Veto Player and Fiscal Policy Stability *

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Veto player theory (Tsebelis, 2002) predicts that the number of veto players influencing policy stabilities. While studies in OECD countries have shown supportive evidence (Tsebelis and Chang, 2004), there is few work on policy stability in nondemocracies. This project uses a new dataset from GSRE (Global State Revenues and Expenditures dataset) and perform an empirical test on veto player and budget stability in authoritarian countries. Preliminary analysis show that even in authoritarian countries, institutional constrians (veto players) lead to incremental budget changes.

Keywords: veto player, public policy

Introduction

Veto player theorys (Tsebelis, 2002) defines 'veto players' as individuals or institutions whose agreement is required for a change of the status quo. This theory predicts that: when the number of veto players increase, the winning set that can defeat status quo will shrink, which in turn leads to higher policy stability. Since veto player is ultimately related to the level of institutional constraints, a collary is that institutional checks leads to more stable, incremental policy outcomes. With many checks and balances in the government, it will be harder to move policies from status quo equibilibrium.

Tsebelis and Chang (2004) apply veto player theory in the budget changes of the 19 OECD countries. In their analysis, parties with more polarized positions are modeled as potential veto players who could have blocked the policy proposals. Their results show that countries with more veto players have more stable budget policies.

On the other hand, veto player theory also implies that more veto players make politicians harder to adjust current policies. This is particularly salient in coutries with multiple veto players (e.g. the United States). During some time periods with exogenous shocks, the policy stability can be harmful and politicians may react to the long-time stability with rapid changes of policies, which forms a policy punctuation.

Punctuated Equilibrium Theory (PET) (John and Bevan, 2012; Jones and Baumgartner, 2014) argues that government budget shifts over and under attention to certain policy areas lead to long periods of stability and short periods of radical changes. Most empirical evidence, however, is drawn from developed democracies. Following (Baumgartner et al., 2017) and (Lam and Chan, 2015), we explore the determinants of policy stability in different authoritarian regimes. We extend the existing theory by examining the variations among authoritarian countries. Our results suggest that institutionalization in the policy making process is an important factor that explains cross national variation.

*Replication files are available on the author's Github account (http://github.com/haowang666). **Current version**: April 13, 2017

Argument

Institutional Constraints

Veto player $\Rightarrow$ unable to change policy rapidly $\Rightarrow$ long term incremental changes and short-term rapid changes $\Rightarrow$ punctual equilibrium (Epp and Baumgartner, 2016).

(Henisz, 2000)

(Keefer and Stasavage, 2003)

Policy Punctuations

Data

Data in this project comes from various sources. The dependent variable comes from the GSRE project (Global State Revenues and Expenditures dataset). GSRE is a comprehensive budget dataset based on the previous released historical documents from the International Monetary Fund (IMF). Comparing with the IMF COFOG dataset, GSRE increases coverage and accuracy of budgeting data for most authoritarian regimes and some democratic regimes. Since GSRE is built on IMF historical documents, it covers all independent states that have been or are the members of the IMF and are being coded as an authoritian regime in the (Geddes, Wright and Frantz, 2014) dataset.

Data on deliberative democracies and other regime-related variables come from the Variaties of Democracy (Vdem) project (Coppedge et al., 2016). Unlike the widely used democracy index like Polity (Marshall, Gurr and Jaggers, 2015), Vdem provides multidimensional meassurements of regimes, including both democracies and autocracies.

Data on institutional constraints come from the political constraints index (Henisz, 2000).

Henisz develops a measure of institutional commitment that is objective, extensive, and based in positive political theory. He uses a quantitative model to capture the competitiveness portion of the definition of democracy (competitiveness and participation) with a proxy of number of independent veto points over policy outcomes and distribution of preferences of those actors. The measure is objective, with clear rules for measurement and aggregation, however it incorporates some of the Polity data coding for ndependent judiciary that gives it a slight subjective bias. POLCON is based on strong assumptions about each actor veto power. The measures are strongly correlated with the ICRG indexes and the Polity xecutive Constraint index. he new release of the political constraint dataset expands the scope of coverage to as many as 234 countries over the period 18002001. It also corrects a small number of computational, coding and factual errors in the previous release. The new database also includes country codes from the Cross-national time series data archive, Polity and the World Bank to facilitate matching this dataset to other international datasets that you may have. Finally, it contains the component variables used to construct the political constraint indexes.

Data on decentralization draws from the Political Institution Index (Beck et al., 2001).

Measuring Dependent Variables

To evaluate the budget-stability hypothesis and punctual equilibrium hypothesis, we create two different dependent variables. The volatility index measures the budget shifts of a certain country at a single time point. We use L-Kurtosis score to measure the degree of punctuations (peakness).

Volatility Index

I measure the budget stability as the simple euclidean distance of the between-year percentage differences. It can be written in the following equation: S_{jt} is the volatility index of the jth country at a certain year t. Since government budget has various categories: p_{jit} denotes the percentage of ith category out of total expenditure of the country j at year t. S_{jt} will increase as the difference between p_{it} and p_{it-1} increases.

$$S_{jt} = \sqrt{\sum_{i=1}^{i} (p_{jit} - p_{jit-1})^2} \tag{1}$$

For the percentage of each expenditure term p_{it}, $p_{it} \in [0, 1]$, S_{jt} has the same boundary as $[0, 1]$. Larger score means more volatile budget policies.

L-Kurtosis Score

To evaluate the distribution of budget shifts, we calculated the L-Kurtosis score of each country across the available time spans. L-Kurtosis (LK) is the 4th L-moment of the momemnt statistics. It is used to summarize the peakness of the variable distributions. An L-Kurtosis score of 0.123 approximites a Gaussian distribution (also see (Baumgartner et al., 2017; Breunig and Jones, 2011)). Higher LK score means heavy tails and high peaks. Figure 1 shows an example of LK score and distributions. In this figure, the red line has a LK score of 0.84, makes it more 'punctuated' than the blue line: it features long-time incremental changes and short-term radical shifts (for detailed calculation, check (Hosking, 1990)).

Independent Variables

Veto Player

Method and Results

(Beck and Katz, 1995), (Beck and Katz, 2011)

Pooled OLS with Lagges DV and Panel Corrected Standard Errors

Fixed Effect Panel Data

Table 1 reports reports the fixed effect regression results.

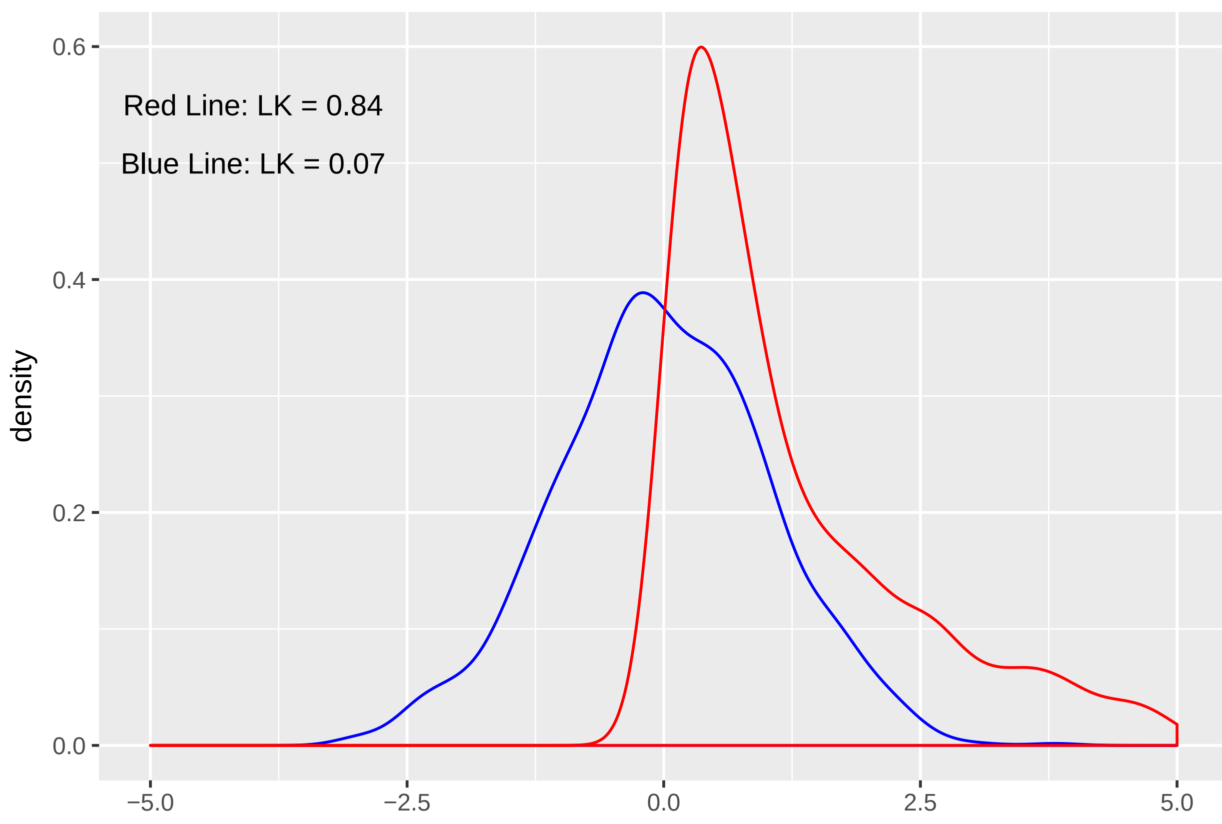

Figure 1: LK Score Example

Table 1: Fixed Effect Regression Results

	Dependent variable:			
	stability_0	stability_1	stability_2	stability_3
	(1)	(2)	(3)	(4)
v2x_delibdem	0.002	0.028	−0.013	−0.041
	(0.037)	(0.044)	(0.042)	(0.044)
e_h_polcon5	−0.024	-0.042^{*}	-0.037^{*}	−0.003
	(0.019)	(0.022)	(0.021)	(0.022)
e_autoc	−0.002	-0.005^{**}	−0.002	−0.002
	(0.002)	(0.002)	(0.002)	(0.002)
v2mecenefm	0.013^{**}	−0.003	0.012^{*}	0.009
	(0.006)	(0.007)	(0.006)	(0.007)
e_peaveduc	-0.011^{***}	-0.008^{*}	−0.004	-0.008^{*}
	(0.004)	(0.005)	(0.004)	(0.005)
e_migdppcln	0.035^{***}	0.030^{*}	0.019	0.036^{**}
	(0.013)	(0.015)	(0.015)	(0.015)
e_migdpgro	0.0002	0.0001	−0.001	0.0002
	(0.0005)	(0.001)	(0.001)	(0.001)
e_peginiwi	0.0001	−0.001	−0.001	−0.0005
	(0.0005)	(0.001)	(0.001)	(0.001)
e_Civil_War	−0.005	−0.013	−0.006	−0.001
	(0.011)	(0.013)	(0.013)	(0.013)
v2x_corr	−0.008	-0.105^{***}	-0.067^{*}	-0.098^{**}
	(0.034)	(0.040)	(0.039)	(0.041)
Observations	2,904	2,904	2,904	2,904
R^2	0.011	0.008	0.007	0.007
Adjusted R^2	−0.031	−0.034	−0.035	−0.035
F Statistic (df = 10; 2784)	3.141^{***}	2.367^{***}	2.076^{**}	2.024^{**}
Note:				*p<0.1; **p<0.05; ***p<0.01

Fiexed Effect with Two Way Effects

OLS with L-Kurtosis

Table 2: OLS Regression with L-Kurtosis as Dependent Variable

	Dependent variable:			
	y_lk0	y_lk1	y_lk2	y_lk3
	(1)	(2)	(3)	(4)
v2x_delibdem	0.038	0.126	0.087	0.078
	(0.073)	(0.142)	(0.147)	(0.140)
e_h_polcon5	0.011	−0.002	0.036	−0.007
	(0.046)	(0.089)	(0.092)	(0.088)
e_autoc	0.006	0.005	0.007	0.005
	(0.004)	(0.008)	(0.008)	(0.008)
v2mecenefm	0.002	0.002	0.001	0.002
	(0.008)	(0.016)	(0.017)	(0.016)
e_peaveduc	0.008***	0.004	0.006	0.005
	(0.003)	(0.006)	(0.006)	(0.006)
e_migdppcln	−0.026**	−0.025	−0.021	−0.022
	(0.011)	(0.020)	(0.021)	(0.020)
e_migdpgro	0.002	0.0002	−0.002	0.001
	(0.003)	(0.006)	(0.007)	(0.006)
e_peginiwi	0.0001	−0.003***	−0.003***	−0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
e_Civil_War	0.049	0.061	0.048	0.058
	(0.036)	(0.069)	(0.072)	(0.069)
v2x_corr	0.013	−0.027	−0.020	−0.045
	(0.030)	(0.059)	(0.061)	(0.058)
Constant	0.205***	0.487***	0.460***	0.484***
	(0.078)	(0.151)	(0.156)	(0.149)
Observations	112	112	112	112
R^2	0.115	0.136	0.137	0.144
Adjusted R^2	0.027	0.050	0.052	0.059
Residual Std. Error (df = 101)	0.049	0.095	0.098	0.094
F Statistic (df = 10; 101)	1.308	1.589	1.606	1.693*
Note:				*p<0.1; **p<0.05; ***p<0.01

Appendix

Descriptive Statistics

Here I provide summary statistics of the variables I used in this study

summary statistics of deliberative democracy

Table 3: Deliberative Democracy Statistics

Statistic	N	Mean	St. Dev.	Min	Max
Deliberative Democracy	6,373	0.201	0.225	0.001	0.881
Justification on Public Policy	6,382	−0.067	1.226	−3.125	3.415
Justification on Common Goods	6,382	0.083	1.153	−3.394	2.868
Respect for Counterarguments	6,382	−0.526	1.297	−3.257	2.726
Range of Consultation	6,382	−0.194	1.267	−3.211	3.713
Range of Engagement	6,382	−0.266	1.311	−3.244	3.159

summary statistics on institutional constriants

Table 4: Institutional Constraints

Statistic	N	Mean	St. Dev.	Min	Max
Judical Constraints	6,382	0.450	0.269	0.006	0.979
Legislative Constraints	6,354	0.385	0.282	0.024	0.959
Institutionalization of Party	6,381	0.492	0.273	0.006	0.986
Institutionalizaed Democracy	5,904	2.874	3.609	0	10
Institutionalizaed Autocracy	5,904	4.403	3.517	0	10
Political Constraints Index-3	5,296	0.222	0.290	0.000	0.890
Political Constraints Index-5	6,079	0.147	0.196	0.000	0.688

summary statistics on federalism

summary statistics on other control variables

Table 6

Table 5: Division of Power (centrl-regional) Index

Statistic	N	Mean	St. Dev.	Min	Max
Division of Power	5,774	0.304	0.330	0.000	0.991
Regional Government Power	5,782	−0.325	1.286	−2.664	2.775
Local Government Power	5,852	0.013	1.249	−2.733	2.326

Table 6: Other Control Variables

Statistic	N	Mean	St. Dev.	Min	Max
Media Censorship	6,382	−0.311	1.434	−3.036	3.316
Education	6,184	4.470	2.691	0.004	13.285
GDP pp(logged)	5,839	7.629	0.886	5.315	10.667
GDP growth	5,807	1.763	6.388	−61.493	86.946
Income Inequality	4,137	42.720	10.359	15.000	73.900
Civial War	6,200	0.090	0.286	0	1
Oil Production Per Capita	6,164	347.425	2,506.486	0.000	78,588.800
Corruption Index	6,382	0.552	0.232	0.028	0.946

dependent variable components

In the following table I report the components of dependent variables. It is measured as the percentage expenditure of total expenditure. Two indicators are dropped out in the further analysis due to techniqual concerns. The variable `subpentrans` contains too few points, and the variable `pensions` must be dropped due to the convengence issue in multiple imputation.

Table 7: Components of Budget Stability Measurements

Statistic	N	Mean	St. Dev.	Min	Max
expend_security_EXP	3,034	0.166	0.123	0.000	0.712
expenddefence_EXP	2,418	0.143	0.119	0.00001	0.712
exp_public_order_EXP	1,300	0.059	0.034	0.000	0.248
wagessalaries_EXP	3,981	0.293	0.128	0.00000	0.859
pensions_EXP	1,131	0.058	0.065	0.000	0.392
total_welfare_EXP	2,927	0.238	0.127	0.00003	0.920
education_EXP	2,624	0.133	0.061	0.00002	0.388
health_EXP	2,337	0.058	0.032	0.00001	0.212
social_protection_EXP	1,451	0.055	0.073	0.000	0.599
housing_EXP	1,084	0.035	0.036	0.000	0.420
owelfarespend_EXP	1,334	0.067	0.077	0.00000	0.510

dependent variable statistics

Table 8: Volatility Index Table

Statistic	N	Mean	St. Dev.	Min	Max
Original	5,299	0.103	0.144	0.00000	1.110
Imputation 1	5,299	0.249	0.176	0.00001	1.318
Imputation 2	5,299	0.256	0.172	0.00001	1.085
Imputation 3	5,299	0.245	0.171	0.00001	1.810
Imputation 4	5,299	0.253	0.173	0.00001	1.121
Imputation 5	5,299	0.249	0.169	0.00001	1.064

Table 9: LK Score Table

Statistic	N	Mean	St. Dev.	Min	Max
Original	158	0.097	0.050	0.002	0.242
Imputation 1	158	0.222	0.100	−0.009	0.432
Imputation 2	158	0.230	0.103	−0.018	0.477
Imputation 3	158	0.220	0.098	−0.016	0.417
Imputation 4	158	0.227	0.101	−0.028	0.408
Imputation 5	158	0.226	0.098	−0.011	0.401

Missing Cases

GSRE contains lots of missing cases. To avoid losing statistical powers and potential bias due to listwise deletion, this article employs multiple impuation of the GSRE part data. Results reported in the paper are from the first imputation. Appendix includes the rest 4 imputations.

The total missing map is showing in the correspoding figure. In this table, the components represent the pertentage expenditure of each sector in terms of total expenditure.

I also calculated resutls without multiple imputation: points that are missing in the GSRE dataset is set to be 0. Theoretically in this situation missing cases will contribute zero effects to the policy stability indicator. I calculate dependent variable while filling missing cases as 0. After the DV is imputed, I recoded observations with 0 values as missing (This is because a completely missing case will yield 0 as the outcome).

The density plot of stability index without imputation is shown in the following figure

The relationship between the raw DV and the imputed DV is shown in the following graph. Due to the page limits only the relationships between the original dependent variable and the first two imputed dependent variables are displayed here.

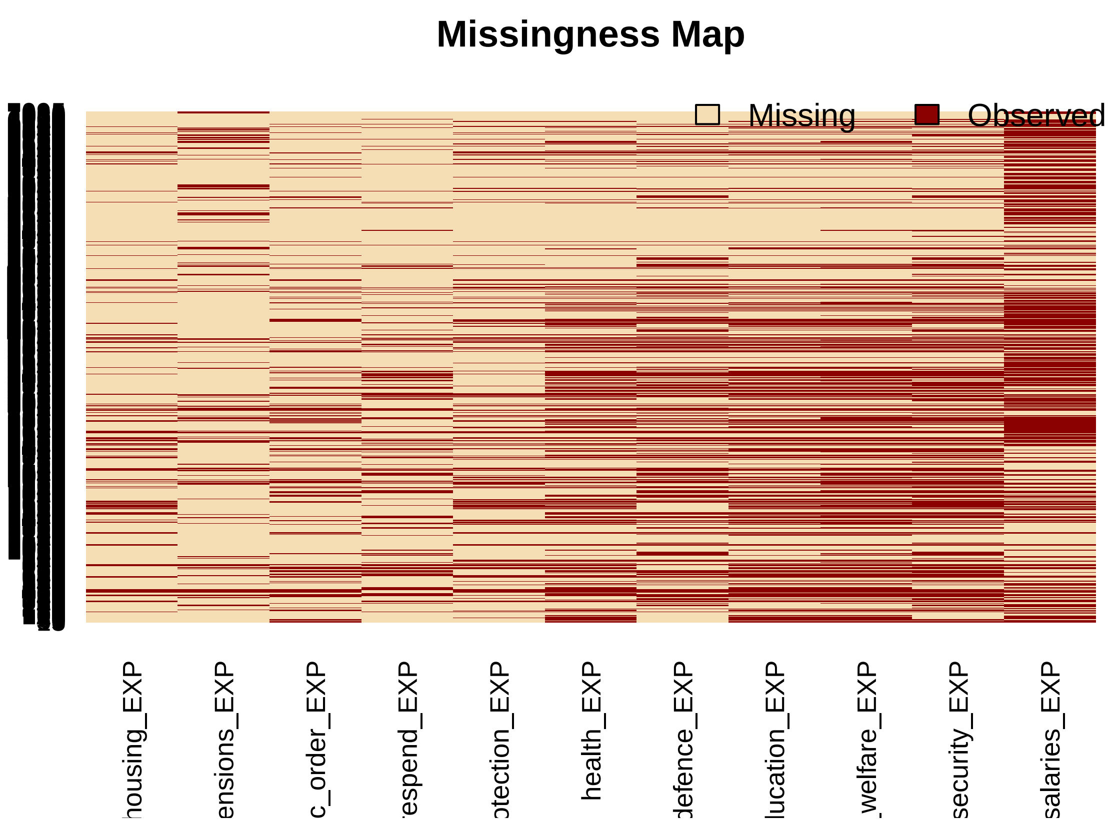

Figure 2: Missing Map

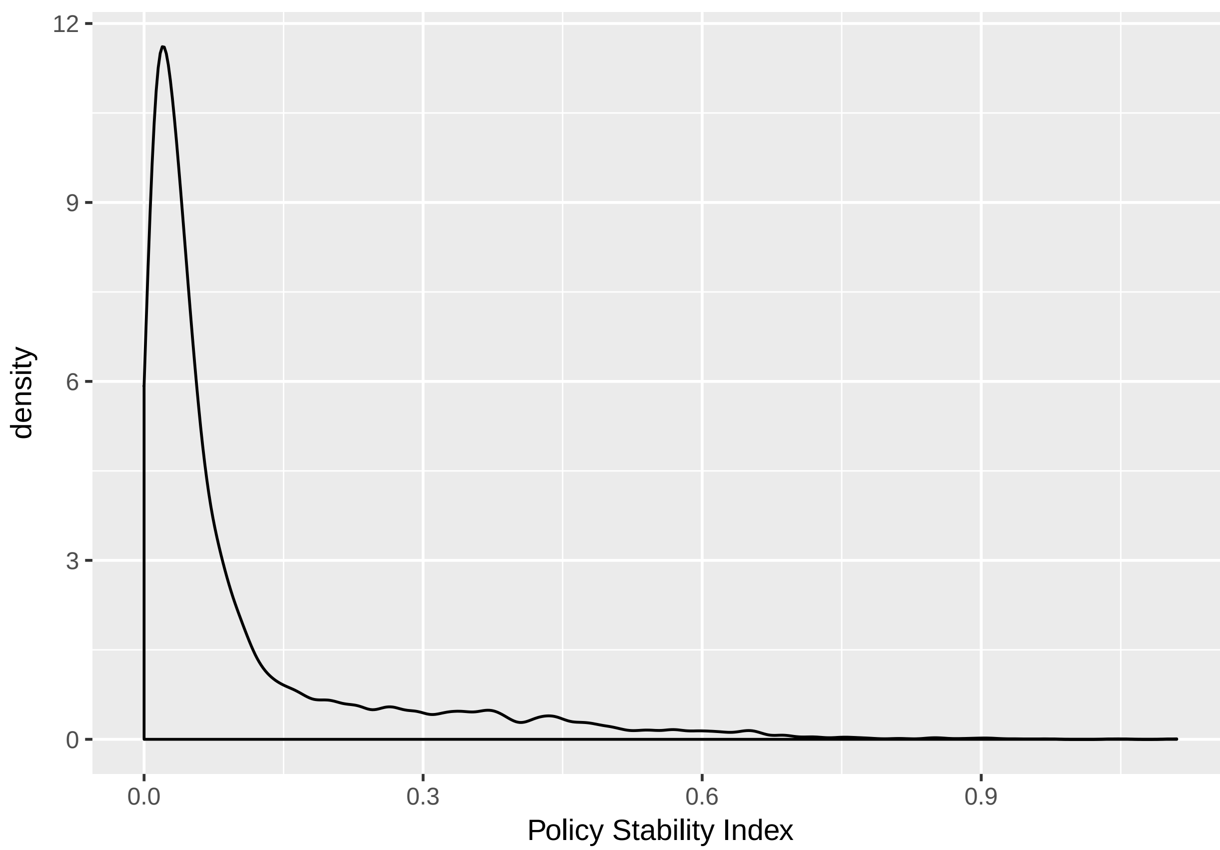

Figure 3: Policy Stability Index Density

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