

# Commitment Institutions and Electoral and Political Instability

## A Reduced-Form Approach

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- ▶ Do the commitment institutions of central bank independence and fixed exchange rates affect electoral and political instability?
- ▶ Compare welfare and political business cycle theories paired with economic voting
- ▶ Overall, I find commitment institutions are quite often politically costly

# Theory

- ▶ Potential theories:
  - ▶ Net Welfare Benefits
    - ▶ Inflation time inconsistency problem solved
    - ▶ Increased political efficacy, access to capital
  - ▶ Political Business Cycles
    - ▶ Inability to manipulate economy or satisfy partisans
    - ▶ Monetary (perhaps fiscal) policy limited
  - ▶ Economic Voting Theory
    - ▶ Consequent increased or decreased stability

## Can Trump fire Fed Chair Jerome Powell?

Adriene Hill, Janet Nguyen, and Daisy Palacios

Dec 24, 2018



# Theoretical Mechanisms

Figure: Effects of Limiting Institutions on Instability



(a) Welfare Model

(b) Political Business Cycle Model

- ▶ Bernhard and Leblang (2002)
  - ▶ OLS, 16 parliamentary democracies since 1970s
  - ▶ CBI increases cabinet duration by 3 months, fixed rates by 5 months, especially with open trade and capital account
- ▶ Clark, Golder, and Poast (2013)
  - ▶ Survival analysis, 19 OECD countries since 1970s
  - ▶ Both institutions increase leader survival but only after 7 years in office

- ▶ Far larger dataset including non/semi-democracies
- ▶ More consideration of endogeneity: choice of institutions based on stability consideration, potential for de jure independence only
- ▶ Political, not just electoral stability (coups, civil wars, etc), consideration for specific governmental positions

- ▶ Panel of 192 countries, 1970-2016
- ▶ Varieties of Democracy
  - ▶ Turnover variables: v2elturnhog (Head of Government, HOG), v2elturnhos (Head of State, HOS), v2eltrig (Lower House, L.H.)
  - ▶ 0 for same individual (no turnover), 1 for same party or coalition (half turnover), 2 for new party and individual (full turnover)
  - ▶ World Governance Indicators Political Violence (positive value implies more stable)
  - ▶ Instability Event- coup, civil war, internal conflict indicator
- ▶ Garriga (Cukierman, Webb, Neyapti)- de jure CBI
- ▶ Dreher et al.- Irregular turnover of governor- de facto CBI
- ▶ Reinhart, Rogoff Exchange Rates: 16 categories (higher implies closer to a pure float)

- ▶ Separate regressions (bad control problem)
- ▶ Fixed effects, clustered standard errors
- ▶ De Jure CBI and more instability: PBCs
- ▶ De Facto CBI (high irregular turnover) and less lower chamber turnover
- ▶ Fixed rate and less HOS turnover
- ▶ De facto CBI, fixed rates and less instability: welfare benefits?



# Fixed Effects Regression with Clustered Standard Errors

**Table:** De Jure CBI, Fixed Effects Regression with Clustered Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover   | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|-----------------------|-----------------------|--------------------------|----------------------|
| De Jure CBI  | 0.276<br>(1.44)     | 0.303*<br>(2.30)      | 0.389*<br>(1.99)      | -0.417**<br>(-2.75)      | 1.000***<br>(11.15)  |
| Fixed Rate   | -0.0120<br>(-1.61)  | -0.0207***<br>(-3.45) | -0.00615<br>(-0.71)   | 0.0106<br>(1.69)         | 0.00690<br>(1.33)    |
| Constant     | 0.618***<br>(6.15)  | 0.390***<br>(5.43)    | 0.535***<br>(4.99)    | 0.0283<br>(0.31)         | -0.113*<br>(-2.20)   |
| Observations | 1399                | 1399                  | 1141                  | 2141                     | 4207                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Fixed Effects Regression with Clustered Standard Errors

**Table:** De Facto CBI, Fixed Effects Regression with Clustered Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Facto CBI | -0.117<br>(-1.68)   | -0.0512<br>(-0.81)  | -0.211**<br>(-2.81)   | 0.00955<br>(0.36)        | 0.0244<br>(1.36)     |
| Fixed Rate   | -0.00548<br>(-0.82) | -0.0117*<br>(-2.06) | 0.00444<br>(0.53)     | 0.0153*<br>(2.08)        | 0.0128**<br>(2.73)   |
| Constant     | 0.805***<br>(9.91)  | 0.521***<br>(7.75)  | 0.865***<br>(9.43)    | -0.247***<br>(-3.54)     | 0.261***<br>(6.77)   |
| Observations | 1651                | 1651                | 1334                  | 2669                     | 4491                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Ordered Logit (Mean Marginal Effects)

- ▶ Nothing changes in terms of signs, but more items are significant
- ▶ xtologit; random effects
- ▶ Nice probabilistic interpretation

# Ordered Logit Mean Marginal Effects

**Table:** De Jure CBI, Mean Marginal Effects, Ordered Logit Panel Regression, Random Effects, Clustered Standard Errors

|               | (1)<br>HoG Turnover   | (2)<br>HoS Turnover   | (3)<br>L.H. Turnover |
|---------------|-----------------------|-----------------------|----------------------|
| De Jure CBI   |                       |                       |                      |
| No Turnover   | -0.146<br>(-1.93)     | -0.208***<br>(-3.54)  | -0.316***<br>(-3.65) |
| Half Turnover | 0.0152<br>(1.80)      | 0.0390***<br>(3.32)   | 0.0980**<br>(3.21)   |
| Full Turnover | 0.131<br>(1.93)       | 0.169***<br>(3.47)    | 0.218***<br>(3.68)   |
| Fixed Rate    |                       |                       |                      |
| No Turnover   | 0.00792*<br>(2.45)    | 0.00896**<br>(3.21)   | 0.00392<br>(0.96)    |
| Half Turnover | -0.000826*<br>(-2.22) | -0.00168**<br>(-3.00) | -0.00122<br>(-0.96)  |
| Full Turnover | -0.00710*<br>(-2.46)  | -0.00728**<br>(-3.18) | -0.00271<br>(-0.96)  |
| Observations  | 1399                  | 1399                  | 1141                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Ordered Logit Mean Marginal Effects

**Table:** De Facto CBI, Mean Marginal Effects, Ordered Logit Panel Regression, Random Effects, Clustered Standard Errors

|               | (1)<br>HoG Turnover  | (2)<br>HoS Turnover  | (3)<br>L.H. Turnover |
|---------------|----------------------|----------------------|----------------------|
| De Facto CBI  |                      |                      |                      |
| No Turnover   | 0.0734*<br>(2.23)    | 0.0356<br>(1.30)     | 0.119**<br>(3.19)    |
| Half Turnover | -0.00756*<br>(-2.02) | -0.00655<br>(-1.24)  | -0.0296**<br>(-3.05) |
| Full Turnover | -0.0658*<br>(-2.23)  | -0.0290<br>(-1.31)   | -0.0890**<br>(-3.14) |
| Fixed Rate    |                      |                      |                      |
| No Turnover   | 0.00384<br>(1.32)    | 0.00473<br>(1.93)    | -0.00440<br>(-1.19)  |
| Half Turnover | -0.000396<br>(-1.27) | -0.000870<br>(-1.87) | 0.00110<br>(1.18)    |
| Full Turnover | -0.00345<br>(-1.32)  | -0.00386<br>(-1.92)  | 0.00331<br>(1.19)    |
| Observations  | 1651                 | 1651                 | 1334                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Panel Logit (Binary Instability Event Variable) Mean Marginal Effects

- ▶ Fixed effects
- ▶ More evidence that de jure CBI increases political instability
- ▶ Fixed exchange rate (low RR rate classification) increases political instability, but very small effect size

# Binary Instability Event Logit, Mean Marginal Effects

**Table:** Instability Event Panel Logit, Fixed Effects and Clustered Standard Errors, Mean Marginal Effects

|              | (1)<br>Instab. Event |
|--------------|----------------------|
| De Jure CBI  | 0.376***<br>(12.93)  |
| Fixed Rate   | 0.00227**<br>(2.99)  |
| Observations | 3912                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Binary Instability Event Logit, Mean Marginal Effects

**Table:** Instability Event Panel Logit, Fixed Effects and Clustered Standard Errors, Mean Marginal Effects

|              | (1)<br>Instab. Event |
|--------------|----------------------|
| De Facto CBI | 0.0282<br>(1.18)     |
| Fixed Rate   | 0.0152***<br>(6.71)  |
| Observations | 4163                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$



# Instrumental Variables

- ▶ Break potential endogeneity of institutions to strategic political choice, differing from previous literature
- ▶ CBI: Tertiary education enrollment and the share of social science/business graduates
  - ▶ Technical expertise/competence needed for an independent central bank, and unrelated to instability in some cases
- ▶ Fixed Rates: Aggregate GDP
  - ▶ Optimal currency area literature implies that large economies see more gains from trade, try to proxy for size rather than wealth
- ▶ Good first stages in robust regression

## IV1: Tertiary Ed Enrollment (CBI), Aggregate GDP (Fixed Rate)

- ▶ Poor exclusion restrictions for political stability, better ones for electoral stability/turnover
- ▶ De jure CBI now increases lower chamber turnover, but no longer HOS
- ▶ Fixed rates appear to increase lower chamber turnover
- ▶ De facto CBI more or less insignificant

# Tertiary Education and Aggregate GDP Instruments

**Table:** Instruments of Tertiary Education Enrollment Rate and Aggregate GDP, Robust Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Jure CBI  | 0.629<br>(1.55)     | -0.478<br>(-1.42)   | 0.847*<br>(1.97)      | 6.976***<br>(13.27)      | 0.835***<br>(4.30)   |
| Fixed Rate   | -0.00669<br>(-0.19) | 0.0171<br>(0.51)    | 0.0266<br>(0.76)      | -0.0865**<br>(-2.84)     | -0.0295<br>(-1.66)   |
| Constant     | 0.401<br>(1.28)     | 0.576*<br>(2.01)    | 0.0636<br>(0.22)      | -3.422***<br>(-9.22)     | 0.292<br>(1.65)      |
| Observations | 851                 | 851                 | 686                   | 1865                     | 2047                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Tertiary Education and Aggregate GDP Instruments

**Table:** Instruments of Tertiary Education Enrollment Rate and Aggregate GDP, Robust Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Facto CBI | 1.295<br>(1.19)     | -0.626<br>(-0.74)   | 2.071<br>(1.66)       | 39.47*<br>(1.97)         | -18.01<br>(-0.46)    |
| Fixed Rate   | 0.0152<br>(0.46)    | -0.0101<br>(-0.32)  | 0.0864*<br>(2.08)     | 0.581<br>(1.49)          | -0.131<br>(-0.47)    |
| Constant     | -0.538<br>(-0.50)   | 1.085<br>(1.32)     | -1.708<br>(-1.39)     | -40.72<br>(-1.96)        | 17.29<br>(0.48)      |
| Observations | 962                 | 962                 | 788                   | 2236                     | 2011                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## IV2: Population Share Social Science/Business Grads (CBI), Aggregate GDP (Fixed Rates)

- ▶ Better exclusion restriction
- ▶ Very limited data but strong result for de jure CBI and political instability
- ▶ Fixed rates again associated with lower house turnover in the de facto specification

# Population Share Social Science/Business Grads and Agg GDP Instruments

**Table:** Instruments of Social Science/Business Graduates Population Share and Aggregate GDP, Robust Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Jure CBI  | 44.33<br>(0.49)     | 14.48<br>(0.47)     | -22.04<br>(-0.48)     | -19.44<br>(-0.24)        | 2.704***<br>(4.11)   |
| Fixed Rate   | -1.277<br>(-0.47)   | -0.422<br>(-0.44)   | 0.704<br>(0.51)       | 0.722<br>(0.27)          | -0.129<br>(-1.60)    |
| Constant     | -19.38<br>(-0.50)   | -6.144<br>(-0.46)   | 10.39<br>(0.52)       | 8.414<br>(0.25)          |                      |
| Observations | 20                  | 20                  | 17                    | 53                       | 12                   |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Population Share Social Science/Business Grads and Agg GDP Instruments

**Table:** Instruments of Social Science/Business Graduates Population Share and Aggregate GDP, Robust Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability |
|--------------|---------------------|---------------------|-----------------------|--------------------------|
| De Facto CBI | -18.95<br>(-0.83)   | -5.278<br>(-0.40)   | 19.37<br>(0.80)       | -7.488<br>(-0.66)        |
| Fixed Rate   | 0.0129<br>(0.22)    | -0.0133<br>(-0.25)  | 0.131*<br>(2.07)      | 0.0659<br>(1.16)         |
| Constant     | 19.38<br>(0.85)     | 5.799<br>(0.44)     | -19.06<br>(-0.79)     | 7.212<br>(0.64)          |
| Observations | 59                  | 59                  | 52                    | 187                      |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Just Aggregate GDP for Fixed Rates

- ▶ Clearer case for fixed rates decreasing political and electoral stability (PBC)
- ▶ Note on exclusion restriction: still an imperfect case
  - ▶ Aggregate GDP proxies for economy size (optimum currency area)
  - ▶ Arguably not as connected to GDP per capita to stability



# Aggregate GDP Instrument for Fixed Rates

**Table:** Instrument of Aggregate GDP for Fixed Exchange Rates, Robust Standard Errors

|              | (1)<br>L. H. Turnover | (2)<br>WB Pol. Stability |
|--------------|-----------------------|--------------------------|
| Fixed Rate   | 0.0779***<br>(3.35)   | -0.257***<br>(-4.13)     |
| Constant     | 0.0991<br>(0.58)      | 1.992***<br>(4.16)       |
| Observations | 835                   | 437                      |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Table of Lags (see paper)

- ▶ Additional observations for the longer term:
  - ▶ T-3 sees strongest de jure CBI political instability impact
  - ▶ T-6, T-8 de jure CBI increases political instability. T-8 reduces HOG turnover (electoral instability) (similar to Clark, Golder, and Poast).
  - ▶ Fixed rates increase instability in the same T-5 and up range in both de facto and de jure specifications
  - ▶ De facto CBI not very significant
  - ▶ Similar results with lagged ordinal logit specification, though de facto CBI more significant in reducing L.H. turnover

# Institutional Interaction Terms

- ▶ Same signs for individual components
- ▶ Interaction of institutions generally more destabilizing, especially in the ordinal logit model
- ▶ Pseudo Mundell-Fleming trilemma and PBCs: more difficult to manage the economy with more commitments
  - ▶ Is CBI a good representation of “domestic monetary autonomy”?
  - ▶ See further explorations material for test with capital controls explicitly

# Summary

- ▶ De jure CBI generally decreases (especially political) stability, suggesting limits on PBCs
- ▶ Fixed rates mostly appear to increase stability in fixed effects regressions, but the sign flips in more robust models (IV, lags)
- ▶ Unclear sign for de facto CBI though it appears to increase stability if anything, so it possibly increases welfare
- ▶ Combinations/interactions of commitment institutions more destabilizing
- ▶ Robust results
  - ▶ Not covered: controls for federalism, corporatism do not affect signs or cause large changes in effects, capital account openness generally destabilizing but mitigated with interactions with fixed rates and de facto CBI, interactions with democracy do not behave as expected, expected accountability results on HOS = HOG and less expected ones for legislative power in practice

- ▶ More complex theory for de jure versus de facto CBI puzzle, importance of credible commitment
- ▶ Diverging predictions for Head of Government, Head of State, Lower House turnover
  - ▶ Head of State and Lower House seem to have strongest relationships
- ▶ Account for endogenous elections
- ▶ Dynamic panel analysis (Arellano-Bond, etc.)
- ▶ Ordinal logit regression with IV (different procedure)

## Further Explorations

- ▶ Regional government exists and has autonomy and authority, checks and balances/horizontal accountability
- ▶ Not strictly necessary
  - ▶ Many items already included in FEs
  - ▶ No sign flips for main variables
- ▶ Omitted: corporatism
- ▶ The controls themselves are often significant and somewhat interesting; they are often destabilizing

# Controls Excluding Corporatism

**Table:** All Controls Excluding Corporatism, Fixed Effects and Clustered Standard Errors

|                     | (1)<br>HoG Turnover | (2)<br>HoS Turnover   | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|---------------------|---------------------|-----------------------|-----------------------|--------------------------|----------------------|
| De Jure CBI         | 0.181<br>(0.62)     | 0.151<br>(0.70)       | 0.481<br>(1.25)       | -0.531<br>(-1.98)        | 0.961***<br>(5.33)   |
| Fixed Rate          | -0.00641<br>(-0.48) | -0.0356***<br>(-3.93) | 0.00257<br>(0.15)     | -0.000489<br>(-0.05)     | 0.0232*<br>(2.49)    |
| Reg. Govt. Exists   | 0.863***<br>(3.65)  | 0.0000816<br>(0.00)   | 1.010***<br>(3.50)    | 0.107<br>(1.98)          | -0.221*<br>(-2.22)   |
| Horiz. Acctability  | 0.390**<br>(3.30)   | 0.371**<br>(3.38)     | 0.220<br>(1.85)       | 0.0639<br>(0.56)         | 0.100*<br>(2.20)     |
| Checks and Balances | -0.0126<br>(-0.31)  | -0.0392<br>(-1.40)    | 0.00165<br>(0.04)     | 0.00951<br>(0.75)        | 0.00762<br>(0.63)    |
| Autonomous Regions  | -0.714<br>(-1.37)   | -0.0764<br>(-0.58)    | -1.274***<br>(-4.10)  | -0.359***<br>(-7.85)     | -0.0416<br>(-0.69)   |
| State Govt. Auth.   | 0.306<br>(0.40)     | 0.0825<br>(1.19)      | 0.465<br>(1.65)       | 0<br>(.)                 | -0.0651<br>(-1.28)   |
| Constant            | -0.317<br>(-0.73)   | 0.522**<br>(2.67)     | -0.676*<br>(-2.35)    | 0.168<br>(0.95)          | -0.164<br>(-1.46)    |
| Observations        | 483                 | 483                   | 415                   | 780                      | 1389                 |



# Controls Excluding Corporatism

**Table:** All Controls Excluding Corporatism, Fixed Effects and Clustered Standard Errors

|                     | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|---------------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Facto CBI        | -0.264*<br>(-2.39)  | -0.119<br>(-1.13)   | -0.321*<br>(-2.57)    | 0.0570<br>(1.44)         | 0.0307<br>(0.98)     |
| Fixed Rate          | -0.00661<br>(-0.56) | -0.0207*<br>(-2.16) | 0.00415<br>(0.24)     | -0.000246<br>(-0.03)     | 0.0311***<br>(3.53)  |
| Reg. Govt. Exists   | 0.681**<br>(2.75)   | 0.0312<br>(0.33)    | 0.985***<br>(5.03)    | 0.0731<br>(0.68)         | -0.0622<br>(-0.36)   |
| Horiz. Acctability  | 0.306**<br>(3.17)   | 0.308**<br>(3.24)   | 0.223<br>(1.81)       | 0.0329<br>(0.34)         | 0.133*<br>(2.36)     |
| Checks and Balances | -0.0415<br>(-1.22)  | -0.0507<br>(-1.74)  | -0.00753<br>(-0.20)   | 0.01000<br>(0.61)        | -0.00346<br>(-0.27)  |
| Autonomous Regions  | -0.553<br>(-1.10)   | -0.0437<br>(-0.64)  | -1.206**<br>(-3.16)   | -0.302***<br>(-7.57)     | 0.0203<br>(0.23)     |
| State Govt. Auth.   | 0.308<br>(0.38)     | 0.0861<br>(1.41)    | 0.615*<br>(2.52)      | 0<br>(.)                 | 0.123<br>(1.45)      |
| Constant            | 0.322<br>(0.71)     | 0.651***<br>(4.73)  | -0.134<br>(-0.56)     | -0.192<br>(-1.12)        | 0.0226<br>(0.15)     |
| Observations        | 563                 | 563                 | 477                   | 993                      | 1416                 |

# Capital Account Openness Interactions

- ▶ See paper for lagged interaction term analysis. Some results, particularly those for the ordinal logit model, agree with Bernhard et al. (2002)
- ▶ De jure CBI and especially open capital accounts are generally destabilizing, but their impacts are mitigated by de facto CBI and fixed rates
- ▶ Interesting side result on the political optimality of Bretton Woods (closed capital account, fixed rates, de facto CBI)

# Democracy/Nondemocracy

- ▶ Classification based on Polity IV scores
- ▶ Tested hypotheses:
  - ▶ De jure versus de facto CBI matters more in democracies due to rule of law
  - ▶ Electoral versus political turnover/instability matters more in democracies
- ▶ Not really any consistent pattern of major differences. All items generally more significant in democracies
- ▶ See paper for lagged interaction term analysis, which somewhat challenges the second hypothesis

# Democracies, Tertiary Education Instrument

Table: Instrumental Variable of Tertiary Education, Democracies

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover  | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|----------------------|-----------------------|--------------------------|----------------------|
| De Jure CBI  | -0.453<br>(-0.77)   | -1.933***<br>(-3.32) | 0.128<br>(0.21)       | 6.173***<br>(10.70)      | 1.032***<br>(4.25)   |
| Fixed Rate   | 0.0486<br>(1.21)    | 0.0754<br>(1.85)     | 0.0554<br>(1.37)      | -0.118***<br>(-4.41)     | -0.0471**<br>(-2.70) |
| Constant     | 0.737*<br>(2.54)    | 1.103***<br>(3.79)   | 0.326<br>(1.20)       | -2.778***<br>(-8.71)     | 0.271<br>(1.83)      |
| Observations | 615                 | 615                  | 510                   | 1297                     | 1387                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Democracies, Tertiary Education Instrument

Table: Instrumental Variable of Tertiary Education, Democracies

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Facto CBI | -0.842<br>(-0.87)   | -2.290*<br>(-2.07)  | 0.452<br>(0.53)       | 23.30*<br>(2.43)         | 9.329<br>(0.98)      |
| Fixed Rate   | 0.0120<br>(0.39)    | -0.0157<br>(-0.44)  | 0.0775**<br>(2.77)    | 0.252<br>(1.65)          | 0.0354<br>(0.35)     |
| Constant     | 1.492<br>(1.72)     | 2.673**<br>(2.76)   | -0.134<br>(-0.17)     | -23.09*<br>(-2.49)       | -7.906<br>(-0.91)    |
| Observations | 716                 | 715                 | 596                   | 1582                     | 1387                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Nondemocracies, Tertiary Education Instrument

Table: Instrumental Variable of Tertiary Education, Nondemocracies

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Jure CBI  | -1.939<br>(-0.99)   | -0.295<br>(-0.30)   | 1.116<br>(0.63)       | 15.47<br>(1.49)          | 5.034<br>(0.71)      |
| Fixed Rate   | 0.110*<br>(2.14)    | 0.0316<br>(0.99)    | 0.0887<br>(1.42)      | -1.014<br>(-1.76)        | -0.183<br>(-0.97)    |
| Constant     | 0.173<br>(0.22)     | -0.0254<br>(-0.06)  | -0.779<br>(-1.01)     | 1.248<br>(0.62)          | -0.207<br>(-0.13)    |
| Observations | 194                 | 194                 | 146                   | 476                      | 602                  |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

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|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Facto CBI | 76.68<br>(0.05)     | -33.62<br>(-0.08)   | 0.748<br>(0.19)       | -1.311<br>(-0.41)        | -1.726<br>(-0.68)    |
| Fixed Rate   | 2.058<br>(0.05)     | -0.588<br>(-0.08)   | 0.108<br>(0.72)       | -0.559***<br>(-3.58)     | -0.0535<br>(-0.69)   |
| Constant     | -85.72<br>(-0.05)   | 34.88<br>(0.08)     | -1.102<br>(-0.24)     | 5.928*<br>(2.20)         | 2.491<br>(1.25)      |
| Observations | 186                 | 187                 | 146                   | 522                      | 566                  |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# HOS = HOG?

- ▶ V2exhoshog is an indicator for whether HOS and HOG are the same person
- ▶ De jure CBI has more of an impact on both positions when they are the same individual
- ▶ However, fixed rates only affect HOS turnover when the head of state and head of government are not the same individual
- ▶ Overall, in most cases, effects occur when HOS = HOG (and definitely HOS effects mostly appear when this is the case. See paper for lagged interaction term analysis.)
  - ▶ Logically more accountability for HOG, unless they are the same person
  - ▶ Possible there is more direct accountability under presidentialism, where the positions are combined



# HOS = HOG, Tertiary Education Instrument

**Table:** HOS = HOG, Tertiary Education Instrument, Robust Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Jure CBI  | 1.912**<br>(2.58)   | 1.882*<br>(2.51)    | 1.047<br>(1.25)       | 3.978***<br>(4.63)       | 0.709**<br>(2.84)    |
| Fixed Rate   | -0.0142<br>(-0.26)  | -0.0140<br>(-0.26)  | 0.000305<br>(0.01)    | -0.164***<br>(-6.15)     | -0.0122<br>(-0.54)   |
| Constant     | -0.280<br>(-0.64)   | -0.268<br>(-0.61)   | 0.0264<br>(0.07)      | -1.484***<br>(-3.46)     | 0.179<br>(1.12)      |
| Observations | 291                 | 291                 | 247                   | 654                      | 765                  |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# HOS = HOG, Tertiary Education Instrument

**Table:** HOS = HOG, Tertiary Education Instrument, Robust Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Facto CBI | 14.23<br>(0.39)     | 17.59<br>(0.40)     | 3.692<br>(0.39)       | -26.08<br>(-0.92)        | -1.598<br>(-1.81)    |
| Fixed Rate   | 0.196<br>(0.41)     | 0.241<br>(0.41)     | 0.0972<br>(0.74)      | -0.320<br>(-0.89)        | -0.0238<br>(-0.85)   |
| Constant     | -12.74<br>(-0.38)   | -15.91<br>(-0.38)   | -3.186<br>(-0.36)     | 25.22<br>(0.92)          | 1.987*<br>(2.30)     |
| Observations | 323                 | 323                 | 279                   | 760                      | 734                  |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# HOS Not HOG, Tertiary Education Instrument

**Table:** HOS NOT HOG, Tertiary Education Instrument, Robust Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Jure CBI  | 0.196<br>(0.43)     | -0.0412<br>(-0.12)  | 0.471<br>(1.05)       | 7.754***<br>(6.82)       | 0.0619<br>(0.12)     |
| Fixed Rate   | -0.0306<br>(-0.69)  | 0.0661**<br>(2.64)  | 0.0482<br>(1.14)      | 0.190<br>(1.37)          | -0.0965<br>(-1.87)   |
| Constant     | 0.859<br>(1.70)     | -0.237<br>(-0.82)   | 0.141<br>(0.30)       | -6.252***<br>(-3.41)     | 1.284<br>(1.91)      |
| Observations | 560                 | 560                 | 439                   | 1211                     | 1282                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# HOS Not HOG, Tertiary Education Instrument

**Table:** HOS NOT HOG, Tertiary Education Instrument, Robust Standard Errors

|              | (1)<br>HoG Turnover | (2)<br>HoS Turnover | (3)<br>L. H. Turnover | (4)<br>WB Pol. Stability | (5)<br>Instab. Event |
|--------------|---------------------|---------------------|-----------------------|--------------------------|----------------------|
| De Facto CBI | 0.475<br>(0.31)     | 0.535<br>(0.41)     | 1.872<br>(0.97)       | 145.7<br>(0.41)          | 40.28<br>(0.05)      |
| Fixed Rate   | -0.0120<br>(-0.16)  | 0.0841<br>(1.62)    | 0.110<br>(1.11)       | 4.603<br>(0.39)          | -0.224<br>(-0.12)    |
| Constant     | 0.404<br>(0.21)     | -0.893<br>(-0.57)   | -1.730<br>(-0.69)     | -176.0<br>(-0.40)        | -33.39<br>(-0.05)    |
| Observations | 639                 | 639                 | 509                   | 1476                     | 1277                 |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Legislative Power in Practice

- ▶ Examining robust results, effects on lower house turnover are only occasionally more in line with expectations when it has power in practice
- ▶ Not clear evidence of a matching of power and accountability
- ▶ See paper for lagged interaction term analysis