Regime Types and Economic Performance

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Background

After many nations (especially East Asian nations) achieved a successful economic development through authoritarianism in the late 20th century, there have been lots of questions asking whether democracy is truly an effective system in the context of economic development or not. Although many previous works show that democracy is still the best system even for the economic success, many of them neglected that democracy and authoritarianism are not the only regime types existing. Moreover, this pattern of development is notably seen among the nations that have the relatively short history of democracy. Thus, in this research I recreated what John Gerring, Philip Bond, William T. Barndt and Carola Monero did in their 2005 article *Democracy and Economic Growth: A Historical Perspective* to consider the history of democracy as a factor, and added a new regime type—dominant party system—based on Kenneth Greene's 2008 book *Why Dominant Party Lose: Mexico's Democratization in Comparative Perspective*, to consider regimes that have a single party dominance.

Research Questions

- Is there a significant relationship between regime type and economic development?
- Is there a significant moderation/interaction effect of regime type on the relationship between democracy stock and economic development?

Methodology

- Country-Year dataset, with 147 countries from 1961 to 2010
- Dependent variable: GDP per Capita Growth (lagged by 1 year, %, World Development Indicator, quantitative)
- Main independent variable:

1. Democracy stock (cumulative V-Dem polyarchy score starting from 1900 with 1% depreciation, quantitative)
2. Regime type, based on V-Dem score and Greene's 2008 book (authoritarian, democratic, dominant)

- Confounding variables are from Gerring et al. (2005)
- However, Some confounding variables are altered (e.g. literacy rate is altered by primary school enrollment rate) and deleted (e.g. years of independence) due to the lack of data and statistical problems
- Used OLS with fixed effect (country, year) and clustered standard error is conducted
- There are two regression models: the first model is without moderation and the second model is with moderation.
- Because some variables are modified, the result is not same as Gerring et al. (2005)'s result.

```
Fixed-effects (within) regression               Number of obs      =      2268
Group variable: ccode_gled                      Number of groups   =       147

R-sq:  within  = 0.1536                         Obs per group: min =         1
       between = 0.0006                                        avg =      15.4
       overall = 0.0003                                        max =        22

                                                F(31,146)          =         .
corr(u_i, Xb)  = -0.9856                        Prob > F           =         .

                                              (Std. Err. adjusted for 147 clusters in country)
------------------------------------------------------------------------------
             |               Robust
gdpgrowthpe~g|      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    dem_stock |  -.0892696   .2557287    -0.35   0.728    -.594678    .4161388
regimetype_d1 |  -.7050302   .9672752    -0.73   0.467     -2.6167    1.20664
regimetype_d2 |   .3305795    1.27508     0.26   0.796    -2.189418   2.850577
     v2x_corr |   8.644188   5.707523     1.51   0.132     -2.63585   19.92423
  mediascore |   .3821921   .4253062     0.90   0.370    -.4583599   1.222744
      loginv |  -11.24836   5.387607    -2.09   0.039    -21.89613   -.6005838
   traderate |  -.0213822   .0214434    -1.00   0.320    -.0637618   .0209974
  primaryedu |   .0172921   .0268003     0.65   0.520    -.0356746   .0702587
   oilshock |   -7.43869   5.430287    -1.37   0.173    -18.17081   3.293434
     popgrow |   1.025893   .4117914     2.49   0.014     .2120506   1.839735
  sumconfv414 |  -2.154391   .8571165    -2.51   0.013    -3.848349   -.4604323
 loggdppercap |   18.07235   5.069093     3.57   0.000     8.054072   28.09063
 lifeexpec |  -.0758425   .1202345    -0.63   0.529    -.3134674   .1617824
-------------+----------------------------------------------------------------
      sigma_u |  22.447062
      sigma_e |  5.3914389
          rho |  .94545782   (fraction of variance due to u_i)
------------------------------------------------------------------------------
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Table1. Panel Analysis with Fixed Effect (country, year).

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Fixed-effects (within) regression               Number of obs      =      2268
Group variable: ccode_gled                      Number of groups   =       147

R-sq:  within  = 0.1656                         Obs per group: min =         1
       between = 0.0000                                        avg =      15.4
       overall = 0.0001                                        max =        22

                                                F(33,146)          =         .
corr(u_i, Xb)  = -0.9881                        Prob > F           =         .

                                              (Std. Err. adjusted for 147 clusters in country)
------------------------------------------------------------------------------
             |               Robust
gdpgrowthper_lag|      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    dem_stock |   .5253519   .3089903     1.70   0.091    -.0853198   1.136024
              |
 regimetype_enc |
   democratic |   6.236483   2.441619     2.55   0.012        1.411   11.06196
     dominant |   2.358962   3.245177     0.73   0.468    -4.054629   8.772553
              |
regimetype_enc#c.dem_stock |
   democratic |  -.4915884   .2112416    -2.33   0.021    -.9090749   -.074102
     dominant |  -.2715997   .2365946    -1.15   0.253    -.7391925   .1959931
              |
     v2x_corr |   8.819148   4.913805     1.79   0.075    -.8922289   18.53053
  mediascore |   .5184532   .4119076     1.26   0.210    -.2956186   1.332525
      loginv |  -12.10947   5.172809    -2.34   0.021    -22.33273   -1.886215
   traderate |  -.0192177     .02069    -0.93   0.355    -.0601083   .0216729
  primaryedu |   .0028429   .0273719     0.10   0.917    -.0512535   .0569394
   oilshock |  -6.321597   4.819024    -1.31   0.192    -15.84565   3.20246
     popgrow |   1.01893   .4108389     2.48   0.014     .2069707   1.83089
  sumconfv414 |  -2.180741    .845051    -2.58   0.011    -3.850854   -.5106281
 loggdppercap |   18.95576   4.791292     3.96   0.000     9.48651   28.42501
 lifeexpec |   .0148377   .1056385     0.14   0.888    -.1939405   .2236159
-------------+----------------------------------------------------------------
      sigma_u |  24.695837
      sigma_e |  5.3558906
          rho |  .95507843   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Table 2. Panel Analysis with Interaction and Fixed Effect (country, year).

Results

- Without interaction, the full model depicts that both democracy stock and regime type variables are not significant ($p < 0.05$).
- However, with interaction variables, the model shows that the slope of democracy stock on GDP per Capita growth percentage significantly changes only when the regime type changes from authoritarianism to democracy ($b = -0.49$, $t(146) = -2.33$, $p < 0.05$). Yet, the relationship between democracy stock and GDP per Capita is also not significant in this model with $t(146) = 1.70$, $p = 0.09$.

Conclusion

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- There is no significant relationship with democracy stock, regime type, and GDP per Capita Growth (%). However, there is a significant decrease of the democracy stock and GDP per Capita Growth (%) slope when the regime changes from authoritarianism to democracy.

Future Directions

- This model should be conducted with random effect, not fixed effect.
- This model should be fixed with more appropriate confounding/controlling variables; because there were multiple changes and drops on those variables, the result is not same as what I predicted and what Gerring et al. (2005) got.

Acknowledgments

I would like to thank my supervisors Hans-Inge Langlo and Mike Denly for helping me gather the data and conduct the research, and GOV 355M class members for feedbacks.

References

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