

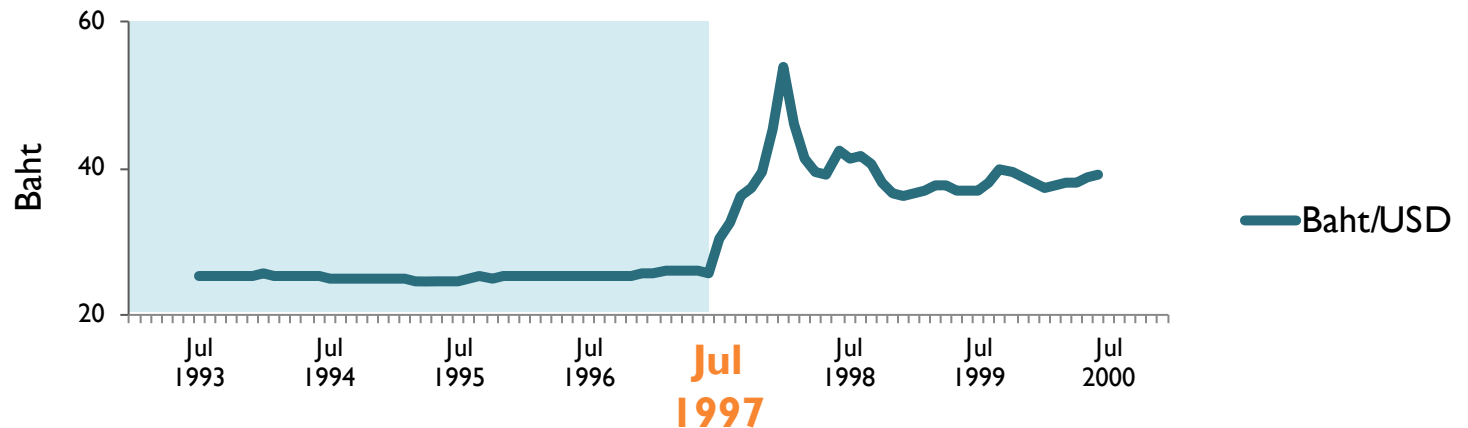


Group 6

How Thailand's exchange rate affects
trade balance (1990-now)

What happened in Thailand?

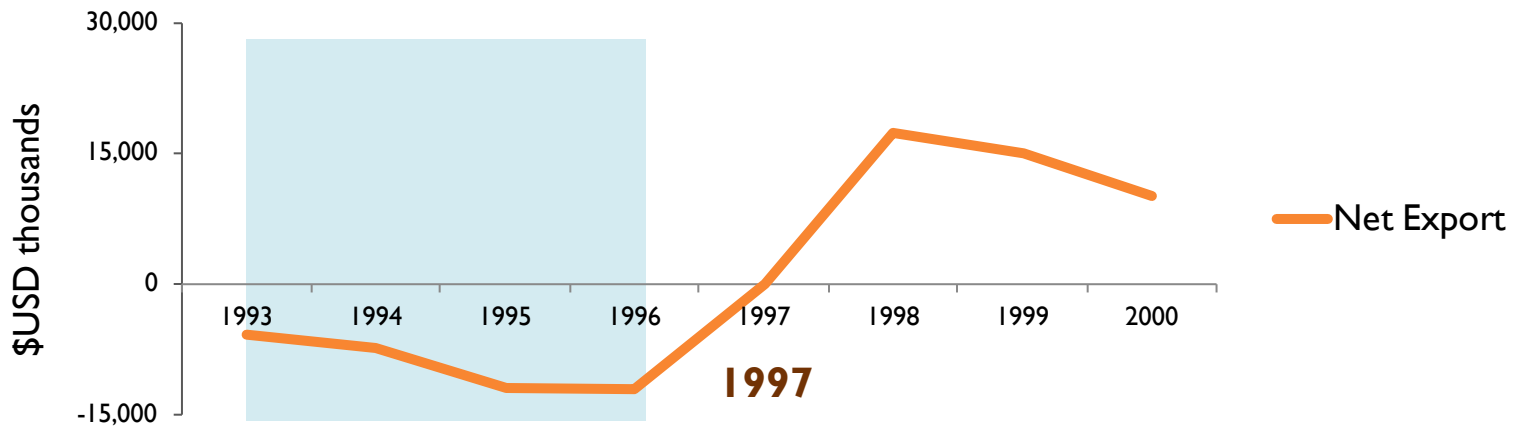
- Fixed Exchange rate policy



Data taken from IMF.org

What happened in Thailand?

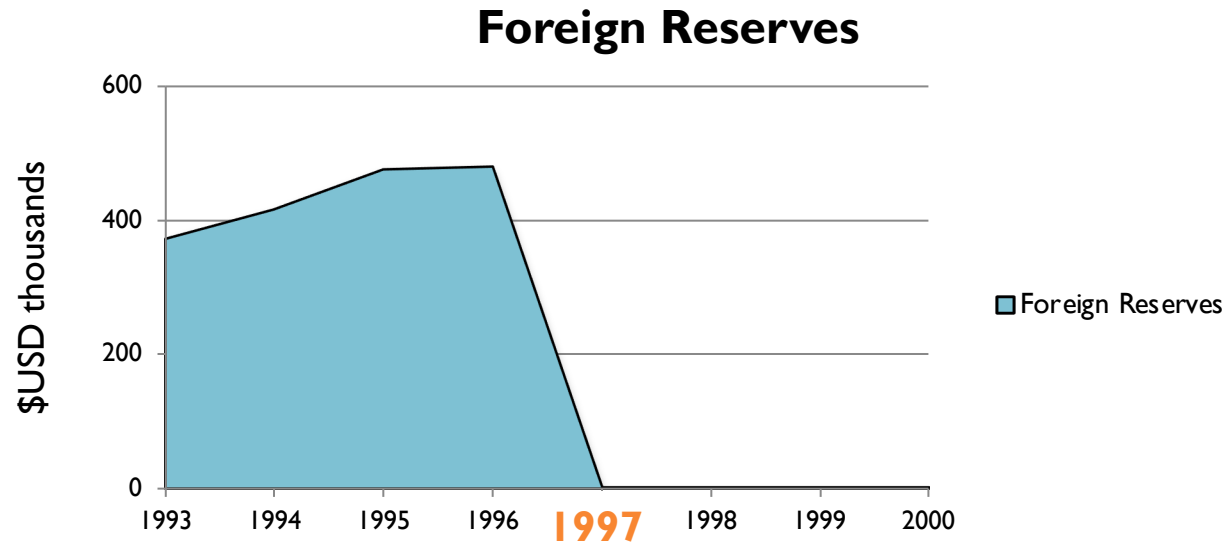
- Declining GDP Growth
 - Saturated real estate market
 - Falling net export



Data taken from IMF.org

What happened in Thailand?

- Non-performing foreign loan crisis
- Depletion of foreign reserves



- **Floating exchange rate in 1997**

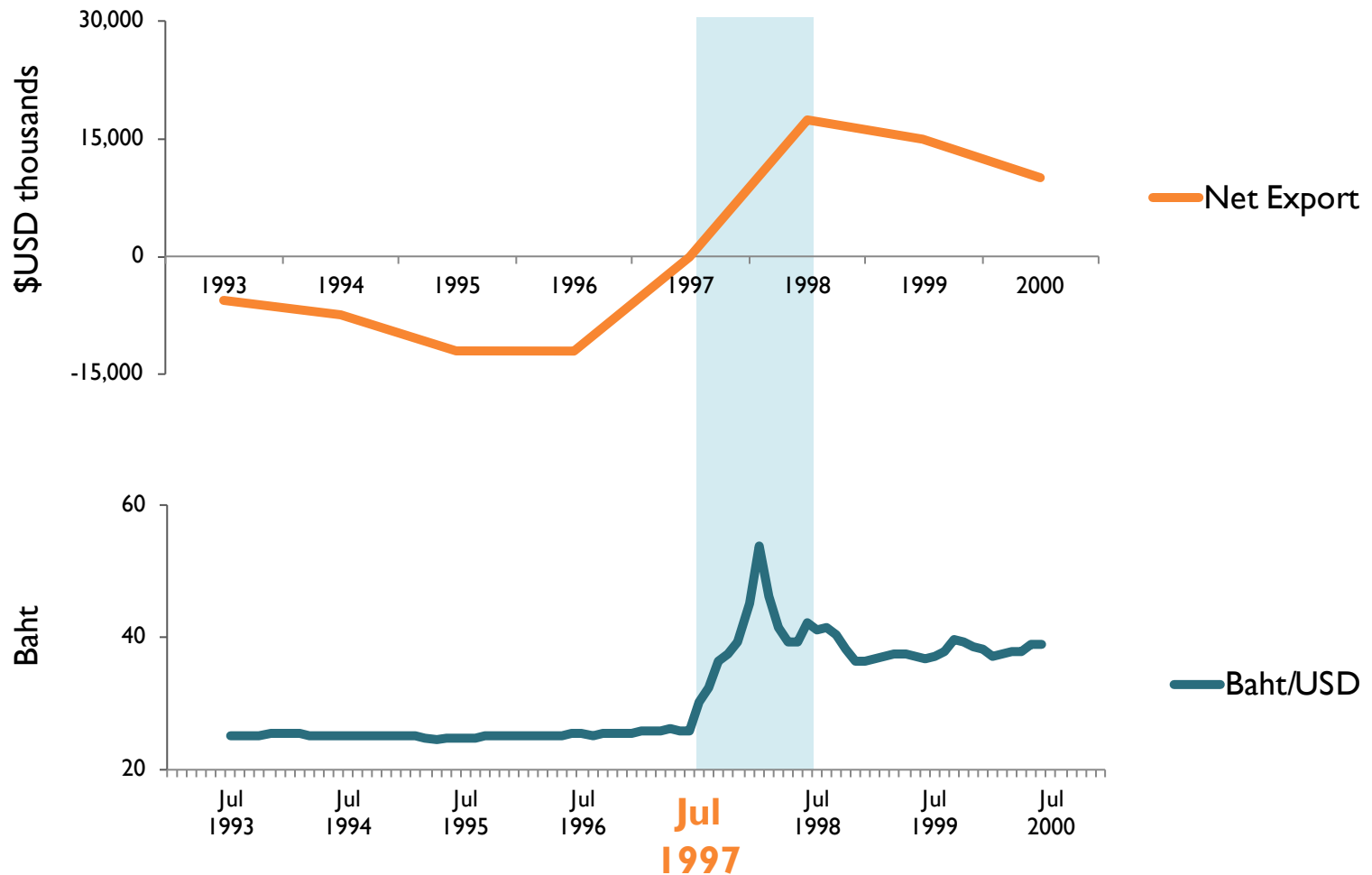
Why floating exchange rate?

- The depletion of official Reserve
- The Balance of Payment

$$\text{BOP} = \text{CA} \uparrow + (\text{FA} + \text{KA}) \downarrow - \Delta R \downarrow = 0$$

$$\text{NX} = \text{NX}(\text{Y}, \text{Y}^*, \text{E})$$

Net Export increased dramatically
as **Exchange rate** shot off





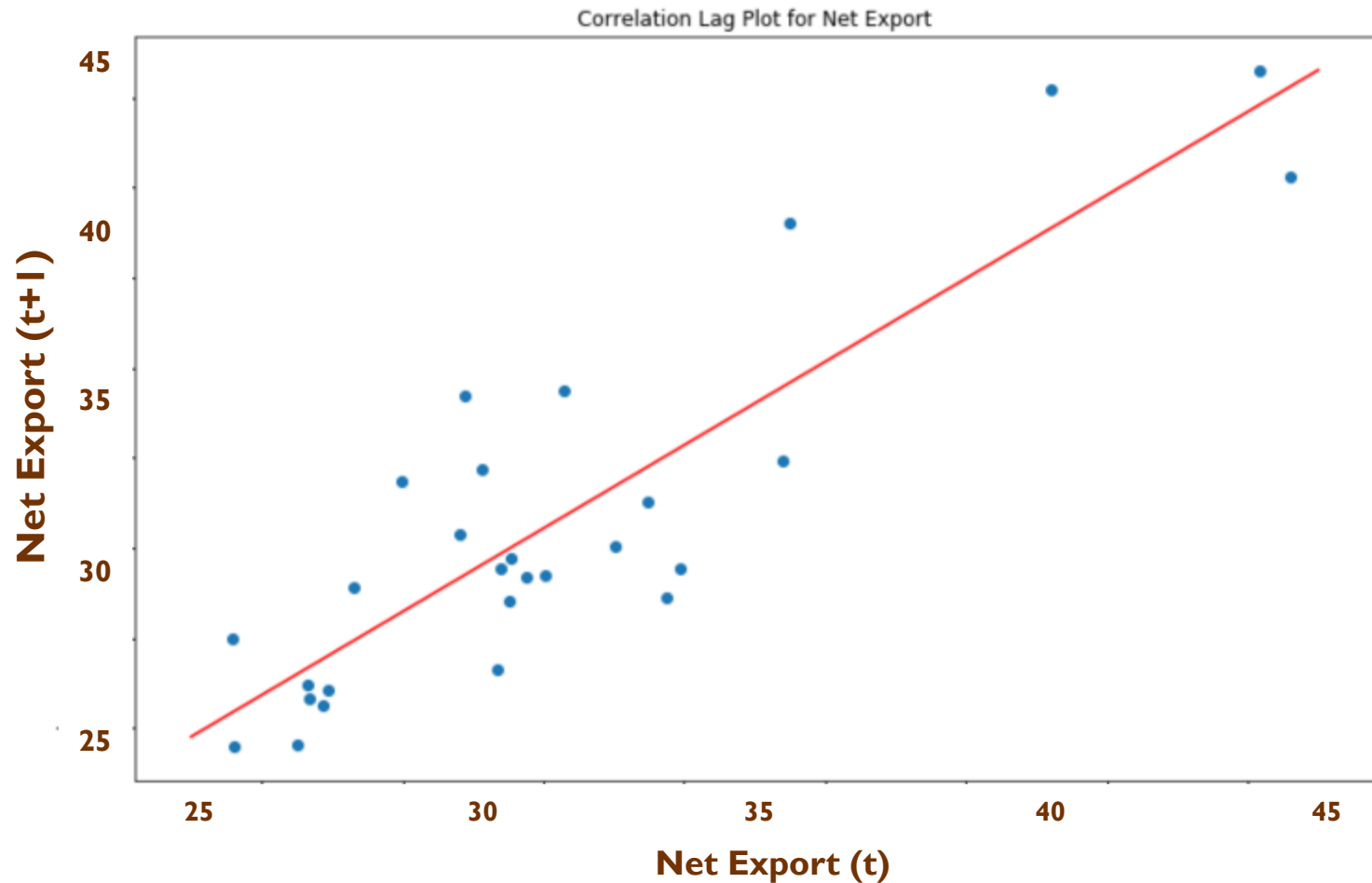
Research question

What is the impact of real exchange rate on trade of balance in Thailand from 1990-2018?

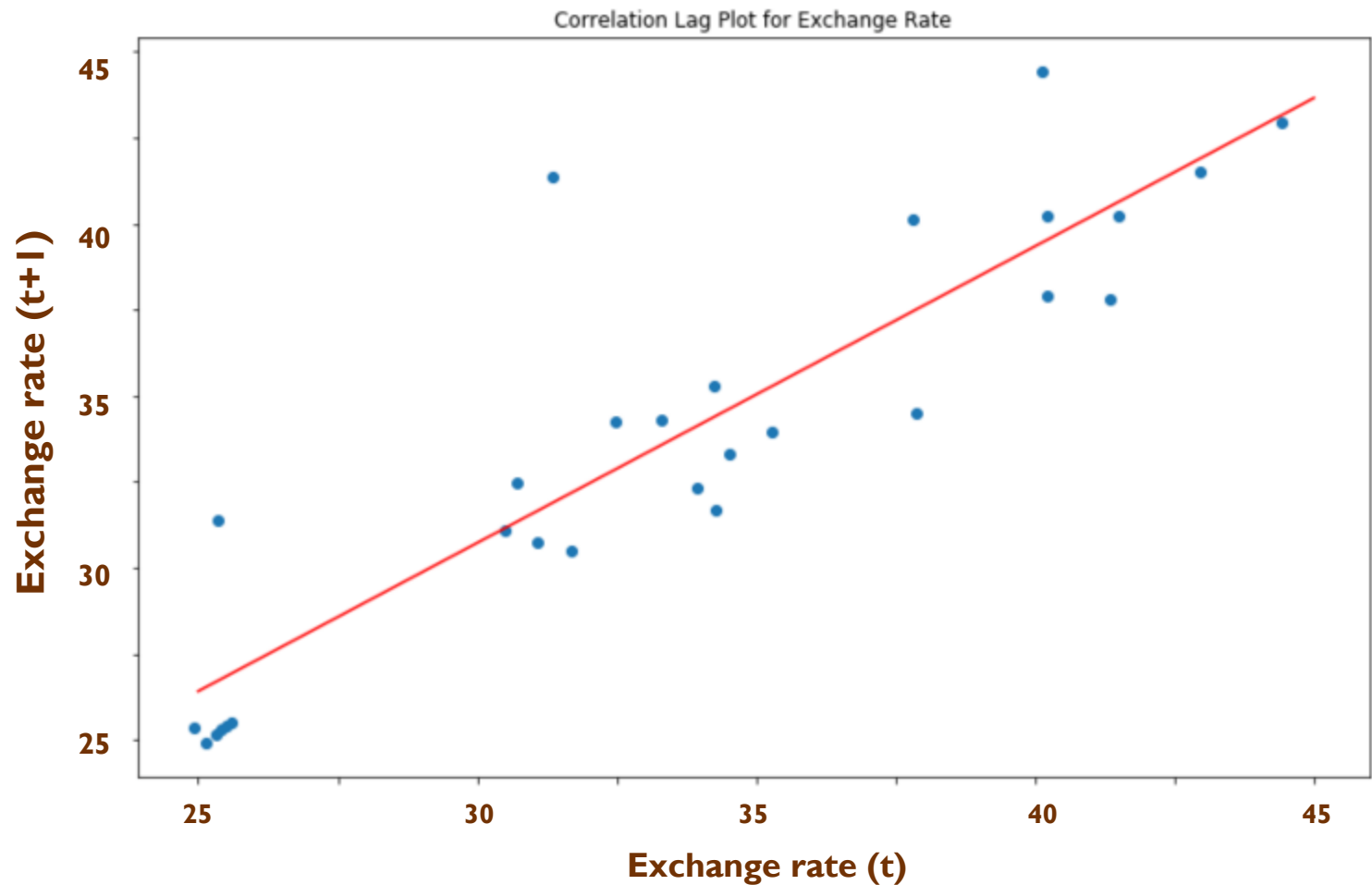
Our Model

- Data from Thailand
 - Time period: 1990-2018
 - Dependent variable:
 - Net export (source: IMF)
 - Independent variable:
 - exchange rate, national currency per US Dollar, period average (source: IMF)
- Time series analysis:
 - Vector autoregression (VAR)

Correlation Lag Plot



Correlation Lag Plot



Vector Auto Regression Result

```
=====
Model:                VAR
Method:               OLS
Date:                Thu, 25, Jul, 2019
Time:                03:50:23
=====
```

```
-----
No. of Equations:      2.00000    BIC:                -11.3099
Nobs:                 18.0000    HQIC:               -11.5658
Log likelihood:       59.3784    FPE:                9.16237e-06
AIC:                  -11.6067    Det(Omega_mle):     6.73154e-06
=====
```

Results for equation ER_log_diff

```
=====
               coefficient      std. error      t-stat      prob
-----
const          -0.034504         0.016743      -2.061      0.039
L1.ER_log_diff  0.799773         0.320730       2.494      0.013
L1.Export_log_diff 0.334005         0.173763       1.922      0.055
=====
```

Results for equation Export_log_diff

```
=====
               coefficient      std. error      t-stat      prob
-----
const          0.110514         0.033271       3.322      0.001
L1.ER_log_diff -1.297076         0.637335      -2.035      0.042
L1.Export_log_diff -0.486357         0.345291      -1.409      0.159
=====
```

Correlation matrix of residuals

```

               ER_log_diff  Export_log_diff
ER_log_diff      1.000000      -0.781986
Export_log_diff  -0.781986      1.000000
```


Vector Auto Regression Result

Summary of Regression Results

```
=====
Model:                      VAR
Method:                     OLS
Date:                       Thu, 25, Jul, 2019
Time:                       03:50:40
```

```
-----
No. of Equations:          2.00000    BIC:                      -9.96412
Nobs:                     18.0000    HQIC:                     -10.2200
Log likelihood:           47.2664    FPE:                      3.51941e-05
AIC:                      -10.2609    Det(Omega_mle):          2.58569e-05
-----
```

Results for equation ER_log_diff

```
=====
                                coefficient      std. error      t-stat      prob
-----
const                          -0.022252        0.012744       -1.746       0.081
L1.ER_log_diff                  0.585266        0.250616        2.335       0.020
L1.Import_log_diff              0.167112        0.089597        1.865       0.062
=====
```

Results for equation Import_log_diff

```
=====
                                coefficient      std. error      t-stat      prob
-----
const                          0.095444        0.037854        2.521       0.012
L1.ER_log_diff                 -1.413746        0.744400       -1.899       0.058
L1.Import_log_diff             -0.330702        0.266127       -1.243       0.214
=====
```

Correlation matrix of residuals

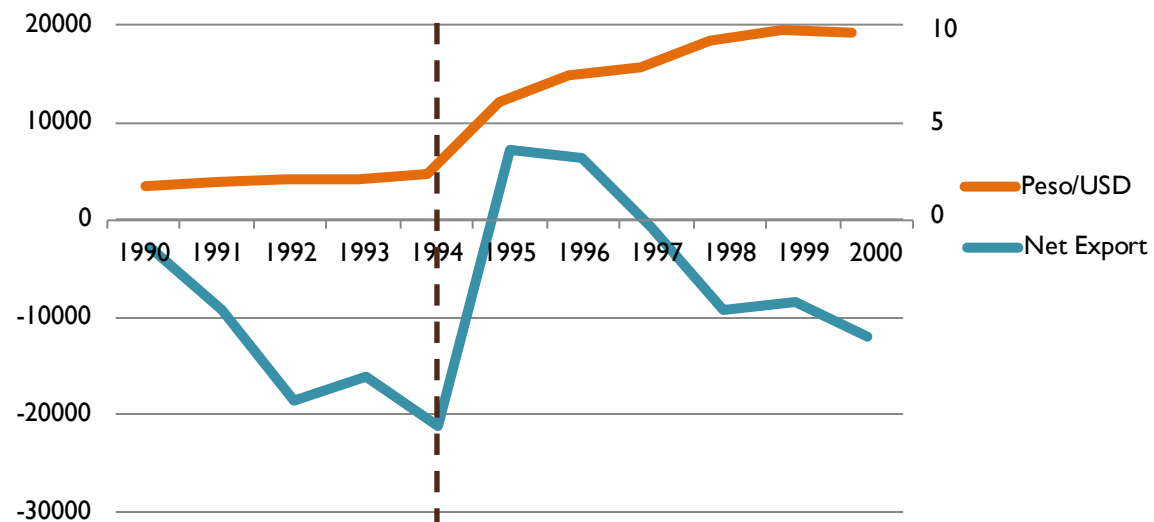
```

                                ER_log_diff  Import_log_diff
ER_log_diff                    1.000000    -0.589445
Import_log_diff                -0.589445    1.000000
```

Policy Evaluation

- Original Sin
- Shortcoming of fixed exchange rate regime

Mexico's similar movement in Net Export and Exchange rate



Data taken from IMF.org

Thank you!