# Redistricting and Political Party Performance in Thailand: 2001 and 2005 comparison

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The Science of Elections and Campaigns | Final Project

# Research Question

- What is the effect of the redistricting of the house of representative constituencies on the performance of the TRT party and the (Thai) Democrat Party in the 2005 general election?

<u>Context</u>

- 3 elections under the 1997 constitution: 2001, 2005, 2006
- Thai House of representative (lower house): Mixed-member system (MMS)
  - 400 members from single-seat constituencies (ssc)
  - 100 members from proportional representation (pr)
- Redistricting occurred in 8 provinces before the 2005 election
- Curious about the overall effect and how each party's performance varies across provinces

# Data sources

- 2001 and 2005 election results at the provincial level (2-year party level panel)
- Collected from the Office of the Election Commission
- Include single-seat constituency and proportional representation results


| | province | year | party | num_votes | system | tot_seats | seats_won | proportion_seats | reform |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Amnat Charoen | 2001 | democrat | 0.489896 | ssc | 2.0 | 1.0 | 0.500000 | False |
| 1 | Amnat Charoen | 2001 | trt | 0.510104 | ssc | 2.0 | 0.0 | 0.000000 | False |
| 2 | Amnat Charoen | 2005 | democrat | 0.390585 | ssc | 2.0 | 0.0 | 0.000000 | False |
| 3 | Amnat Charoen | 2005 | trt | 0.609415 | ssc | 2.0 | 2.0 | 1.000000 | False |
| 4 | Ang Thong | 2001 | democrat | 0.407421 | ssc | 2.0 | 0.0 | 0.000000 | False |
| 5 | Ang Thong | 2001 | trt | 0.592579 | ssc | 2.0 | 0.0 | 0.000000 | False |
| 6 | Ang Thong | 2005 | democrat | 0.175795 | ssc | 2.0 | 0.0 | 0.000000 | False |
| 7 | Ang Thong | 2005 | trt | 0.824205 | ssc | 2.0 | 1.0 | 0.500000 | False |
| 8 | Bangkok | 2001 | democrat | 0.429146 | ssc | 37.0 | 8.0 | 0.216216 | False |
| 9 | Bangkok | 2001 | trt | 0.570854 | ssc | 37.0 | 29.0 | 0.783784 | False |
| 10 | Bangkok | 2005 | democrat | 0.404544 | ssc | 37.0 | 4.0 | 0.108108 | False |
| 11 | Bangkok | 2005 | trt | 0.595456 | ssc | 37.0 | 33.0 | 0.891892 | False |

# Research Design - Observational Studies

- Leverage the redistricting in 8 provinces as the shock
- Use OLS to determine if there is an effect at all
- Measure political party performance by **two-party vote shares** and the **proportion of seats won** in the **single-seat constituency system** by each party : only focus on TRT party and Democrat Party

# Hypothesis and Functional Forms

$H_o: \beta_1 = 0$

$H_a: \beta_1 \neq 0$

- Vote shares

  Model 1

$$voteshares_i = \beta_0 + \beta_1 reform_{it} + \delta_0 d2005_t + \alpha_i + u_{it}, t = 1, 2$$

- Proportion of seats won

  Model 2

$$proportionseats_i = \beta_0 + \beta_1 reform_{it} + \delta_0 d2005_t + \alpha_i + u_{it}, t = 1, 2$$

  Model 3

$$proportionseats_i = \beta_0 + \beta_1 reform_i + \beta_2 democrat_i + \beta_3 reform_i democrat_i + \epsilon_i$$

# Preliminary results: vote shares vs reform

Model 1

```
areg voteshares reform i.year if system == "ssc", absorb(province_id)

Linear regression, absorbing indicators         Number of obs     =        304
Absorbed variable: province_id                  No. of categories =         76
                                                F(   0,    226)   =          .
                                                Prob > F          =          .
                                                R-squared         =     0.0000
                                                Adj R-squared     =    -0.3407
                                                Root MSE          =     0.3185

------------------------------------------------------------------------------
  voteshares |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      reform |   7.35e-13   .1190592     0.00   1.000    -.2346082    .2346082
             |
        year |
       2005  |  -7.35e-13   .0386279    -0.00   1.000    -.0761169    .0761169
             |
       _cons |         .5   .0258365    19.35   0.000     .4490887    .5509113
------------------------------------------------------------------------------
F test of absorbed indicators: F(75, 226) = 0.000             Prob > F = 1.000
```

# Preliminary results: seat proportions vs reform

Model 2

```
areg proportion_seats reform i.year, absorb(province_id)

Linear regression, absorbing indicators         Number of obs     =        304
Absorbed variable: province_id                  No. of categories =         76
                                                F(   2,    226)   =       1.79
                                                Prob > F          =     0.1693
                                                R-squared         =     0.0716
                                                Adj R-squared     =    -0.2447
                                                Root MSE          =     0.4733

------------------------------------------------------------------------------
proportion~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      reform |  -.0181607   .1769076    -0.10   0.918      -.36676    .3304387
             |
        year |
       2005  |   .1044913   .0573964     1.82   0.070    -.0086092    .2175919
             |
       _cons |   .3719825   .0383899     9.69   0.000     .2963345    .4476305
------------------------------------------------------------------------------
F test of absorbed indicators: F(75, 226) = 0.185             Prob > F = 1.000
```

# Preliminary results: interaction term

Model 3

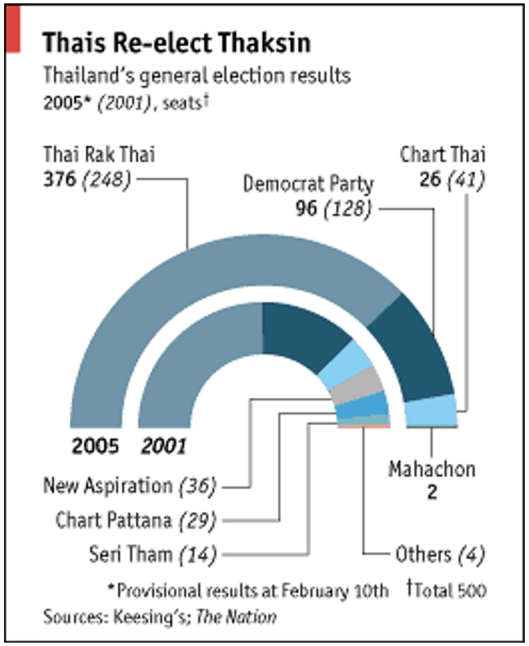
```
reg proportion_seats democrat##reform if (year == 2005)

      Source |       SS           df       MS      Number of obs   =       152
-------------+----------------------------------   F(3, 148)       =     15.48
       Model |  7.78536303         3  2.59512101   Prob > F        =    0.0000
    Residual |  24.8138161       148   .16766092   R-squared       =    0.2388
-------------+----------------------------------   Adj R-squared   =    0.2234
       Total |  32.5991791       151  .215888603   Root MSE        =    .40946

------------------------------------------------------------------------------
proportion_se~s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
     1.democrat |  -.4166584   .0702225    -5.93   0.000    -.5554268   -.2778901
       1.reform |   .1272703   .1530465     0.83   0.407    -.1751682    .4297089
                |
democrat#reform |
           1 1  |  -.2692791   .2164404    -1.24   0.215    -.6969917    .1584336
                |
          _cons |   .6836672   .0496548    13.77   0.000     .5855431    .7817912
------------------------------------------------------------------------------
```

# Results and Discussion

- Fail to reject (sharp) null hypothesis: redistricting does not have effects on TRT and Democrat parties based on 2001 and 2005 comparison
- Model 4? $$proportionseats_i = \beta_0 + \beta_1 reform_{it} + \beta_2 democrat_i + \beta_3 reform_{it} democrat_i + +\delta_0 d2005_t + \alpha_i + \epsilon_i$$

<u>Concerns</u>

- Design: redistricting is not randomly assigned
- Confounders: politicians switching parties
- Data: party-level data is not enough; need individual-level panel data; measure redistricting effects on individuals




South -> 2 provinces out of 14 (0.14%)
North -> 0 provinces out of 17 (0)
Northeast -> 2 provinces out of 19 (0.11%)
Central -> 4 provinces out of 26 (0.15%)

# Research Design (continued)

- Compare performance of TRT and Democrat Party in the 2001 election and the 2005 election in the single-seat constituency (SSC), at the provincial level
- Compare performance of TRT and Democrat Party in the 2001 and 2005 elections in the proportional representation (PR) system
- Test if redistricting has any effects on the two parties
    - Look at  the provincial level
    - Look at the regional level

# Preliminary results

- Democrat Party's 2005 performance comparison in the SSC system

  Vote shares

  - Mean of **two party vote shares** in the redistricted provinces = 0.2497525
  - Mean of **two party vote shares** in the non-redistricted provinces = 0.3195542
  - Difference = 0.2497525 - 0.3195542 = -.0698017

  Proportion of seats won

  - Mean of **proportion of seats won** in the redistricted provinces = 0.125
  - Mean of **proportion of seats won** in the non-redistricted provinces = 0.2670087
  - Difference = 0.125 - .2670087 = -.1420087