 3	-3.384651545	6.60774903	0.82	0.42343625	0.386339659	0.15
## 4	0.346673154	3.82651661	0.71	1.13086318	1.855524635	-0.89
## 5	-1.175828838	6.90038071	0.74	0.98082740	1.331128975	-0.76
## 6	-0.429316161	-0.04946332	0.64	1.94675003	1.684052625	-0.73
## 7	-1.102556206	1.42029990	0.68	1.64377332	1.544026991	0.01
## 8	-2.653213752	-0.62457305	0.69	2.32110474	0.816179226	-0.27
## 9	1.273192578	-0.32406953	0.54	1.23631841	1.230249789	0.09
## 10	1.952113210	0.03940887	0.61	1.74285471	1.108535380	0.02
## 11	-1.047217747	3.74236754	0.55	1.14300414	1.417347673	-0.18
## 12	1.327572171	-3.03303588	0.55	1.30266949	1.518042988	-0.36
## 13	-0.778691057	-2.70204122	0.60	2.35161351	2.488141763	0.11
## 14	3.301152289	-0.64396036	0.49	0.91137113	-0.091752106	-0.02
## 15	-3.551401869	1.93933870	0.55	0.94640049	0.736719544	0.42
## 16	-2.713178295	-0.60103318	0.61	1.62658387	1.823504561	-0.19
## 17	-6.201002442	6.51141872	0.60	0.95091358	0.909947912	-0.26
## 18	-0.637117216	3.92230459	0.61	1.59976551	1.557562694	-0.63
## 19	-5.729453944	3.37246050	0.72	2.17003961	1.780328341	-0.32
## 20	-2.698749360	3.58998996	0.71	2.19602806	0.535279209	-0.39
## 21	2.781118461	-6.00784181	0.71	1.32275210	1.286654851	-0.22
## 22	1.828287260	-1.22903023	0.81	1.68910972	0.748446200	0.93
## 23	-0.883366849	5.55404178	0.72	1.31840374	0.272335097	0.11
## 24	-1.043402652	0.76151960	0.79	1.63583331	1.637022073	-1.04
## 25	-3.536647873	3.57386849	0.85	2.57273947	2.436762172	-0.08
## 26	3.529679672	-3.83394484	0.79	0.83334452	0.070075250	-0.49
## 27	-7.779162695	-3.01367514	0.77	0.83542732	0.456312694	0.35
## 28	-4.396565432	-1.19342291	0.82	0.81951854	0.977270759	0.42
## 29	-8.956340956	0.13420417	0.87	0.31797931	0.692441818	0.00
## 30	-1.927292656	-1.63062902	0.82	0.89311036	0.962275745	0.32
## 31	2.030362299	2.94745447	0.95	1.05838116	0.951067096	0.38

## 32	0.903696942	-1.22639845	0.87	1.19574466	0.220135338	0.12
## 33	7.580966166	9.44171505	0.91	0.64691365	0.947773879	0.54
## 34	-2.606794484	-0.27750571	0.95	0.76652353	1.361106970	-0.07
## 35	0.146779485	4.74300213	0.84	0.64698211	0.789796207	0.15
## 36	-2.620915596	3.75463958	0.96	0.94759471	1.272569771	-0.04
## 37	-0.230190350	0.22970327	0.94	1.37861509	2.058344740	0.41
## 38	0.177478037	8.11511440	0.82	-0.20002398	0.132992826	-0.09
## 39	-5.341482859	11.45706641	1.04	-0.49843241	0.398283087	-0.20
## 40	-4.959760434	-6.68454200	0.95	-1.16039881	1.223502993	-0.71
## 41	-9.639621898	6.18443034	0.99	-0.32249768	0.002898439	0.76
## 42	-1.296720061	-2.39765898	1.07	0.09755894	0.705570411	0.04
## 43	-6.657098697	9.39746607	1.18	-0.33790446	0.568948183	0.84
## 44	0.130100532	7.44680851	1.11	0.28276708	0.293733020	-0.32
## 45	1.027639972	8.94380297	1.11	-0.48784974	0.797825784	-0.45
## 46	3.788144511	-2.86994613	1.11	-0.17931444	0.957478514	-0.44
## 47	-3.627351583	-0.21512622	1.06	0.12672313	-0.230491259	1.04
## 48	1.893629456	1.41042624	1.16	0.43251183	0.625778789	0.84
## 49	2.145233452	3.53465499	1.06	1.38596735	1.348933704	1.74
## 50	6.951931716	-1.56350502	1.00	-1.21528513	-0.664266764	-0.30
## 51	-6.216528405	-10.57300829	1.16	-0.41581346	-0.493621971	0.94
## 52	-1.825103572	-3.03796757	1.06	-0.19847822	-0.671399533	2.05
## 53	3.615419708	4.18236624	1.11	-0.65378021	-0.631722558	0.54
## 54	7.925151348	-10.71915426	1.16	-0.39306297	0.221275521	0.21
## 55	-0.387557369	0.90988408	1.11	0.06770079	-0.556210900	2.27
## 56	2.436776902	0.04014328	1.22	0.48809996	-0.430828178	0.58
## 57	6.896551724	0.18211563	1.11	-0.02303935	-0.037323672	0.88
## 58	-0.906965872	-2.00579246	1.05	0.27568625	-0.114380418	0.82
## 59	4.076240800	6.77880836	1.04	0.21185193	-0.526432113	0.25
## 60	0.389845875	-4.05170637	1.12	0.90937361	0.291802513	0.11
## 61	-7.658267859	-4.05401258	1.09	2.54392446	0.103448708	2.15
## 62	11.295843521	-0.88600307	0.87	-1.05856328	-1.016515123	0.32
## 63	-3.884007030	2.22996741	1.05	0.28758936	-0.099737016	0.80
## 64	-0.338270251	0.94702948	0.79	-0.17864681	0.240574394	0.27
## 65	-5.063755619	1.41659891	0.93	0.34119241	-0.260188225	-0.05
## 66	-3.314329887	1.98883784	0.81	0.57383045	-0.156565601	0.52
## 67	4.717169698	-5.36642883	0.80	1.45681094	0.410223851	0.44
## 68	-3.149456003	0.52394492	0.80	0.87860042	-0.813827396	1.24
## 69	-1.783602680	0.66423010	0.64	0.83274759	-0.042348219	0.42
## 70	3.150396308	3.43815116	0.64	1.01348254	-0.004112586	0.66
## 71	1.118568233	-0.46699020	0.57	0.16839968	0.159385567	-0.22
## 72	5.290496345	1.42287642	0.54	1.00300304	0.385820800	0.32
## 73	6.851818016	-4.40224950	0.58	3.17369683	0.808833507	0.51
## 74	3.086525308	2.60927320	0.47	-0.30867618	-0.782635494	0.06
## 75	-4.088911006	2.43195759	0.53	0.29133846	-0.216230322	0.15
## 76	-4.929090280	4.73338950	0.52	0.95853397	0.652959101	0.25
## 77	3.238129889	7.35239190	0.52	0.54024299	0.307427709	-0.61
## 78	-8.370044053	3.17953110	0.52	0.70985865	0.441187036	-0.55
## 79	-0.500000000	-2.61724424	0.54	1.14037479	0.681583517	0.04
## 80	0.869733282	10.13238154	0.57	0.87718530	-0.140051650	0.59
## 81	2.308871431	-3.17798147	0.47	1.16646053	1.016383756	-0.97
## 82	1.048787340	-7.14910199	0.54	1.46702139	0.484571286	0.99
## 83	6.106940969	3.91703209	0.49	0.05765773	-0.141467611	1.11
## 84	11.615720524	0.29771921	0.49	0.47280863	1.113861308	-0.23
## 85	0.657276995	-5.75344587	0.54	2.23478931	1.635126154	0.57

## 86	8.356654229	2.37175800	0.49	-1.03823296	-0.857196061	0.34
## 87	-9.943324485	4.23232296	0.47	-0.14580916	0.318806231	0.00
## 88	-3.043097268	1.24740125	0.52	0.62496389	0.788447113	-0.07
## 89	-3.861638321	-0.11661216	0.54	0.01730149	-0.013137794	0.01
## 90	-8.230065806	-2.75373721	0.47	0.29724010	0.569644041	0.19
## 91	3.296703297	-1.75644639	0.57	0.67651839	0.315962630	0.58
## 92	3.299675442	9.92482002	0.50	0.17960831	-0.164283436	0.44
## 93	-2.085878862	0.62592136	0.46	0.53944978	1.117048274	-0.94
## 94	-0.329797665	-3.84984870	0.48	1.42584914	1.073925137	0.32
## 95	6.099087820	5.49269389	0.38	0.31845063	0.341605218	0.47
## 96	2.208361430	-4.57688119	0.37	0.62061034	1.266511434	-0.33
## 97	0.008246743	5.92541128	0.38	2.39098926	1.541020607	0.92
## 98	8.674857755	5.36906463	0.29	-1.15878663	-0.305074525	-1.51
## 99	-5.470824797	15.56212623	0.34	-0.15668592	0.559956690	-0.64
## 100	-10.122009953	4.39198938	0.28	1.74406974	2.838947252	-1.92
## 101	-13.530409931	-0.01289990	0.24	3.85047331	0.002483536	0.96
## 102	3.728568478	0.91601084	0.21	4.44503188	0.342356717	2.13
## 103	2.399681370	-4.98045805	0.19	2.43836724	0.751065502	2.52
## 104	-0.213924543	5.15117151	0.16	3.17594596	1.304373268	1.88
## 105	5.593451569	3.09649588	0.16	1.34278223	1.953014844	0.54
## 106	-0.692137320	2.32442687	0.16	1.50130825	2.107537261	0.64
## 107	3.754297928	-7.62579706	0.15	0.86088004	1.510666058	-0.14
## 108	0.053739364	-2.53231040	0.16	0.30009189	2.025791521	1.43
## 109	3.920866529	5.37326071	0.15	2.23608364	1.629495074	0.78
## 110	0.120596089	0.99172648	0.13	-1.66888879	-0.067611016	-1.66
## 111	-2.865009034	3.02191840	0.20	-0.35122181	0.680175624	-0.20
## 112	-7.041629761	-5.15561641	0.21	-0.17408273	1.521940610	-0.98
## 113	0.905192949	-3.17231168	0.27	0.56015888	0.497987940	-0.83
## 114	1.340887630	-4.39636058	0.31	0.21874864	1.176327811	-0.17
## 115	3.410361536	2.38723608	0.36	0.97309831	0.884085150	0.90
## 116	0.910073887	0.42374536	0.43	0.91924399	1.368497271	-0.67
## 117	2.384141441	5.75767593	0.44	-0.26060999	1.744020666	-0.58
## 118	-4.613640328	3.74347282	0.49	-0.44257119	2.184369844	-1.01
## 119	-0.018286550	-0.40940026	0.59	-0.38466688	1.594749906	-0.97
## 120	2.423411065	-0.70115495	0.77	-0.82359319	1.886523961	-0.23
## 121	-3.258928571	-3.99827954	0.73	1.24231077	1.843565696	0.14
## 122	-3.968620212	-4.06959379	0.76	-1.39755945	-0.004357640	-0.30
## 123	1.028351754	-7.81505410	0.93	-0.02239488	0.946119064	0.63
## 124	-0.732496195	3.82715528	0.83	-0.95495447	1.410617543	1.22
## 125	1.456636320	-3.86703263	1.03	-0.40801654	0.803642936	-0.26
## 126	-2.144139038	10.76708331	1.02	0.45521511	1.136442206	0.51
## 127	1.911196911	-0.94703479	1.03	0.24842027	1.596020786	-0.88
## 128	1.117635916	-0.18119434	1.17	-0.61039193	0.714003227	-0.44
## 129	4.402397902	4.39517998	1.07	-1.52863835	1.459571038	0.46
## 130	2.485196483	-2.76729560	1.02	0.04686551	1.793288482	-0.02
## 131	2.241092533	0.70580626	1.02	-0.48814772	0.992364401	-0.05
## 132	5.180238034	-1.44327949	1.12	-0.11581830	1.282623442	-0.16
## 133	2.067730381	-2.26946004	1.12	1.28513343	1.518887870	0.31
## 134	2.711756261	2.12799341	0.92	-2.64038848	0.166341867	-0.92
## 135	-1.056064606	-2.44661238	1.17	-0.51482396	-0.016591666	0.49
## 136	-1.820750275	-1.56895941	0.92	-0.01254788	0.959626765	0.27
## 137	-2.302158273	1.90396192	1.12	-0.03864151	0.041082497	-0.03
## 138	2.495499918	-5.43049477	1.07	-0.58877453	0.514048704	0.72
## 139	-0.646603337	-1.61250156	1.07	0.91812011	0.465243930	1.26

## 140	5.270769725	3.80518467	1.14	0.26109246	0.078301557	0.61
## 141	1.236452450	1.74140979	0.97	-0.38152084	1.338368836	0.39
## 142	0.082931242	0.99660475	1.00	0.01622266	1.094113652	0.24
## 143	-2.267419962	-2.41254524	0.92	-0.68149699	0.397387700	0.04
## 144	2.867273008	-1.90885327	0.89	0.21931563	1.158208828	0.29
## 145	-0.157350517	2.31784659	0.97	1.98210712	1.610341710	1.42
## 146	3.729831144	0.60166771	0.80	-1.51965982	-0.195543945	-0.78
## 147	-4.123860512	0.25889578	0.83	0.10113107	0.345319297	0.88
## 148	-2.210987021	3.51509328	0.89	0.70368184	1.670781682	0.35
##	primary-1	current_account-1	trade_balance-1	imports-1	ibovespa-2	ipca-2
## 2	-24082.32	-5204.4	974.6429270	-4.7859610	4.34	0.56
## 3	16501.74	7018.3	-67.7014110	-6.4635734	-1.98	0.45
## 4	-927.65	-1481.2	18.4329200	15.7112372	-4.17	0.21
## 5	-3797.78	-6.7	45.7639219	-0.9447098	-11.86	0.64
## 6	11586.72	-15.2	-47.9379592	8.3049993	-0.25	0.36
## 7	-141.24	-857.7	108.4859508	-8.3993692	3.21	0.08
## 8	-2775.31	-904.5	-56.4333203	-2.2135250	1.72	0.43
## 9	2572.92	3767.4	-52.8656263	5.5010607	3.70	0.41
## 10	1406.02	-677.0	151.7579842	-8.8057714	-3.56	0.57
## 11	-10807.82	-2405.5	96.0430608	15.8289858	0.71	0.59
## 12	17913.77	-1909.1	25.4645295	2.1720678	6.05	0.60
## 13	-27767.67	291.7	-32.6693321	-15.2500456	-1.95	0.79
## 14	-7999.10	-4199.5	197.1644413	14.0765504	-3.91	0.86
## 15	33282.74	7185.9	-38.4697244	-15.8025709	-1.87	0.60
## 16	-6531.35	-550.1	-16.7166302	13.6496906	-0.78	0.47
## 17	-6828.32	-352.9	31.1013175	12.9311553	-4.30	0.55
## 18	4647.38	440.8	-23.7530360	-2.6167133	-11.31	0.37
## 19	252.40	2801.2	-59.6902267	-10.5333459	1.64	0.26
## 20	3141.77	-8111.6	288.8392602	20.4871461	3.68	0.03
## 21	2718.66	6404.9	-44.2322136	-10.9467702	4.65	0.24
## 22	8616.00	974.1	-11.5374459	-6.5019225	3.66	0.35
## 23	-15236.28	-2607.3	77.8172483	21.8487395	-3.27	0.57
## 24	-23556.95	1491.6	-55.6801585	-16.8193000	-1.86	0.54
## 25	19338.02	1089.4	-12.7159091	-5.2807438	-7.51	0.92
## 26	-9513.96	-9109.3	243.3624094	8.7445223	-1.14	0.55
## 27	17791.08	5220.4	-17.7424451	-8.3954585	7.05	0.69
## 28	-1449.35	606.3	-30.9758309	-2.8225474	2.40	0.92
## 29	-13316.23	-654.4	6.2239833	9.4791879	-0.75	0.67
## 30	27942.16	1484.1	-0.6202980	4.5814468	3.76	0.46
## 31	-8945.88	2047.9	-53.2927061	-9.7973708	5.00	0.40
## 32	2614.66	-5679.0	75.2099323	18.5934384	9.78	0.01
## 33	9744.88	4383.2	-6.9519957	-10.0461072	-11.70	0.25
## 34	11030.97	-2029.6	79.9036305	6.2278192	0.95	0.57
## 35	-29219.63	-1304.1	-0.5603017	-4.7531100	0.18	0.42
## 36	11812.86	-475.2	9.8822000	-7.3461183	-8.62	0.51
## 37	4810.02	348.1	-21.0734662	-4.5959568	-6.20	0.78
## 38	-33957.05	-2619.1	29.7040660	-5.3560046	9.97	1.24
## 39	23362.46	4636.3	-8.4163593	-8.3306030	-0.84	1.22
## 40	-2539.01	1600.1	-33.5091357	10.8396654	9.93	1.32
## 41	-13205.65	194.3	-10.7590789	-11.7298953	-6.17	0.71
## 42	20345.42	2146.3	-58.1995442	-3.7688238	0.61	0.74
## 43	2422.74	303.7	-108.6145272	7.3716845	-4.17	0.79
## 44	695.50	-2667.3	-1094.0225035	3.6449228	-8.33	0.62
## 45	-2708.67	3594.2	-34.1917227	-17.9153506	-3.36	0.22

## 46	8.35	-12.5	7.0629972	3.0075419	1.80	0.54
## 47	4211.86	-2027.0	80.6807912	6.2862351	-1.63	0.82
## 48	8036.77	1165.1	18.4061354	-10.1074075	-3.93	1.01
## 49	52161.77	3944.7	-233.7369755	-16.8779275	-6.79	0.96
## 50	-99641.57	-6124.4	-124.6683512	-5.8213153	5.91	1.27
## 51	50952.80	4256.5	-150.3343292	4.8306380	16.97	0.90
## 52	-12396.43	-207.8	95.4776710	12.0651376	7.70	0.43
## 53	-20825.24	869.1	117.6402545	-8.7824911	-10.09	0.61
## 54	28307.04	1965.3	108.3244752	5.7466443	6.30	0.78
## 55	-8063.92	-4020.3	-116.3504162	14.5180484	11.22	0.35
## 56	2754.66	-1228.9	-378.6034718	-7.8020244	1.03	0.52
## 57	9450.88	2930.9	-26.2531504	9.3230032	0.80	0.44
## 58	4375.69	-337.2	-61.0499335	-6.6676340	11.23	0.08
## 59	-66231.55	-1841.9	-406.6780405	-4.8913799	-4.65	0.26
## 60	78729.73	2779.4	-224.8430422	0.7261027	-2.71	0.18
## 61	31596.54	-4117.2	-86.4918200	0.5005082	7.38	0.30
## 62	-107449.40	-1997.8	-380.3958530	5.8325614	3.08	0.38
## 63	60179.79	6454.3	-324.9579832	-10.6263551	-2.52	0.33
## 64	-12420.79	414.8	140.6425103	22.9925335	0.64	0.25
## 65	-23955.15	-931.1	-6.9202111	-15.4843046	-4.12	0.14
## 66	43644.62	2534.6	20.2061305	13.2136467	0.30	0.31
## 67	-11184.05	-2038.6	-32.6562890	3.3372017	4.80	-0.23
## 68	-3414.53	-3843.8	-29.5550062	-0.9767342	7.46	0.24
## 69	-6608.82	3098.1	-44.8441247	11.5633417	4.88	0.19
## 70	11730.42	-367.7	-21.5800636	-3.7665942	0.02	0.16
## 71	-26017.03	-936.9	2.5963489	2.5616257	-3.15	0.42
## 72	5666.76	-1331.4	-256.5309081	-4.0757831	6.16	0.28
## 73	31412.28	329.1	-78.1239475	-4.3301969	11.14	0.44
## 74	-79261.60	-4275.3	472.7097768	13.4655995	0.52	0.29
## 75	64353.68	1905.5	-36.6624101	0.4880557	0.01	0.32
## 76	7721.74	2648.1	-331.4728353	-3.3959112	0.88	0.09
## 77	-28035.19	595.6	-36.7012011	1.8890312	-10.87	0.22
## 78	11123.96	871.4	30.6199305	-5.3041218	-5.20	0.40
## 79	5267.15	-680.1	-32.1412730	7.8550437	8.88	1.26
## 80	-10090.55	-6014.7	-171.0107035	28.2351729	-3.21	0.33
## 81	13474.90	3644.2	153.3195259	1.7189847	3.48	-0.09
## 82	7745.63	2456.6	-148.8008721	-24.3341745	10.19	0.48
## 83	-32419.28	-760.3	-28.4810127	14.1647848	2.38	0.45
## 84	23400.03	-941.9	-154.7891723	4.3493920	-1.81	-0.21
## 85	25531.04	-2952.2	-464.5130641	-22.8615727	10.82	0.15
## 86	-88030.35	-2434.7	-302.9453929	27.8948864	-1.86	0.32
## 87	61828.17	6591.4	-69.1337015	-21.9557298	-0.18	0.43
## 88	3698.45	-815.7	-122.7504421	3.6872327	0.98	0.75
## 89	-25266.32	665.1	118.0612711	5.1317243	0.70	0.57
## 90	19645.07	-503.4	-26.3577270	9.6691232	4.06	0.13
## 91	-301.77	652.5	-128.6446469	-11.7705878	0.84	0.01
## 92	-9943.24	-8908.4	3237.8727634	33.8392833	-0.67	0.19
## 93	10684.67	5443.9	-62.7743530	-7.1779957	3.57	0.11
## 94	7093.04	2432.1	-56.9120000	-1.4645113	2.36	-0.04
## 95	-29985.04	-5543.1	519.2536205	4.9636283	0.95	0.10
## 96	24756.81	5065.7	-77.4323149	-16.1860060	6.85	0.51
## 97	-1799.81	-1296.9	-157.1011027	-10.6566106	-1.63	1.15
## 98	-69788.48	-5348.0	-1505.6305258	27.4178621	-8.43	0.21
## 99	77176.83	5937.8	-67.3022809	-18.0183898	-29.90	0.25

## 100	2754.32	1551.8	-93.0950694	9.4935095	10.25	0.07
## 101	70647.23	5762.9	-2494.2815249	-21.6545087	8.57	-0.31
## 102	37135.51	-1798.5	-65.2336334	12.8907320	8.76	-0.38
## 103	57243.45	2471.4	298.8814515	-18.7635154	8.27	0.26
## 104	-107610.63	-3582.4	-6.2023891	10.9199031	-3.44	0.36
## 105	6522.77	1646.1	-23.1897363	-3.0629120	-4.80	0.24
## 106	-23035.07	-1268.3	-26.9453554	10.4653839	-0.69	0.64
## 107	-67511.09	-1079.0	-29.2234761	1.4409470	15.90	0.86
## 108	21092.32	-1447.2	-132.2980262	12.1505452	9.30	0.89
## 109	33697.40	-5974.4	652.6885667	29.6819654	-3.32	1.35
## 110	-110211.83	228.8	3.9449944	-13.7383209	-4.37	0.25
## 111	70144.40	4249.8	-46.1343592	-4.8591200	6.00	0.86
## 112	-16750.95	-4139.7	-4.7944609	48.7657434	1.94	0.93
## 113	-19274.26	11958.1	-416.3746970	-30.5175384	6.16	0.31
## 114	39796.85	-1406.6	-26.2675476	9.2224958	0.46	0.83
## 115	49966.67	-326.9	1.0745098	14.6091032	-3.94	0.53
## 116	-55224.95	-5345.4	-21.2403973	-10.6571057	-2.48	0.96
## 117	-27011.74	1457.6	-20.5078943	11.5762788	-6.57	0.87
## 118	3795.13	-1411.9	-93.1087906	1.3779654	-6.74	1.16
## 119	-22465.89	-2381.6	-599.2805755	-2.5451642	-1.53	1.25
## 120	20365.28	-2496.4	358.7896254	7.3847343	2.85	0.95
## 121	14910.89	767.5	-93.6381124	-4.9941258	6.98	0.73
## 122	-101709.93	380.2	1118.9447701	-2.7004212	0.89	0.54
## 123	98362.22	5479.2	-116.7392295	-5.4470931	6.06	1.01
## 124	-841.35	-425.4	310.4491154	17.1943973	-10.10	1.62
## 125	-34564.20	3382.6	31.7061489	-5.1112005	3.22	1.06
## 126	71869.03	-5344.8	-103.2868052	18.6072754	-11.50	0.47
## 127	-47387.20	4532.1	-2755.0638298	-3.0290268	4.69	0.67
## 128	-6045.86	-5928.9	-70.1958522	1.0222126	0.19	-0.68
## 129	50719.65	-1493.0	-228.6190579	9.8595820	0.47	-0.36
## 130	-41024.97	41.6	-13.9058450	-1.5185557	5.45	-0.29
## 131	-16348.82	1909.9	51.2043512	-9.3515276	-3.06	0.59
## 132	47183.81	4116.3	-230.9031346	-7.2065443	-2.45	0.41
## 133	-8275.80	-6438.1	-131.9937190	1.8601473	3.37	0.62
## 134	-110826.09	-1433.7	131.8865031	-8.2587955	-7.49	0.53
## 135	125465.73	4608.6	-106.5083670	-14.1375979	-2.91	0.84
## 136	-12270.55	5052.2	6197.0528455	25.2571981	2.50	0.71
## 137	-34506.97	-944.8	-31.6688992	-13.1284940	3.74	0.61
## 138	70496.76	1340.4	44.5347189	13.9897675	9.00	0.23
## 139	-1273.68	-1935.3	-24.4051899	-8.1040416	3.26	-0.08
## 140	-13089.23	-4381.2	-23.6116815	1.6465043	-5.09	0.12
## 141	-12979.28	3229.0	36.5414002	8.1508941	0.71	0.23
## 142	-4759.03	1818.3	-13.1416965	-9.9346778	-2.94	0.26
## 143	-32869.52	-373.0	-3.3929850	3.7386399	12.54	0.24
## 144	52068.20	-1906.9	-22.5622407	-3.5293642	5.38	0.28
## 145	92303.07	-5357.5	11.3099225	1.3442374	-4.79	0.56
## 146	-231719.15	2415.2	-78.1770251	5.6344756	0.99	0.42
## 147	150838.12	808.4	-158.1932773	-10.6683073	-0.71	0.83
## 148	-49868.77	-248.1	-352.7527076	13.6886626	-1.70	0.16
##	igpm-2	ipca15-2	bm_broad-2	m1-2	icbr-2	ibcbr-2
## 2	0.25	0.65	0.82774563	9.34721613	0.75690899	-0.10561893
## 3	-0.06	0.53	1.46996853	-3.87886904	-2.42837177	-1.86085853
## 4	0.43	0.25	0.12063843	-2.89641693	2.14861235	-4.23041011
## 5	0.85	0.43	1.19837492	-1.18158140	-0.26292726	1.50742463

## 6	1.02	0.51	0.85801558	0.31240341	1.58172232	8.12707795
## 7	0.66	0.18	0.37675927	0.27921314	-0.31141869	-4.44140758
## 8	1.34	0.33	1.02782992	1.67179007	7.42797640	3.36789417
## 9	1.43	0.39	0.60619146	2.15639408	0.74313409	-1.57719978
## 10	0.97	0.48	0.37923260	-0.91303702	1.77998717	3.64070846
## 11	0.02	0.65	1.28519844	3.28540082	-1.04773909	1.66146752
## 12	-0.03	0.54	1.24713023	0.42944075	1.05883290	-5.54332600
## 13	0.68	0.69	0.54858463	0.83435871	1.42587049	4.31497175
## 14	0.34	0.88	-0.60340224	12.06026614	-2.05048544	-2.41012795
## 15	0.29	0.68	1.08474727	-3.91509836	-3.25905955	-3.21193202
## 16	0.21	0.49	0.18270082	-3.22903292	-1.54918033	-0.14334862
## 17	0.15	0.51	0.76281025	0.10218389	-1.74839730	-2.28251507
## 18	0.00	0.46	0.71046044	0.06764038	0.15252945	8.71896577
## 19	0.75	0.38	0.23192304	0.13640080	4.94119638	1.20262144
## 20	0.26	0.07	0.71865314	2.09983940	2.08820447	-1.84257961
## 21	0.15	0.16	0.72594713	1.53434479	4.01990207	-1.46908794
## 22	1.50	0.27	0.50373721	-1.02958943	-2.14106750	5.01138952
## 23	0.86	0.48	0.63753624	2.05176848	-2.80083792	-0.21034641
## 24	0.29	0.57	0.48239420	-0.28155618	3.15293742	-2.99058033
## 25	0.60	0.75	-0.09243554	1.24005756	2.80120715	3.14388538
## 26	0.48	0.67	0.07352534	10.14107057	1.89687618	-2.70572745
## 27	0.38	0.70	1.97055206	-4.51687630	3.78222649	-1.36680425
## 28	1.67	0.73	-0.13819716	-3.40545128	0.12100505	-2.09233724
## 29	0.78	0.78	0.82795816	-0.16549601	-2.75131523	0.56754484
## 30	-0.13	0.58	0.60673267	0.61274111	-1.83492945	3.83195151
## 31	-0.74	0.47	0.75218729	-1.91133588	-0.54364015	-0.89914782
## 32	-0.61	0.17	1.88342320	0.47348563	-1.68476226	-0.37240165
## 33	-0.27	0.14	1.48754566	0.49129666	-1.08910891	-4.25445154
## 34	0.20	0.39	0.22339327	-0.75018729	1.94040194	6.36712095
## 35	0.28	0.48	1.96853406	3.14617570	5.20432057	-1.05438772
## 36	0.98	0.38	0.77631142	0.33813638	4.08529581	-0.10116679
## 37	0.62	0.79	1.06696373	0.67605796	-0.29661309	1.06670267
## 38	0.76	0.89	1.02052197	9.32630700	-4.77376505	-3.19305277
## 39	0.27	1.33	1.15943946	-5.06850538	4.59168846	0.38642009
## 40	0.98	1.24	1.47563490	-2.82325969	8.14809669	-4.57107506
## 41	1.17	1.07	2.02809125	-1.58293769	-2.39578650	-1.58467190
## 42	0.41	0.60	-0.12196174	-1.48721450	1.14503817	9.47815268
## 43	0.67	0.99	1.78740323	-1.54297209	0.89134678	-4.71988234
## 44	0.69	0.59	1.11827763	-0.62628881	3.39201651	-1.82430536
## 45	0.28	0.43	2.13109101	0.42629841	4.78388324	-0.92195540
## 46	0.95	0.39	1.47729312	-1.84675621	9.29761905	3.33982543
## 47	1.89	0.66	1.23806234	-0.49742826	0.76789021	-1.62641351
## 48	1.52	0.85	0.90687576	1.46314822	-4.79922175	-1.96551479
## 49	0.49	1.18	0.86847498	-0.08937879	1.13539597	1.54892878
## 50	1.14	0.92	2.18426389	9.53582379	2.94134157	-3.03635068
## 51	1.29	1.42	1.39592161	-4.08529364	-1.55406511	0.21317260
## 52	0.51	0.43	0.85337320	-2.40626788	-5.61094494	-5.94880070
## 53	0.33	0.51	-0.17309551	-1.55929699	-3.33900593	1.98876930
## 54	0.82	0.86	0.84141354	-0.11843184	0.92884896	7.24172211
## 55	1.69	0.40	1.56075161	-0.10737951	0.43909774	-3.03051911
## 56	0.18	0.54	0.85162277	-1.14788420	-4.91675650	-1.80895654
## 57	0.15	0.45	2.27423367	1.47061738	-1.99030043	1.28061110
## 58	0.20	0.23	1.22769960	-0.64539381	1.74795964	1.05737947
## 59	0.16	0.19	1.54177609	2.19652210	-0.16421398	1.07558352

## 60	-0.03	0.26	0.07789160	0.84142417	5.49756437	-3.10554510
## 61	0.54	0.19	1.53695415	-0.12071934	2.12880787	-0.85917071
## 62	0.64	0.31	-0.19782394	9.39723505	-2.98279608	-0.27128862
## 63	0.08	0.54	1.05273965	-4.64658129	-3.40737154	0.70273538
## 64	0.01	0.15	1.20586526	-2.58996052	-2.21177945	-3.52667517
## 65	-1.10	0.21	1.03263251	-0.97611716	0.05125905	0.70000778
## 66	-0.93	0.24	0.84552756	1.02918402	2.49119436	9.66247007
## 67	-0.67	0.16	1.22319232	-0.38284541	-0.18745314	-5.73320186
## 68	-0.72	-0.18	1.31228568	0.81235775	-1.35845749	1.68858338
## 69	0.10	0.35	1.27465143	1.41032653	-2.11969283	-0.81557678
## 70	0.47	0.11	1.01432364	-1.41202713	2.14614537	2.60760056
## 71	0.20	0.34	0.56582783	1.58944154	3.16110194	1.24178760
## 72	0.52	0.32	0.45162549	-0.09141441	5.31011568	-3.78663624
## 73	0.89	0.35	0.45772224	0.94023678	-0.87642419	0.92647495
## 74	0.76	0.39	0.37152025	10.79017408	0.91364574	-0.71968862
## 75	0.07	0.38	0.68240513	-4.67303828	0.33878505	0.51039278
## 76	0.64	0.10	0.62266938	-1.98677574	-1.56595646	-2.69355314
## 77	0.57	0.21	0.55411112	0.20788541	3.98604294	-1.64876721
## 78	1.38	0.14	0.76113097	0.62671631	9.15088438	8.95109197
## 79	1.87	1.11	0.88951407	-0.05857130	3.13151313	-1.75748165
## 80	0.51	0.64	0.42032018	0.84195186	-0.44965392	-4.88540843
## 81	0.70	0.13	0.96489399	1.53192225	0.83231831	3.53501020
## 82	1.52	0.09	-0.06170365	0.14670141	5.99456412	3.00576348
## 83	0.89	0.58	0.78859072	2.50604526	-6.10665274	1.66442383
## 84	-0.49	0.19	0.31601615	-1.14352408	-2.43261012	-5.32255817
## 85	-1.08	-0.16	0.58919697	0.08680447	0.41986316	3.00956586
## 86	0.01	0.30	0.41659107	9.18591450	-3.52036339	-1.56439746
## 87	0.88	0.34	0.53779762	-4.99752137	0.25145792	-0.98693759
## 88	1.26	0.54	0.50195679	-2.45193646	2.56697620	-2.04485488
## 89	0.92	0.72	1.31556145	0.39623950	1.52973620	0.26187804
## 90	0.45	0.35	0.71028792	0.56059018	-1.97816840	3.82835821
## 91	0.80	0.06	-0.01218789	-1.56957553	-4.91974695	0.48156400
## 92	0.40	0.09	0.47985497	0.66959161	-0.75332673	-0.18597997
## 93	-0.67	0.08	0.63940824	0.80620751	0.27702366	-3.08155368
## 94	-0.01	0.09	0.86831138	-0.58280691	5.22680811	5.93759243
## 95	0.68	0.09	-0.63456596	2.33050705	2.20530323	-0.84455922
## 96	0.30	0.14	-0.22265399	0.66682486	4.94220396	-2.56229762
## 97	2.09	1.05	0.55074309	1.51632722	0.62172615	3.35211675
## 98	0.48	0.71	-1.07032062	10.63354630	0.98277708	-2.83098001
## 99	-0.04	0.22	0.72895760	-5.75980483	-0.45288109	-1.05028415
## 100	1.24	0.02	0.45137694	0.11711548	-4.30742426	-2.56633951
## 101	0.80	-0.01	-0.24642640	1.82817197	1.56281610	0.33577078
## 102	0.28	-0.59	1.56539350	7.77970895	12.30516409	1.22703949
## 103	1.56	0.02	2.72275184	7.86898620	-4.85544519	-12.98853952
## 104	2.23	0.30	3.69230419	6.26515134	7.08393531	0.95406957
## 105	2.74	0.23	1.86086177	3.60838674	9.38764852	5.31905996
## 106	4.34	0.45	2.04700078	2.44804084	0.53712103	7.95680140
## 107	3.23	0.94	1.93363132	3.60471084	5.54038545	-0.15446855
## 108	3.28	0.81	0.75594732	2.42301898	0.11623983	1.04611758
## 109	0.96	1.06	0.14615341	0.79888939	-1.35580524	1.96850394
## 110	2.58	0.78	1.01260155	6.11091527	10.55509150	-1.18690119
## 111	2.53	0.48	0.78783149	-4.44266853	7.03001580	0.82489146
## 112	2.94	0.93	0.39491893	-1.88702771	5.31686186	-5.84182575
## 113	1.51	0.60	-0.54858662	-0.36117133	1.21260130	2.31707317

## 114	4.10	0.44	-0.07124556	0.63188436	1.10475617	7.82926103
## 115	0.60	0.83	0.42538994	-0.07272637	-3.55196951	-3.76511226
## 116	0.78	0.72	1.03568227	2.17129722	5.17071063	-1.15577889
## 117	0.66	0.89	1.03537163	5.55736831	3.39898441	0.16704191
## 118	-0.64	1.14	0.44358930	-0.62514374	2.32775996	3.73404872
## 119	0.64	1.20	0.90287551	-1.57579714	11.28526646	-0.78982316
## 120	0.02	1.17	0.65494271	-1.58696176	-0.33403964	-2.26151895
## 121	0.87	0.78	0.13906080	-0.78251988	-0.71283860	-0.51899373
## 122	1.82	0.58	-0.06858192	3.62262287	2.99274486	1.21730309
## 123	1.83	0.99	0.64037333	-4.00296456	-0.78514822	1.31004367
## 124	1.74	0.95	0.31019759	-0.94476518	4.37837438	-7.05200678
## 125	1.41	1.73	0.37734934	0.34866423	-1.12425896	3.89995439
## 126	0.52	0.59	1.15026429	1.15879113	3.22002723	9.46806175
## 127	0.59	0.69	0.66661561	-0.41943515	-0.94651825	-4.19758038
## 128	0.21	0.13	1.05905870	0.77133802	-2.42979300	-0.39070676
## 129	-0.70	-0.73	0.68123036	-0.58921178	-0.71596188	-0.60236744
## 130	-0.95	-0.37	0.62754522	-0.19777058	-1.37954321	4.84109647
## 131	-0.97	0.16	0.40374834	-0.60099174	-3.51911178	0.38983734
## 132	-0.56	0.53	0.51381180	-0.82373659	1.25975869	-3.35431173
## 133	0.45	0.52	-0.04354646	-0.02911452	-2.18528624	-1.14305507
## 134	0.21	0.55	-0.55844107	5.62750093	-2.58214761	-1.21233357
## 135	-0.06	0.76	0.83802085	-3.56546502	-1.56303360	0.86543236
## 136	0.05	0.69	0.81508953	-1.19693925	-2.84479078	-4.38146142
## 137	-0.95	0.57	1.11502991	-0.52824210	-0.44498160	3.64077670
## 138	-1.84	0.51	0.86748171	0.04564279	-4.68215429	12.41217799
## 139	-1.93	0.04	1.32663871	-2.09171932	-0.77286016	-6.09217172
## 140	-0.72	-0.07	1.01154138	0.75492063	1.83780630	-1.25042017
## 141	-0.14	0.28	1.32351877	6.18178159	2.85877972	-0.85097692
## 142	0.37	0.35	1.13871710	-0.49983753	3.72897404	3.26146663
## 143	0.50	0.21	0.85287260	-1.05837111	0.98531425	0.59179467
## 144	0.59	0.33	0.88304173	-0.22575951	-5.09118945	-4.27022739
## 145	0.74	0.40	0.65668677	0.39688771	-3.98330485	0.07595636
## 146	0.07	0.31	1.65050400	6.89789159	0.78770021	-0.47609191
## 147	-0.52	0.78	1.32774898	-4.33303935	4.26086201	-0.06932890
## 148	-0.47	0.36	1.01823747	-0.49963319	2.55143119	-2.31719162
##	pimpf-2	tcu-2	elec-2	confidence-2	brl_usd-2	selic-2
## 2	-8.1548600	-2.4	1.02837659	0.101156983	-7.28494480	0.89
## 3	-7.2645740	1.3	-1.18937456	7.484368092	-1.71987345	0.75
## 4	1.2572534	-1.0	1.64164716	-3.384651545	6.60774903	0.82
## 5	10.9837631	-0.1	4.66654020	0.346673154	3.82651661	0.71
## 6	-6.9707401	1.0	-1.62338503	-1.175828838	6.90038071	0.74
## 7	10.4532840	-0.2	-3.12138120	-0.429316161	-0.04946332	0.64
## 8	-4.1038526	0.2	-0.76609617	-1.102556206	1.42029990	0.68
## 9	6.3755459	1.2	-1.67268944	-2.653213752	-0.62457305	0.69
## 10	6.7323481	0.0	3.51644068	1.273192578	-0.32406953	0.54
## 11	-7.3076923	1.0	1.29639591	1.952113210	0.03940887	0.61
## 12	8.1327801	0.0	0.35579629	-1.047217747	3.74236754	0.55
## 13	-6.2164236	0.1	2.24362366	1.327572171	-3.03303588	0.55
## 14	-12.0294599	-3.6	-2.27460925	-0.778691057	-2.70204122	0.60
## 15	2.4186047	1.3	1.59406858	3.301152289	-0.64396036	0.49
## 16	-6.8119891	-0.6	-0.94091276	-3.551401869	1.93933870	0.55
## 17	11.0136452	-0.2	1.14718729	-2.713178295	-0.60103318	0.61
## 18	4.2142230	0.9	0.55148015	-6.201002442	6.51141872	0.60
## 19	3.0328559	0.4	-0.79939980	-0.637117216	3.92230459	0.61

## 20	-3.1071137	0.0	-1.86986569	-5.729453944	3.37246050	0.72
## 21	6.2447257	0.7	0.18603168	-2.698749360	3.58998996	0.71
## 22	3.7331215	0.1	2.42718447	2.781118461	-6.00784181	0.71
## 23	-4.2879020	1.1	-0.22790252	1.828287260	-1.22903023	0.81
## 24	4.9600000	0.9	2.24269955	-0.883366849	5.55404178	0.72
## 25	-5.7164634	-1.1	1.34809211	-1.043402652	0.76151960	0.79
## 26	-15.1172191	-3.0	-0.91182365	-3.536647873	3.57386849	0.85
## 27	2.7619048	1.0	1.83031651	3.529679672	-3.83394484	0.79
## 28	-0.3707136	-0.5	3.40863952	-7.779162695	-3.01367514	0.77
## 29	5.4883721	-0.7	-3.32268984	-4.396565432	-1.19342291	0.82
## 30	-1.3227513	0.5	-1.68119397	-8.956340956	0.13420417	0.87
## 31	5.8981233	-0.2	-1.24267529	-1.927292656	-1.63062902	0.82
## 32	-6.6666667	-1.0	-3.51406650	2.030362299	2.94745447	0.95
## 33	10.0361664	0.7	0.37374755	0.903696942	-1.22639845	0.87
## 34	1.8077239	0.6	1.80632213	7.580966166	9.44171505	0.91
## 35	-0.6456820	0.1	0.89232445	-2.606794484	-0.27750571	0.95
## 36	3.4118603	1.1	3.09808459	0.146779485	4.74300213	0.84
## 37	-8.6410055	-2.2	2.12219451	-2.620915596	3.75463958	0.96
## 38	-12.1238177	-2.8	-2.71788235	-0.230190350	0.22970327	0.94
## 39	0.4892368	1.0	2.30935288	0.177478037	8.11511440	0.82
## 40	-4.9659202	-1.3	-0.09568674	-5.341482859	11.45706641	1.04
## 41	12.6024590	-0.9	-2.35762175	-4.959760434	-6.68454200	0.95
## 42	-5.8234759	-0.4	-0.40745492	-9.639621898	6.18443034	0.99
## 43	4.7342995	-0.7	-3.52299417	-1.296720061	-2.39765898	1.07
## 44	-0.5535055	-0.8	-2.45536883	-6.657098697	9.39746607	1.18
## 45	3.1539889	0.8	-1.20223272	0.130100532	7.44680851	1.11
## 46	2.2482014	0.4	2.83300739	1.027639972	8.94380297	1.11
## 47	-3.3421284	0.8	-0.04490346	3.788144511	-2.86994613	1.11
## 48	3.0937216	0.3	3.79208287	-3.627351583	-0.21512622	1.06
## 49	-9.9735216	-0.4	-0.13239300	1.893629456	1.41042624	1.16
## 50	-11.7647059	-4.0	-1.41491396	2.145233452	3.53465499	1.06
## 51	-1.2222222	1.1	-0.69562969	6.951931716	-1.56350502	1.00
## 52	-0.5624297	-0.9	0.84893623	-6.216528405	-10.57300829	1.16
## 53	10.2941176	0.6	1.85400367	-1.825103572	-3.03796757	1.06
## 54	-0.8205128	-0.1	2.08898466	3.615419708	4.18236624	1.11
## 55	3.9296794	0.3	-4.02294569	7.925151348	-10.71915426	1.16
## 56	1.5920398	0.1	-2.84354058	-0.387557369	0.90988408	1.11
## 57	2.2526934	0.4	-0.78561917	2.436776902	0.04014328	1.22
## 58	3.8314176	1.5	1.17836532	6.896551724	0.18211563	1.11
## 59	-2.4907749	-0.2	1.72706532	-0.906965872	-2.00579246	1.05
## 60	-0.5676443	1.0	-0.38336159	4.076240800	6.77880836	1.04
## 61	-4.0913416	-2.2	1.45557359	0.389845875	-4.05170637	1.12
## 62	-10.7142857	-0.8	0.06967023	-7.658267859	-4.05401258	1.09
## 63	0.8888889	0.5	1.51620639	11.295843521	-0.88600307	0.87
## 64	-2.6431718	-0.4	-1.35385710	-3.884007030	2.22996741	1.05
## 65	12.6696833	0.1	4.40313112	-0.338270251	0.94702948	0.79
## 66	-7.2289157	0.6	-2.75242934	-5.063755619	1.41659891	0.93
## 67	13.6363636	-0.4	-3.23357849	-3.314329887	1.98883784	0.81
## 68	-1.8095238	0.4	-0.10745643	4.717169698	-5.36642883	0.80
## 69	4.0737148	0.2	-1.92580154	-3.149456003	0.52394492	0.80
## 70	4.9394222	0.7	1.30016051	-1.783602680	0.66423010	0.64
## 71	-3.8188277	1.1	3.01853906	3.150396308	3.43815116	0.64
## 72	2.4007387	0.6	0.83826809	1.118568233	-0.46699020	0.57
## 73	-4.7790803	-0.7	1.24822046	5.290496345	1.42287642	0.54

## 74	-10.6060606	-2.6	-0.55489994	6.851818016	-4.40224950	0.58
## 75	1.5889831	1.9	1.13366662	3.086525308	2.60927320	0.47
## 76	-6.1522419	-0.1	-2.21195856	-4.088911006	2.43195759	0.53
## 77	11.6666667	0.4	4.94779034	-4.929090280	4.73338950	0.52
## 78	0.2985075	0.4	-1.00226239	3.238129889	7.35239190	0.52
## 79	-2.3809524	-0.3	-3.51885981	-8.370044053	3.17953110	0.52
## 80	7.8252033	-0.5	-2.69974276	-0.500000000	-2.61724424	0.54
## 81	5.1837889	0.9	0.79836662	0.869733282	10.13238154	0.57
## 82	2.5985663	1.7	1.40490288	2.308871431	-3.17798147	0.47
## 83	-7.6855895	0.2	-0.02560885	1.048787340	-7.14910199	0.54
## 84	5.5818354	-0.6	3.47088809	6.106940969	3.91703209	0.49
## 85	-6.5412186	-1.6	0.03465861	11.615720524	0.29771921	0.49
## 86	-12.9434324	-3.0	-1.31904573	0.657276995	-5.75344587	0.54
## 87	3.5242291	1.4	4.44388715	8.356654229	2.37175800	0.49
## 88	-1.9148936	-0.5	-1.15974740	-9.943324485	4.23232296	0.47
## 89	2.3861171	-0.1	-0.03886891	-3.043097268	1.24740125	0.52
## 90	2.8601695	1.3	-3.46310878	-3.861638321	-0.11661216	0.54
## 91	9.1658084	-0.3	1.90821438	-8.230065806	-2.75373721	0.47
## 92	-5.6603774	0.4	-5.03940120	3.296703297	-1.75644639	0.57
## 93	8.9000000	1.0	-0.24713197	3.299675442	9.92482002	0.50
## 94	2.9384757	0.6	0.77191884	-2.085878862	0.62592136	0.46
## 95	-4.6387154	1.0	1.60447182	-0.329797665	-3.84984870	0.48
## 96	5.7998129	-0.2	4.59986756	6.099087820	5.49269389	0.38
## 97	-9.3722370	-1.3	1.76292978	2.208361430	-4.57688119	0.37
## 98	-12.4878049	-2.0	-2.36887443	0.008246743	5.92541128	0.38
## 99	4.0133779	1.6	1.29160335	8.674857755	5.36906463	0.29
## 100	-1.5005359	-1.4	-0.88315711	-5.470824797	15.56212623	0.34
## 101	-1.1969532	-17.7	0.42720437	-10.122009953	4.39198938	0.28
## 102	-22.6872247	3.4	-9.41928584	-13.530409931	-0.01289990	0.24
## 103	18.0911681	6.2	-3.05925290	3.728568478	0.91601084	0.21
## 104	10.1326900	5.7	-0.98272617	2.399681370	-4.98045805	0.19
## 105	16.1007667	3.7	5.87100562	-0.213924543	5.15117151	0.16
## 106	3.2075472	3.8	3.62565687	5.593451569	3.09649588	0.16
## 107	1.5539305	2.4	2.82860201	-0.692137320	2.32442687	0.16
## 108	2.0702070	0.1	6.37390960	3.754297928	-7.62579706	0.15
## 109	-7.3192240	-1.6	-3.47824061	0.053739364	-2.53231040	0.16
## 110	-7.6117983	-2.1	1.76196568	3.920866529	5.37326071	0.15
## 111	-1.6477858	0.4	2.21057375	0.120596089	0.99172648	0.13
## 112	-3.4554974	-1.3	-3.68041213	-2.865009034	3.02191840	0.20
## 113	8.7852495	-1.6	5.18948611	-7.041629761	-5.15561641	0.21
## 114	-5.5832502	1.7	-2.29953505	0.905192949	-3.17231168	0.27
## 115	8.7645195	1.5	-4.38849427	1.340887630	-4.39636058	0.31
## 116	-0.5825243	0.7	-0.87286993	3.410361536	2.38723608	0.36
## 117	4.9804687	0.4	-0.58868634	0.910073887	0.42374536	0.43
## 118	1.2093023	1.4	1.78398149	2.384141441	5.75767593	0.44
## 119	-2.0220588	1.9	2.55451256	-4.613640328	3.74347282	0.49
## 120	-1.8761726	-0.4	1.53505113	-0.018286550	-0.40940026	0.59
## 121	-3.8240918	-2.2	-1.70904054	2.423411065	-0.70115495	0.77
## 122	-8.2504970	-1.7	2.50065681	-3.258928571	-3.99827954	0.73
## 123	-2.3835320	0.4	-0.89244105	-3.968620212	-4.06959379	0.76
## 124	-0.3329634	-0.3	-1.60816307	1.028351754	-7.81505410	0.93
## 125	9.5768374	-0.3	6.75045999	-0.732496195	3.82715528	0.83
## 126	-3.8617886	1.6	-3.27483547	1.456636320	-3.86703263	1.03
## 127	8.5623679	0.5	-2.68681586	-2.144139038	10.76708331	1.02

## 128	-0.8763389	0.9	-2.64209275	1.911196911	-0.94703479	1.03
## 129	5.2062868	0.7	0.71814163	1.117635916	-0.18119434	1.17
## 130	3.3613445	-0.5	2.15361482	4.402397902	4.39517998	1.07
## 131	-4.6070461	0.7	0.44870730	2.485196483	-2.76729560	1.02
## 132	0.2840909	-0.7	0.49397306	2.241092533	0.70580626	1.02
## 133	-4.2492918	-1.4	0.55269409	5.180238034	-1.44327949	1.12
## 134	-9.2702170	-3.5	1.11334612	2.067730381	-2.26946004	1.12
## 135	-1.7391304	1.1	-1.57529493	2.711756261	2.12799341	0.92
## 136	-3.2079646	-0.2	1.24562269	-1.056064606	-2.44661238	1.17
## 137	13.6000000	1.7	6.11666937	-1.820750275	-1.56895941	0.92
## 138	-7.4446680	0.0	-1.81344883	-2.302158273	1.90396192	1.12
## 139	13.8043478	0.2	-3.83201515	2.495499918	-5.43049477	1.07
## 140	-2.5787966	0.6	-1.19309626	-0.646603337	-1.61250156	1.07
## 141	3.6274510	0.6	-1.51699883	5.270769725	3.80518467	1.14
## 142	5.2980132	1.8	3.37118777	1.236452450	1.74140979	0.97
## 143	-4.4923630	-0.1	2.43672125	0.082931242	0.99660475	1.00
## 144	0.6585136	0.3	3.53216269	-2.267419962	-2.41254524	0.92
## 145	-3.9252336	-0.9	1.35076442	2.867273008	-1.90885327	0.89
## 146	-9.7276265	-2.9	1.16563103	-0.157350517	2.31784659	0.97
## 147	0.9698276	0.8	-0.80272800	3.729831144	0.60166771	0.80
## 148	-1.4941302	0.1	-1.12309170	-4.123860512	0.25889578	0.83
##	saving-2	cred-2	net_debt_gdp-2	primary-2	current_account-2	
## 2	1.41913825	2.280031359	-0.29	6270.66	1302.2	
## 3	0.56767291	-0.037808131	0.53	-24082.32	-5204.4	
## 4	0.42343625	0.386339659	0.15	16501.74	7018.3	
## 5	1.13086318	1.855524635	-0.89	-927.65	-1481.2	
## 6	0.98082740	1.331128975	-0.76	-3797.78	-6.7	
## 7	1.94675003	1.684052625	-0.73	11586.72	-15.2	
## 8	1.64377332	1.544026991	0.01	-141.24	-857.7	
## 9	2.32110474	0.816179226	-0.27	-2775.31	-904.5	
## 10	1.23631841	1.230249789	0.09	2572.92	3767.4	
## 11	1.74285471	1.108535380	0.02	1406.02	-677.0	
## 12	1.14300414	1.417347673	-0.18	-10807.82	-2405.5	
## 13	1.30266949	1.518042988	-0.36	17913.77	-1909.1	
## 14	2.35161351	2.488141763	0.11	-27767.67	291.7	
## 15	0.91137113	-0.091752106	-0.02	-7999.10	-4199.5	
## 16	0.94640049	0.736719544	0.42	33282.74	7185.9	
## 17	1.62658387	1.823504561	-0.19	-6531.35	-550.1	
## 18	0.95091358	0.909947912	-0.26	-6828.32	-352.9	
## 19	1.59976551	1.557562694	-0.63	4647.38	440.8	
## 20	2.17003961	1.780328341	-0.32	252.40	2801.2	
## 21	2.19602806	0.535279209	-0.39	3141.77	-8111.6	
## 22	1.32275210	1.286654851	-0.22	2718.66	6404.9	
## 23	1.68910972	0.748446200	0.93	8616.00	974.1	
## 24	1.31840374	0.272335097	0.11	-15236.28	-2607.3	
## 25	1.63583331	1.637022073	-1.04	-23556.95	1491.6	
## 26	2.57273947	2.436762172	-0.08	19338.02	1089.4	
## 27	0.83334452	0.070075250	-0.49	-9513.96	-9109.3	
## 28	0.83542732	0.456312694	0.35	17791.08	5220.4	
## 29	0.81951854	0.977270759	0.42	-1449.35	606.3	
## 30	0.31797931	0.692441818	0.00	-13316.23	-654.4	
## 31	0.89311036	0.962275745	0.32	27942.16	1484.1	
## 32	1.05838116	0.951067096	0.38	-8945.88	2047.9	
## 33	1.19574466	0.220135338	0.12	2614.66	-5679.0	

## 34	0.64691365	0.947773879	0.54	9744.88	4383.2
## 35	0.76652353	1.361106970	-0.07	11030.97	-2029.6
## 36	0.64698211	0.789796207	0.15	-29219.63	-1304.1
## 37	0.94759471	1.272569771	-0.04	11812.86	-475.2
## 38	1.37861509	2.058344740	0.41	4810.02	348.1
## 39	-0.20002398	0.132992826	-0.09	-33957.05	-2619.1
## 40	-0.49843241	0.398283087	-0.20	23362.46	4636.3
## 41	-1.16039881	1.223502993	-0.71	-2539.01	1600.1
## 42	-0.32249768	0.002898439	0.76	-13205.65	194.3
## 43	0.09755894	0.705570411	0.04	20345.42	2146.3
## 44	-0.33790446	0.568948183	0.84	2422.74	303.7
## 45	0.28276708	0.293733020	-0.32	695.50	-2667.3
## 46	-0.48784974	0.797825784	-0.45	-2708.67	3594.2
## 47	-0.17931444	0.957478514	-0.44	8.35	-12.5
## 48	0.12672313	-0.230491259	1.04	4211.86	-2027.0
## 49	0.43251183	0.625778789	0.84	8036.77	1165.1
## 50	1.38596735	1.348933704	1.74	52161.77	3944.7
## 51	-1.21528513	-0.664266764	-0.30	-99641.57	-6124.4
## 52	-0.41581346	-0.493621971	0.94	50952.80	4256.5
## 53	-0.19847822	-0.671399533	2.05	-12396.43	-207.8
## 54	-0.65378021	-0.631722558	0.54	-20825.24	869.1
## 55	-0.39306297	0.221275521	0.21	28307.04	1965.3
## 56	0.06770079	-0.556210900	2.27	-8063.92	-4020.3
## 57	0.48809996	-0.430828178	0.58	2754.66	-1228.9
## 58	-0.02303935	-0.037323672	0.88	9450.88	2930.9
## 59	0.27568625	-0.114380418	0.82	4375.69	-337.2
## 60	0.21185193	-0.526432113	0.25	-66231.55	-1841.9
## 61	0.90937361	0.291802513	0.11	78729.73	2779.4
## 62	2.54392446	0.103448708	2.15	31596.54	-4117.2
## 63	-1.05856328	-1.016515123	0.32	-107449.40	-1997.8
## 64	0.28758936	-0.099737016	0.80	60179.79	6454.3
## 65	-0.17864681	0.240574394	0.27	-12420.79	414.8
## 66	0.34119241	-0.260188225	-0.05	-23955.15	-931.1
## 67	0.57383045	-0.156565601	0.52	43644.62	2534.6
## 68	1.45681094	0.410223851	0.44	-11184.05	-2038.6
## 69	0.87860042	-0.813827396	1.24	-3414.53	-3843.8
## 70	0.83274759	-0.042348219	0.42	-6608.82	3098.1
## 71	1.01348254	-0.004112586	0.66	11730.42	-367.7
## 72	0.16839968	0.159385567	-0.22	-26017.03	-936.9
## 73	1.00300304	0.385820800	0.32	5666.76	-1331.4
## 74	3.17369683	0.808833507	0.51	31412.28	329.1
## 75	-0.30867618	-0.782635494	0.06	-79261.60	-4275.3
## 76	0.29133846	-0.216230322	0.15	64353.68	1905.5
## 77	0.95853397	0.652959101	0.25	7721.74	2648.1
## 78	0.54024299	0.307427709	-0.61	-28035.19	595.6
## 79	0.70985865	0.441187036	-0.55	11123.96	871.4
## 80	1.14037479	0.681583517	0.04	5267.15	-680.1
## 81	0.87718530	-0.140051650	0.59	-10090.55	-6014.7
## 82	1.16646053	1.016383756	-0.97	13474.90	3644.2
## 83	1.46702139	0.484571286	0.99	7745.63	2456.6
## 84	0.05765773	-0.141467611	1.11	-32419.28	-760.3
## 85	0.47280863	1.113861308	-0.23	23400.03	-941.9
## 86	2.23478931	1.635126154	0.57	25531.04	-2952.2
## 87	-1.03823296	-0.857196061	0.34	-88030.35	-2434.7

## 88	-0.14580916	0.318806231	0.00	61828.17	6591.4
## 89	0.62496389	0.788447113	-0.07	3698.45	-815.7
## 90	0.01730149	-0.013137794	0.01	-25266.32	665.1
## 91	0.29724010	0.569644041	0.19	19645.07	-503.4
## 92	0.67651839	0.315962630	0.58	-301.77	652.5
## 93	0.17960831	-0.164283436	0.44	-9943.24	-8908.4
## 94	0.53944978	1.117048274	-0.94	10684.67	5443.9
## 95	1.42584914	1.073925137	0.32	7093.04	2432.1
## 96	0.31845063	0.341605218	0.47	-29985.04	-5543.1
## 97	0.62061034	1.266511434	-0.33	24756.81	5065.7
## 98	2.39098926	1.541020607	0.92	-1799.81	-1296.9
## 99	-1.15878663	-0.305074525	-1.51	-69788.48	-5348.0
## 100	-0.15668592	0.559956690	-0.64	77176.83	5937.8
## 101	1.74406974	2.838947252	-1.92	2754.32	1551.8
## 102	3.85047331	0.002483536	0.96	70647.23	5762.9
## 103	4.44503188	0.342356717	2.13	37135.51	-1798.5
## 104	2.43836724	0.751065502	2.52	57243.45	2471.4
## 105	3.17594596	1.304373268	1.88	-107610.63	-3582.4
## 106	1.34278223	1.953014844	0.54	6522.77	1646.1
## 107	1.50130825	2.107537261	0.64	-23035.07	-1268.3
## 108	0.86088004	1.510666058	-0.14	-67511.09	-1079.0
## 109	0.30009189	2.025791521	1.43	21092.32	-1447.2
## 110	2.23608364	1.629495074	0.78	33697.40	-5974.4
## 111	-1.66888879	-0.067611016	-1.66	-110211.83	228.8
## 112	-0.35122181	0.680175624	-0.20	70144.40	4249.8
## 113	-0.17408273	1.521940610	-0.98	-16750.95	-4139.7
## 114	0.56015888	0.497987940	-0.83	-19274.26	11958.1
## 115	0.21874864	1.176327811	-0.17	39796.85	-1406.6
## 116	0.97309831	0.884085150	0.90	49966.67	-326.9
## 117	0.91924399	1.368497271	-0.67	-55224.95	-5345.4
## 118	-0.26060999	1.744020666	-0.58	-27011.74	1457.6
## 119	-0.44257119	2.184369844	-1.01	3795.13	-1411.9
## 120	-0.38466688	1.594749906	-0.97	-22465.89	-2381.6
## 121	-0.82359319	1.886523961	-0.23	20365.28	-2496.4
## 122	1.24231077	1.843565696	0.14	14910.89	767.5
## 123	-1.39755945	-0.004357640	-0.30	-101709.93	380.2
## 124	-0.02239488	0.946119064	0.63	98362.22	5479.2
## 125	-0.95495447	1.410617543	1.22	-841.35	-425.4
## 126	-0.40801654	0.803642936	-0.26	-34564.20	3382.6
## 127	0.45521511	1.136442206	0.51	71869.03	-5344.8
## 128	0.24842027	1.596020786	-0.88	-47387.20	4532.1
## 129	-0.61039193	0.714003227	-0.44	-6045.86	-5928.9
## 130	-1.52863835	1.459571038	0.46	50719.65	-1493.0
## 131	0.04686551	1.793288482	-0.02	-41024.97	41.6
## 132	-0.48814772	0.992364401	-0.05	-16348.82	1909.9
## 133	-0.11581830	1.282623442	-0.16	47183.81	4116.3
## 134	1.28513343	1.518887870	0.31	-8275.80	-6438.1
## 135	-2.64038848	0.166341867	-0.92	-110826.09	-1433.7
## 136	-0.51482396	-0.016591666	0.49	125465.73	4608.6
## 137	-0.01254788	0.959626765	0.27	-12270.55	5052.2
## 138	-0.03864151	0.041082497	-0.03	-34506.97	-944.8
## 139	-0.58877453	0.514048704	0.72	70496.76	1340.4
## 140	0.91812011	0.465243930	1.26	-1273.68	-1935.3
## 141	0.26109246	0.078301557	0.61	-13089.23	-4381.2

## 142	-0.38152084	1.338368836	0.39	-12979.28	3229.0
## 143	0.01622266	1.094113652	0.24	-4759.03	1818.3
## 144	-0.68149699	0.397387700	0.04	-32869.52	-373.0
## 145	0.21931563	1.158208828	0.29	52068.20	-1906.9
## 146	1.98210712	1.610341710	1.42	92303.07	-5357.5
## 147	-1.51965982	-0.195543945	-0.78	-231719.15	2415.2
## 148	0.10113107	0.345319297	0.88	150838.12	808.4
##	trade_balance-2	imports-2			
## 2	-82.8931954	-13.4834566			
## 3	974.6429270	-4.7859610			
## 4	-67.7014110	-6.4635734			
## 5	18.4329200	15.7112372			
## 6	45.7639219	-0.9447098			
## 7	-47.9379592	8.3049993			
## 8	108.4859508	-8.3993692			
## 9	-56.4333203	-2.2135250			
## 10	-52.8656263	5.5010607			
## 11	151.7579842	-8.8057714			
## 12	96.0430608	15.8289858			
## 13	25.4645295	2.1720678			
## 14	-32.6693321	-15.2500456			
## 15	197.1644413	14.0765504			
## 16	-38.4697244	-15.8025709			
## 17	-16.7166302	13.6496906			
## 18	31.1013175	12.9311553			
## 19	-23.7530360	-2.6167133			
## 20	-59.6902267	-10.5333459			
## 21	288.8392602	20.4871461			
## 22	-44.2322136	-10.9467702			
## 23	-11.5374459	-6.5019225			
## 24	77.8172483	21.8487395			
## 25	-55.6801585	-16.8193000			
## 26	-12.7159091	-5.2807438			
## 27	243.3624094	8.7445223			
## 28	-17.7424451	-8.3954585			
## 29	-30.9758309	-2.8225474			
## 30	6.2239833	9.4791879			
## 31	-0.6202980	4.5814468			
## 32	-53.2927061	-9.7973708			
## 33	75.2099323	18.5934384			
## 34	-6.9519957	-10.0461072			
## 35	79.9036305	6.2278192			
## 36	-0.5603017	-4.7531100			
## 37	9.8822000	-7.3461183			
## 38	-21.0734662	-4.5959568			
## 39	29.7040660	-5.3560046			
## 40	-8.4163593	-8.3306030			
## 41	-33.5091357	10.8396654			
## 42	-10.7590789	-11.7298953			
## 43	-58.1995442	-3.7688238			
## 44	-108.6145272	7.3716845			
## 45	-1094.0225035	3.6449228			
## 46	-34.1917227	-17.9153506			
## 47	7.0629972	3.0075419			

## 48	80.6807912	6.2862351
## 49	18.4061354	-10.1074075
## 50	-233.7369755	-16.8779275
## 51	-124.6683512	-5.8213153
## 52	-150.3343292	4.8306380
## 53	95.4776710	12.0651376
## 54	117.6402545	-8.7824911
## 55	108.3244752	5.7466443
## 56	-116.3504162	14.5180484
## 57	-378.6034718	-7.8020244
## 58	-26.2531504	9.3230032
## 59	-61.0499335	-6.6676340
## 60	-406.6780405	-4.8913799
## 61	-224.8430422	0.7261027
## 62	-86.4918200	0.5005082
## 63	-380.3958530	5.8325614
## 64	-324.9579832	-10.6263551
## 65	140.6425103	22.9925335
## 66	-6.9202111	-15.4843046
## 67	20.2061305	13.2136467
## 68	-32.6562890	3.3372017
## 69	-29.5550062	-0.9767342
## 70	-44.8441247	11.5633417
## 71	-21.5800636	-3.7665942
## 72	2.5963489	2.5616257
## 73	-256.5309081	-4.0757831
## 74	-78.1239475	-4.3301969
## 75	472.7097768	13.4655995
## 76	-36.6624101	0.4880557
## 77	-331.4728353	-3.3959112
## 78	-36.7012011	1.8890312
## 79	30.6199305	-5.3041218
## 80	-32.1412730	7.8550437
## 81	-171.0107035	28.2351729
## 82	153.3195259	1.7189847
## 83	-148.8008721	-24.3341745
## 84	-28.4810127	14.1647848
## 85	-154.7891723	4.3493920
## 86	-464.5130641	-22.8615727
## 87	-302.9453929	27.8948864
## 88	-69.1337015	-21.9557298
## 89	-122.7504421	3.6872327
## 90	118.0612711	5.1317243
## 91	-26.3577270	9.6691232
## 92	-128.6446469	-11.7705878
## 93	3237.8727634	33.8392833
## 94	-62.7743530	-7.1779957
## 95	-56.9120000	-1.4645113
## 96	519.2536205	4.9636283
## 97	-77.4323149	-16.1860060
## 98	-157.1011027	-10.6566106
## 99	-1505.6305258	27.4178621
## 100	-67.3022809	-18.0183898
## 101	-93.0950694	9.4935095

```
## 102 -2494.2815249 -21.6545087
## 103 -65.2336334 12.8907320
## 104 298.8814515 -18.7635154
## 105 -6.2023891 10.9199031
## 106 -23.1897363 -3.0629120
## 107 -26.9453554 10.4653839
## 108 -29.2234761 1.4409470
## 109 -132.2980262 12.1505452
## 110 652.6885667 29.6819654
## 111 3.9449944 -13.7383209
## 112 -46.1343592 -4.8591200
## 113 -4.7944609 48.7657434
## 114 -416.3746970 -30.5175384
## 115 -26.2675476 9.2224958
## 116 1.0745098 14.6091032
## 117 -21.2403973 -10.6571057
## 118 -20.5078943 11.5762788
## 119 -93.1087906 1.3779654
## 120 -599.2805755 -2.5451642
## 121 358.7896254 7.3847343
## 122 -93.6381124 -4.9941258
## 123 1118.9447701 -2.7004212
## 124 -116.7392295 -5.4470931
## 125 310.4491154 17.1943973
## 126 31.7061489 -5.1112005
## 127 -103.2868052 18.6072754
## 128 -2755.0638298 -3.0290268
## 129 -70.1958522 1.0222126
## 130 -228.6190579 9.8595820
## 131 -13.9058450 -1.5185557
## 132 51.2043512 -9.3515276
## 133 -230.9031346 -7.2065443
## 134 -131.9937190 1.8601473
## 135 131.8865031 -8.2587955
## 136 -106.5083670 -14.1375979
## 137 6197.0528455 25.2571981
## 138 -31.6688992 -13.1284940
## 139 44.5347189 13.9897675
## 140 -24.4051899 -8.1040416
## 141 -23.6116815 1.6465043
## 142 36.5414002 8.1508941
## 143 -13.1416965 -9.9346778
## 144 -3.3929850 3.7386399
## 145 -22.5622407 -3.5293642
## 146 11.3099225 1.3442374
## 147 -78.1770251 5.6344756
## 148 -158.1932773 -10.6683073
```

9)

```
y <- y[-c(1,2)]
dim(y)
```

```
## NULL
```

```
print(y)
```

```
## [1] 0.21 0.64 0.36 0.08 0.43 0.41 0.57 0.59 0.60 0.79 0.86 0.60
## [13] 0.47 0.55 0.37 0.26 0.03 0.24 0.35 0.57 0.54 0.92 0.55 0.69
## [25] 0.92 0.67 0.46 0.40 0.01 0.25 0.57 0.42 0.51 0.78 1.24 1.22
## [37] 1.32 0.71 0.74 0.79 0.62 0.22 0.54 0.82 1.01 0.96 1.27 0.90
## [49] 0.43 0.61 0.78 0.35 0.52 0.44 0.08 0.26 0.18 0.30 0.38 0.33
## [61] 0.25 0.14 0.31 -0.23 0.24 0.19 0.16 0.42 0.28 0.44 0.29 0.32
## [73] 0.09 0.22 0.40 1.26 0.33 -0.09 0.48 0.45 -0.21 0.15 0.32 0.43
## [85] 0.75 0.57 0.13 0.01 0.19 0.11 -0.04 0.10 0.51 1.15 0.21 0.25
## [97] 0.07 -0.31 -0.38 0.26 0.36 0.24 0.64 0.86 0.89 1.35 0.25 0.86
## [109] 0.93 0.31 0.83 0.53 0.96 0.87 1.16 1.25 0.95 0.73 0.54 1.01
## [121] 1.62 1.06 0.47 0.67 -0.68 -0.36 -0.29 0.59 0.41 0.62 0.53 0.84
## [133] 0.71 0.61 0.23 -0.08 0.12 0.23 0.26 0.24 0.28 0.56 0.42 0.83
## [145] 0.16 0.38 0.46
```