# How Democratic is government really? The impact of subnational regime variation on evaluations of democracy
*Online Appendix*

## Contents

**1 Existing Measures of Subnational Regime Variation**

**2 Generating the Subnational Electoral Democracy Scale (SEDS)**
2.1 *The measurement strategy* . . . . .
2.2 *Validity* . . . . .
2.2.1 Comparing to existing strategies . . . . .
2.2.2 Comparing to qualitative case study evidence . . . . .

**3 Control variables**

**4 Additional Robustness Checks**
4.1 Electoral Integrity Scale . . . . .

# 1 Existing Measures of Subnational Regime Variation

Table A1: Previous strategies for measuring subnational regime variation

| **Study** | **Countries** | **Subjective or objective** | **Variables** | **Aggregation Strategy** |
|---|---|---|---|---|
| Valdez (2000) | Mexico | Objective | Effective number of parties (ENP), opposition (non-PRI) party won governorship, effective number of legislative parties (ENP), number of human rights violations per 100,000 inhabitants, number of recommendations issued by National Human Rights Commission | factor Analysis |
| McMann and Petrov (2000) | Russia | Subjective | Expert ranking of regions based on Dahl's (1973) definition of democracy. | % of experts listing each region as one of the 10 most democratic minus the % who selected it as the 10 least democratic |
| Beer and Mitchell (2004) | Mexico | Objective | Turnout/population, 100-vote share of the largest party | Multiplication |
| Petrov (2005) | Russia | Subjective | Expert evaluations of: openness of political life, free and fair elections, stable parties, media freedom & independence, civil Society, balance of power, quality and turnover of political elites, corruption, Local self-government | Addition & moving average |

| | | | | |
|---|---|---|---|---|
| Beer and Mitchell (2006) | India | Objective | Turnout/population, 100-vote share of the largest party | Multiplication |
| Montero (2007) | Brazil | Objective | 1st & 2nd round gubernatorial margins of victory, standard deviations of the margins of victory, ENP running for governor, ENP in the legislature, incidence of run-offs and re-election of incumbents, % seats held by the winning and opposition coalitions | No Aggregation |
| Montero (2010*b*) | Brazil | Objective | 1st round incumbent vote share, succession control, % legislative seats won by the governor's party, % legislative seats won by the governor's coalition | Principal Component Analysis |
| Gervasoni (2010*b*) | Argentina | Objective | Vote share won by incumbent party in gubernatorial elections, vote share won by incumbent governor's party in legislative elections, extent to which governor controls who is elected to succeed them, legislative seat share won by the incumbent's party, number of consecutive gubernatorial reelections permitted | Factor Analysis |
| Gervasoni (2010*a*) | Argentina | Subjective | Expert survey measuring: contestation, inclusion, checks and balances, state repression, discrimination, & overall assessments of democracy | Averaging |

| | | | | |
|---|---|---|---|---|
| Rebolledo (2011) | Mexico | Objective | Number of party alternatives for governor, % of state legislators in governor's party, margin of victory in gubernatorial elections, judicial independence, existence of "transparency and openness" legislation | Addition & Factor Analysis |
| Borges (2011) | Brazil | Objective | Vote share won by the governor's party, legislative seat share controlled by the governor's party, index of political continuity (governor's success in winning reelection or having a co-partisan reelected) | Factor Analysis |
| Lankina and Getachew (2012) | India | Objective | Turnout/population,100-vote share of the largest party | Multiplication |
| Giraudy (2013) | Argentina& Mexico | Objective & Subjective | Cumulative gubernatorial turnover rate, cumulative gubernatorial party turnover rate, effective number of parties (ENP), ENP in the legislature, governors seats in the legislature, clean elections index(Subjective) | Addition & Multiplication |
| Moraski and Reisinger (2014) | Russia | Objective | Votes received by the Kremlin's candidate or party as a % of eligible voters | None |
| Harbers, Bartman and van Wingerden (2019) | India | Objective & Subjective | Turnover dummy, effective number of legislative parties, governor's seats in the legislature, dummy for instances of presidential rule, clean elections index(Subjective) | Addition & Multiplication |
| Grumbach (2021) | United States | Objective | 67 indicators of electoral and liberal democracy | Bayesian Item Response Theory |

Table A2: Additional qualitative Case Study Examples

| **Study** | **Countries** | **States** |
|---|---|---|
| Gibson (2005) | Mexico & Argenatina | Oaxaca & Santiago del Estero |
| Gibson (2013) | US, Argentina & Mexico | |
| Herrmann (2010) | Mexico | Oaxaca |
| Benton (2012) | Mexico | Oaxaca |
| Heller (2000) | India | Kerala |
| Lawson (2000) | Mexico | |
| Munro (2001) | South Africa | KwaZulu-Natal |
| Lankina and Getachew (2006) | Russia | Karelia and Pskov |
| Mickey (2008) | US | Georgia, Mississippi & South Carolina |
| Gelman (2010) | Russia | |
| Gilley (2010) | Peru, Mexico, China, Hungary, Malaysia, Ukraine, & Yugoslavia | |
| Behrend (2011) | Argentina | Corrientes & San Luis |
| Sidel (2014) | Philippines | Cavite & Cebu |
| Gibson and Kind (2016) | US | Southern States |
| Tudor and Ziegfeld (2016) | India | West Bengal, Rajasthan Uttar Pradesh, Jammu and Kasmir |
| Behrend (2016) | Argentina | Catamarca, Corrientes Santiago del Estero |
| Borges (2016) | Brazil | |
| Souza (2016) | Brazil | Bahia |
| Herrmann (2016) | Mexico | Oaxaca & Puebla |
| Kaikkonen (2016) | Russia | |

# 2 Generating the Subnational Electoral Democracy Scale (SEDS)

The subnational electoral democracy scale (SEDS) measures subnational democracy across the states of twelve federal democratic countries beginning in 1980 or the year a country democratized until 2016.[1] The countries include: Argentina, Australia, Austria, Belgium, Brazil, Canada, Germany, India, Mexico, South Africa, Spain, and the United States.[2] This manuscript focuses on ten of these countries because the World Values Survey (WVS) conducted in Austria and Belgium did not include clear state identifiers that could be used to match the SEDS to respondents. The SEDS applies a procedural definition of democracy relying on electoral competitiveness to help determine a state's latent level of democracy. This is the most common way that scholars attempt to measure subnational regime variation (See Table A1 for a full list). Incumbents in subnational authoritarian enclaves (SAEs) maintain power by manipulating the electoral playing field, and this effort is reflected in electoral outcomes including higher than average margins of victory, low levels of party turnover in the executive over time, and dominant parties in the legislative branch (Simpser, 2013). Electoral variables have a variety of advantages and disadvantages for measuring subnational democracy compared to other strategies, with expert surveys being the most common alternative. They are objective and easy to collect across countries and time. When combined with latent variable analysis we can use them to measure regime variation without collecting data on corruption, clientelism, or human rights at the subnational level. As I mentioned in the article, these variables are difficult to identify at the national level let alone at the subnational level. Latent variable models (e.g. factor analysis or item response theory) assume that subnational democracy is a latent concept that causes electoral outcomes. Various scholars combine electoral data using some form of latent variable analysis (Valdez, 2000; Gervasoni, 2010*b*; Borges, 2011). Electoral variables, however, face major disadvantages. They cannot be used on their own to study liberal components of democracy. Electoral outcomes cannot tell us about the extent to which subnational regimes respect human and civil rights unless violating those rights directly affects the outcome of

an election. Expert surveys and qualitative case studies do a much better job of capturing the liberal components of subnational democracy. Electoral variables can only capture the electoral or procedural components of democracy. This is why the SEDS is a measure of *procedural* subnational democracy. Procedural or electoral measures of democracy at the national level are quite common and there are numerous examples including Vanhanen's (2000) polyarchy index, Cheibub, Gandhi and Vreeland's (2010) democracy and dictatorship indicator, and Polity IV. In this section I will break down the steps used to create the SEDS. There is additional information in the codebook for the SEDS available here: `https://doi.org/10.7910/DVN/OPD3LW`

## 2.1 *The measurement strategy*

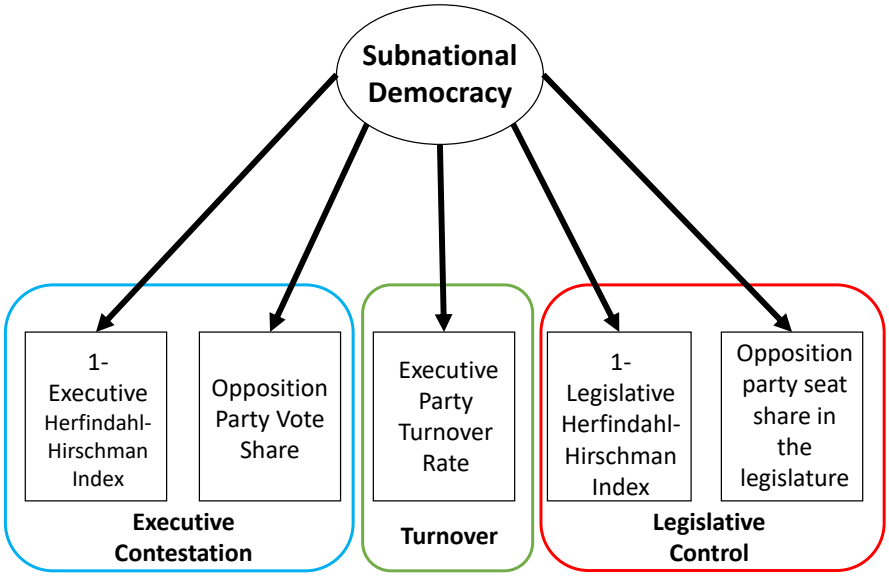



Figure A1: Structure of the Subnational Electoral Democracy Scale

Figure A1 summarizes my measurement strategy. At the top is the latent concept, subnational democracy. On the bottom are the five electoral variables that I believe capture three larger outcomes of subnational democracy: executive contestation, turnover, and legislative control. As a

state becomes more democratic, I expect executive elections to become more competitive, executive turnover to become more frequent, and the legislature to become more diverse and less beholden to the subnational executive. I measure executive contestation in two ways, the percentage of the vote won by the losing candidates for governor (1-winning vote share) and the gubernatorial Herfindahl-Hirschman Index (HHI).[3] The HHI is a measure of the weighted number of parties running in subnational executive elections. It is calculated as the sum of the squared proportion of votes earned by each party ($\sum_{i=1}^{N} p_i^2$) in an election.[4] The opposition vote share captures the competitiveness of subnational executive elections while the executive HHI differentiates between situations in which a single opposition party received 49% of the vote from those in which several smaller parties split that same amount. One criticism of the HHI is that it is highly sensitive to the overall size of a country's party system. The US for example, may have a much higher HHI than other countries in the sample due to its two-party system. As I explain below, I standardize each indicator that I use to create the SEDS using national level values. However, I also created an alternative SEDS indicator that uses Shannon's H, which is an entropy measure to account for this issue with the HHI. The two versions of the SEDS are highly correlated (.97), and table A5 below replicates the results of the paper using this alternative version of the SEDS. I measure turnover as the cumulative party turnover rate, where larger values indicate more turnover. Focusing on the party rather than the individual is important because some countries have term limit laws that are exogenously set by the national government. Finally, I measure legislative control using the opposition seat share in the legislature and the legislative HHI measuring the weighted number of parties in the lower house of a state's legislature.[5] More democratic states should have legislatures that are more diverse and less beholden to the subnational executive. I selected these five variables from a larger array of electoral variables that scholars use to measure subnational regime variation within a single country (See table A1 for a list). I used exploratory factor analysis to narrow down my choice of indicators to a set that conformed to a single factor both within and across countries and time. The final five indicators that I select conform to a single factor and are relatively reliable

and internally consistent with a Chrombach's alpha score of 0.77.[6]

Whether a particular value on each indicator signals an SAE or a robust democracy depends on the political institutions and trends present within a particular country at a particular time. What is considered democratic in one country or time period may not be in another time period or country. I handle this by standardizing each indicator using national electoral data for each country. I subtract equivalent national electoral variables from each of the five subnational electoral variables. To deal with the variability that comes from idiosyncratic national elections (e.g. political scandals, independent candidates, etc.), I start by predicting each of the five national electoral variables (corresponding to the five subnational variables) using a simple linear model in which the independent variable is the year.[7] Thus I measure subnational democracy based on whether state electoral outcomes are more or less competitive than the national government. I believe that national elections are an appropriate benchmark because the twelve countries in this sample are long-term relatively stable democratic regimes. Additionally, standardizing this way helps deal with instances where a state seems more or less competitive due to to coattail effects or changes in national party structures over time. I do not, however, assume that any state that is less competitive than the national government is automatically undemocratic. Instead, I create a continuous measure of subnational democracy that does not make assumptions about where along the scale a state becomes an outright authoritarian enclave. Additionally, by using five electoral measures to capture subnational democracy, I allow for scenarios where having a low value on one variable can be counteracted by being competitive in another domain.

Finally, I aggregate these five standardized electoral variables using a Structural Equation Model (SEM). All aggregation strategies require specific assumptions. Simple strategies like addition or averaging assume that indicators capture fundamental components of a concept and share equal weight in determining the level of that concept (Goertz, 2006). A simple aggregation strategy assumes that the executive HHI, for example, is an inherent component of democracy. Instead, I assume that this variable is an outcome that is caused by a state's latent level of democracy.

Latent variable models, which include factor analysis, SEM, and item response theory, assume that indicators are caused by an unobserved latent variable (Bollen and Lennox, 1991; Skrondal and Rave-Hesketh, 2007). They also do not assume that items have the same weight, and instead weight them based on their validity. SEMs have additional advantages over other potential latent variable modeling strategies. They are appropriate for modeling continuous variables (unlike most IRT models which are designed for dichotomous or ordinal responses) and they do not require the assumption that the latent variable accounts for all of the co-variation between component indicators (like confirmatory factor analysis). That is ideal in this case because subnational electoral variables correlate for a variety of reasons that are not related to a state's latent level of democracy. For example, the national party system causes the executive HHI to correlate with the legislative HHI regardless of a state's latent level of democracy. I include several covariances in my SEM to account for correlations like this. Overall, the SEM fits the data very well. The root mean squared error of the model is 0.047, while the comparative fit index is 0.998.[8]

Table A3: Summary statistics for the Subnational Electoral Democracy Scale

| **Country** | **Mean** | **Std. Deviation** | **Minimum** | **Maximum** |
|---|---|---|---|---|
| Total | 0 | 0.876 | -4.874 | 3.229 |
| Argentina | -0.171 | 0.913 | -2.940 | 2.180 |
| Australia | 0.201 | 0.572 | -1.802 | 1.752 |
| Austria | -0.179 | 0.603 | -1.477 | 2.034 |
| Belgium | -0.399 | 0.531 | -1.504 | 0.479 |
| Brazil | 0.412 | 0.713 | -1.693 | 2.697 |
| Canada | -0.336 | 0.886 | -2.749 | 1.422 |
| Germany | 0.116 | 0.630 | -1.652 | 1.389 |
| India | -0.241 | 1.224 | -4.874 | 3.219 |
| Mexico | -0.371 | 0.561 | -1.856 | 1.258 |
| South Africa | -0.051 | 1.235 | -1.903 | 2.252 |
| Spain | 0.548 | 0.870 | -1.588 | 2.909 |
| United States | 0.029 | 0.651 | -2.440 | 2.011 |

Table A3 presents summary statistics for the SEDS across all twelve countries. The overall

index has a mean of 0 and runs from about -5 to 3. Larger values indicate more democratic states while smaller values indicate less democratic, or more authoritarian, states.

## 2.2 *Validity*

I use two broader strategies to assess the convergent validity of the SEDS. First, I correlate the SEDS with several existing quantitative measures of subnational regime variation. There are five existing measures that are either publicly available or summarized in an author's work. These are Borges's (2007) measure of party dominance in Brazil, Gervasoni's (2010*a*) elite survey in Argentina, Gervasoni's (2018) comparative subnational democracy index, Harbers, Bartman and van Wingerden's (2019) electoral democracy index in India, and finally the V-Dem measures of subnational electoral freedom and respect for civil rights. While comparing the SEDS to existing quantitative measures is a good first step, it is not ideal for establishing convergent validity. These measures do not cover all of the countries that I include in the SEDS, nor are they clear benchmarks for comparison. These measures have only been used sparingly in the research on subnational regime variation. V-Dem is the closest to an ideal measure because it has been used widely and covers every country I include in my analysis. However, it does not capture subnational regime variation at the subnational level. Instead it is a national measure of the extent to which democracy varies at the subnational level. Given these limitations I also compare the results of the SEDS to the existing case study literature by ranking states within countries to see if the SEDS identifies known authoritarian enclaves. Overall, I believe that the SEDS is a valid measure of subnational regime variation. It is significantly correlated with existing measures and does a fairly good job of ranking states in a way I would expect given the qualitative and quantitative evidence that exists for select countries.

### 2.2.1 Comparing to existing strategies

Table A4: Correlation between the SEDS and other measures of subnational regime type

| Measure | Correlation | Comparison Cases |
|---|---|---|
| Borges (2007) Party Dominance | -0.71 | Average SEDS 1982-1998 Brazil |
| Gervasoni (2010*a*) Expert Survey | 0.52 | 2003-2007 Argentina |
| Harbers, Bartman and van Wingerden (2019): Electoral Democracy Index | 0.26 | 1985-2013 India |
| Harbers, Bartman and van Wingerden (2019): Electoral Democracy Index (Electoral component) | 0.41 | 1985-2013 India |
| Gervasoni (2018) comparative subnational democracy index | 0.31 | Argentina, Australia, Canada, Germany, India Mexico and the US |
| Coppedge et al. (2019): freeness of subnational election | -0.53 | Range of SEDS in all 12 countries 1980-2016 |
| Coppedge et al. (2019): unevenness of subnational election | -0.53 | Range of SEDS in all 12 countries 1980-2016 |
| Coppedge et al. (2019): unevenness of civil rights | -0.48 | Range of SEDS in all 12 countries 1980-2016 |

All correlations are significant at the 0.001 level

To begin, Table A4 above contains the correlation between five available measures of subnational regime variation and the SEDS. The first, Borges's (2007) measure of subnational party dominance in Brazil, is only available as an average between 1982 and 1998. I correlated this average with the average SEDS over that same time period in Brazil and find that the SEDS is negatively and relatively strongly correlated (-0.71) with this measure of party dominance. While this is not a full measure of subnational democracy, this strong correlation suggests that as a state in Brazil becomes more democratic on the SEDS it also tends to exhibit lower levels of party dominance. The sec-

ond measure is Gervasoni's (2010*a*) expert-based measure of subnational democracy in Argentina from 2003 to 2007. This measure derives from a survey of provincial political experts who were asked to evaluate their provincial government. The SEDS is positively and significantly correlated with this expert assessment but at a weaker level of 0.52. This positive and significant correlation provides some evidence that the SEDS captures more than just subnational competitiveness. Additionally, the SEDs is positively correlated with several other responses to Gervasoni's (2010*a*) expert survey. The SEDS is positively and significantly correlated with expert assessments of media independence (0.56), fair elections (0.59), the freedom to criticize government (0.57), and the freedom to protest (0.59).These correlations provide some evidence that the SEDS is picking up on instances in which civil rights violations are used to manipulate elections. Finally, I also correlated the SEDS with Harbers, Bartman and van Wingerden's (2019) electoral democracy index in the Indian states between 1985 and 2017. The correlation between the SEDS and this indicator is fairly low but statistically significant at 0.21. However, When I restrict the correlation to just the electoral component of this index, the correlation rises to 0.41. Harbers, Bartman and van Wingerden (2019) include a measure of clean elections in their democracy index. However, this measure uses reports of electoral violence or manipulation listed in the *Times of India*. The Authors code instances of electoral violence or manipulation regardless of the perpetrator. As they note in their article outside groups that are not necessarily associated with the party in power at the subnational level may commit acts of violence or voter intimidation. The low correlation between the SEDS and the full electoral index could mean that the SEDS is not doing a good job of picking up on these instances of voter intimidation, or it could suggest that this specific measure of clean elections is not necessarily a measure of the extent to which incumbents and their parties engage in electoral manipulation.

In addition to these first three measures of subnational regime variation in a single country, there are also several strategies that have been extended across countries. The first, Gervasoni's (2018) comparative subnational democracy index (CSDI) covers seven countries that are also cov-

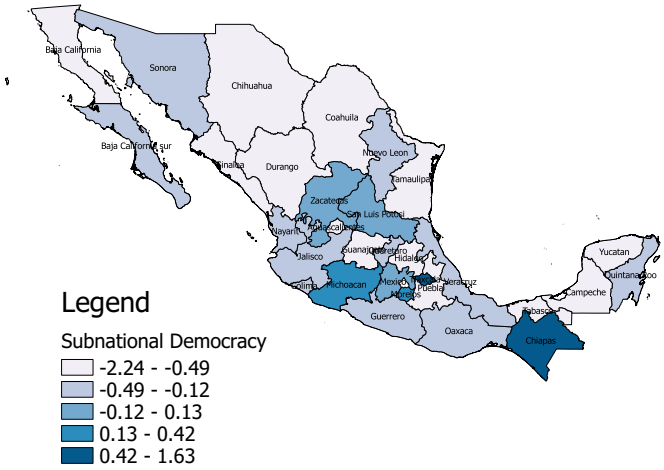
ered by the SEDS (Argentina, Australia, Canada, Germany, India, Mexico, and the United States). The SEDS is positively and significantly correlated (0.31) with the CSDI. This is likely due to the fact that the components of the CSDI are not standardized across countries. The correlation between these two indicators of subnational regime variation varies across countries, from a high of 0.5 in Argentina to a low of 0.33 in Australia and India. Overall, the SEDS and the CSDI are more in sync when they focus on presidential systems and slightly less so when focusing on parliamentary systems. All the cross-national correlations remain positive and statistically significant indicating some convergence between these two measurement strategies. Finally, V-dem includes several measures of subnational regime variation (measured at the country-year level). I focus on three of these here; the unevenness in the fairness of elections (v2elsnlsff), the freeness of subnational elections (v2elffelr), and the protection of civil liberties (v2clrgunev) across subnational units in a country. These variables are scaled such that high values indicate less unevenness at the subnational level.[9] I correlated these two indicators with the range of the SEDS in each country as a measure of the national variation in subnational democracy. I expect the SEDS range to be negatively correlated to these three V-dem measures. I find support for this expectation. The range of the SEDS at the country-year-level is negatively and significantly correlated with the V-Dem measure of the freeness of subnational elections (-0.53), subnational election unevenness (-0.53), and civil liberties unevenness (-0.48). This suggests that greater variation in subnational regimes is likely to produce greater perceived variation in subnational electoral freeness and fairness as well as the protection of civil liberties. This provides additional evidence that the SEDS can tap more than just the competitiveness of state elections, and may be able to pick up instances in which the violation of civil liberties is used to manipulate electoral outcomes.

Overall, the SEDS is correlated with existing measures of subnational regime variation in ways that we would expect. However, it is only strongly correlated to Borges's (2007) measure of party dominance. This is not altogether surprising. None of these existing measures is an ideal benchmark with which to compare. The first four measures have only been used in a small

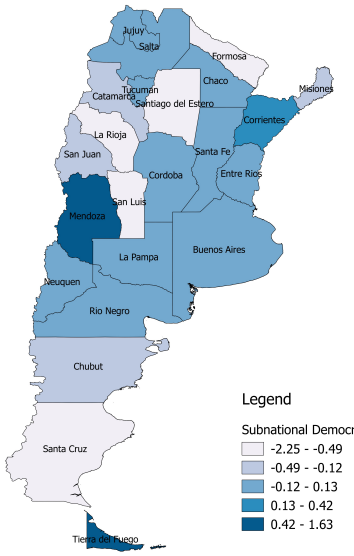
number of studies to capture subnational regime variation and thus are not yet widely accepted measures of the concept. The V-dem measures are more widely used and accepted but they do not measure subnational regime variation across subnational units. Instead they are national measures of subnational regime variation. For this reason, I turn now to my second strategy for assessing convergent validity.

### 2.2.2 Comparing to qualitative case study evidence

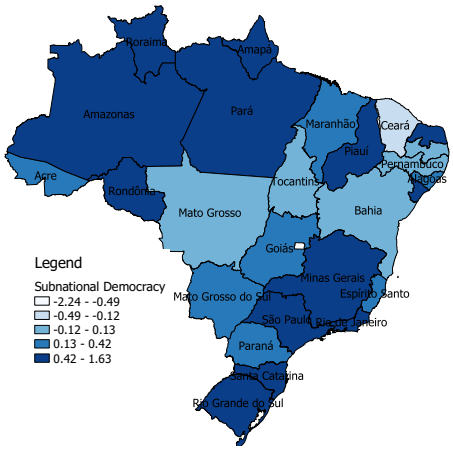
I also compare the SEDS to the qualitative research on subnational regime variation by ranking states within each country and then comparing this relative ranking to the case study literature. I focus on the three countries that have received the most attention in the qualitative literature on subnational democracy: Argentina, Brazil, and Mexico. The maps in Figure A2 display the average SEDS score in each state across time. The darker the color, the more democratic the state. I also look at two known cases of SAE democratization. Figure A3 presents the change in the SEDS in Oaxaca, Mexico and Catamarca, Argentina. Both are states that Gibson (2013) identifies as having gone through a subnational democratic transition. Overall, the SEDS does a fairly good job of identifying SAEs and more democratic states within the federal democracies included in this study.




(a) Mexico




(b) Argentina




(c) Brazil

Figure A2: Average Subnational Electoral Democracy Scale value across Mexico, Argentina, and Brazil

The overall regional distribution of the SEDS within the three countries presented in Figure A2 conforms to expectations. This is clearest in Brazil where the Northeast region appears lighter and thus less democratic on average than any other region. This conforms to the case study research

which identifies the Brazilian Northeast as a region that was dominated by political families and wealthy landowning elites.[10] The SEDS identifies Ceará, Bahia, Tocantins, Mato Grosso, and Paraiba as the five least democratic states. Montero (2007) identifies all five of these states as having a conservative level of electoral competition. Borges (2011) identifies four of these five as "high dominance" states. In these states, one party or political boss has historically dominated state politics. He ranks the fifth state, Mato Grosso, as a "high-intermediate" system, so it still exhibits a fairly high amount of party dominance. Additionally, the map highlights the south as a particularly democratic region which is also consistent with the literature focusing on Brazil. The SEDS identifies Amapa, Rondonia, São Paulo, Rio Grande do Sul, and Rio de Janeiro as the five most democratic states. Borges (2011) identifies four of these five as "low dominance" while the fifth (São Paulo) is in an intermediate category. Montero (2007) identifies all five as having either broadened or moderate levels of electoral competition.

Argentina and Mexico are not as well known for having regionally concentrated SAEs, but there are certain states that stand out and conform to the literature. The SEDS identifies La Rioja, San Luis, Santa Cruz, Formosa, and Santiago del Estero as the five least democratic states in Argentina. Scholars have consistently identified these states as undemocratic.[11] In fact, three of these four (La Rioja, Santa Cruz, and San Luis) are the subject of more detailed case studies in Gibson's (2013) book on the subject. The SEDS identifies Mendoza, Tierra del Fuego, Corrientes, Buenos Aires, and Rio Negro as the most democratic states in the country. This also conforms to the case study literature (Chavez, 2003; Giraudy, 2010; Behrend, 2011). In Mexico, the SEDS identifies Coahuila and Tamaulipas, the two lightest states in the North East on the border with the United States, as likely authoritarian enclaves. In Cuahuila, the PRI has yet to lose a gubernatorial election. In Tamaulipas the PRI lost for the first time in 2016. Additionally, Yucatan, the light state on the peninsula, is a traditional PRI stronghold, as are many of the states in the central southern region including Puebla, Tabasco, and Veracruz (Lawson, 2000; Giraudy, 2010; Benton, 2012; Giraudy, 2013). The SEDS identifies Chiapas, Tlaxcala, Michoacan, Morelos and San Luis Potosí

as the five most democratic states. These are also some of the first state governments in Mexico to democratize. In fact, Tlaxcala democratized before the national democratic transition in 2000 (Gibson, 2013).

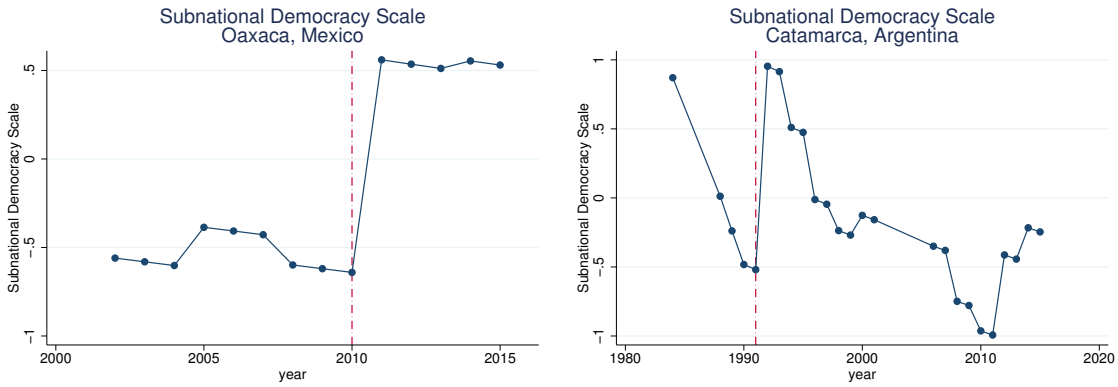



Figure A3: Subnational Electoral Democracy Scale over time in Oaxaca, Mexico and Catamarca, Argentina. (The red line indicates an instance of subnational democratization)

Finally, Figure A3 presents some evidence that the SEDS is not only a valid measure of the relative ranking of states on average, but that it also captures changes in subnational democracy over time. Figure A3 presents data from two states which Gibson (2013) identifies as having gone through a period of subnational democratization. There are significant increases in the Subnational Electoral Democracy Scale in both states corresponding to their transition. In Oaxaca (the graph on the left), the PRI was finally defeated in 2010 ushering in a new more democratic state government. This transition appears to be captured by the SEDS. The score increases from about -0.4 to about 0.6 between 2010 and 2011. In Catamarca (the graph on the right), a 1991 rivalry between the president and the governor led to a transition from an SAE to a more democratic form of state government. This can be seen on the right graph as the increase in the SEDS from about -0.5 to almost 1 between 1990 and 1991. However, this shift appears to be relatively short-lived with the score decreasing again over time.

# 3 Control variables

Below is a description of each of the control variables included in the models presented in the the main body of the paper and in this online appendix. I include the survey question used to code each observation on the World Values Survey in addition to a description of how each variable was coded to be included in the model.

- **Financial Satisfaction:** "How satisfied are you with the financial situation of your household?"
  - Scale ranging from 1 "Completely dissatisfied" to 10 "Completely satisfied"
- **Financial Security:** "During the past year, did your family"
  - 1 "Spent savings and borrowed money"
  - 2 "Spend some savings"
  - 3 "Just get by"
  - 4 "Save money"
- **National and Subnational "winner":** "If there were a national election tomorrow, for which party on this list would you vote? If DON'T KNOW: Which party appeals to you most? "
  - National Winner: 1, if the respondent named the national executive's party and a 0 otherwise
  - Subnational Winner: 1, if the respondent named the subnational executive's party and a 0 otherwise
- **Patriotism:** "How proud are you to be" *nationality filled in*
  - Scale ranging from 1 "Not at all proud" to 4 "Very proud"
- **Interest in politics:** "How interested would you say you are in politics?"
  - Scale ranging from 1 "Not at all interested" to 4 "Very interested"
- **Interpersonal Trust:** "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?"
  - coded a 1 if individuals respondent "Most people can be trusted" coded a 0 if they respondent "Need to be very careful"

- **Confidence in Government:** "I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?" One option was "The government (in your nation's capital)"
  - Scale ranging from 1 "None at all" to 4 "A great deal"
- **Sex(Male):** Coded as 1 for male and 0 for female
- **Age:** "Can you tell me your year of birth, please?" & "This means you are (*fill in*) years old"
- **Education:** "What is the highest educational level that you have attained?"
  - Scale that ranges from 1 "No formal education" to 9 "University-level education with degree"
- **Income:**"On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in."
- **Subjective Class:** "People sometimes describe themselves as belonging to the working class, the middle class, or the upper or lower class. Would you describe yourself as belonging to the"
  - 1 "Lower class"
  - 2 "Working class"
  - 3 "Lower middle class"
  - 4 "Upper middle class"
  - 5 "Upper class"
- **Importance of Religion:** "For each of the following, indicate how important it is in your life." With religion being an option.
  - Scale ranging from 1 "Not at all important" to 4 "Very important"
- **Religion:** Factor variable indicating an individual's religious affiliation. The base category is no religion. Individuals were then divided into the following categories:
  - Catholic
  - Other Christian
  - Jewish
  - Muslim
  - Hindu

  - Buddhist
  - Other

- **Religious Attendance:** "Apart from weddings and funerals, about how often do you attend religious services these days?"
  - 1 "Never, practically never"
  - 2 "Less often"
  - 3 "Once a year"
  - 4 "Only on special holy days"
  - 5 "Once a month"
  - 6 "Once a week"
  - 7 "More than once a week"

- **Marital Status:** Factor variable indicating respondent's relationship status. The base category is single. The other categories are the following:
  - Married/living together
  - Divorced/separated
  - Widowed

- **State Gross National Income:** Measured in 1000 US dollar increments at 2011 purchasing power parity

- **Population:** State's population as a percentage of a country's total population

- **Area:** The size of each state ($km^2$) as a percentage of a country's total area.

- **State Human development index:** 0-1 index measuring a state's achievement on health, education, and standard of living. Data was drawn from: `https://globaldatalab.org/`

# 4 Additional Robustness Checks

Tables A5-A8 present the results of a series of robustness checks. Table A5 presents a replication of Models 1-3 in the paper using an alternative specification of the SEDS. This alternative SEDS replaces the HHI measures with Shannon's H to measure the number f parties running in executive elections and represented in the legislature. Table A6 presents a series of models that break the

electoral malpractice index (EMI) down into its component parties. The components of the EMI are on a one to four scale, so each model in Table A6 is a multilevel ordinal regression model. Table A7 presents the results of a set of models that include country random effects instead of country fixed effects. Finally, Table A8 presents the results of a set of models that add additional individual and provincial level control variables. Specifically, I add religious affiliation, importance of religion, religious attendance, and marital status as individual controls. I also swap out the state GNI for the state Human Development Index. The results presented in the main body of the paper remain robust to these additions.

Table A5: Replicating the models with the alternative subnational electoral democracy scale

| | (A1) Respect for Human Rights | (A2) Perceptions of Electoral Malpractice | (A3) Perceived Democracy |
|---|---|---|---|
| Alternative SEDS | 0.302*** | -2.756** | 0.196*** |
| | (0.039) | (0.959) | (0.043) |
| Financial Satisfaction | 0.058*** | -0.380** | 0.113*** |
| | (0.007) | (0.119) | (0.008) |
| Financial Security | 0.051** | -0.649* | -0.015 |
| | (0.017) | (0.313) | (0.019) |
| National "Winner" | 0.237*** | -1.588* | 0.356*** |
| | (0.035) | (0.664) | (0.040) |
| Subnational "Winner" | 0.107** | 1.286 | -0.005 |
| | (0.035) | (0.690) | (0.040) |
| Patriotism | 0.235*** | -1.348*** | 0.316*** |
| | (0.021) | (0.384) | (0.024) |
| Interest in Politics | 0.142*** | 1.245*** | 0.076*** |
| | (0.016) | (0.292) | (0.018) |
| Interpersonal Trust | 0.235*** | -0.188 | 0.180*** |
| | (0.034) | (0.677) | (0.038) |
| Confidence in Government | 0.381*** | -0.985** | 0.605*** |
| | (0.018) | (0.306) | (0.020) |
| State GNI | 0.011* | -0.346** | 0.013* |
| | (0.006) | (0.121) | (0.006) |
| State Population Percentage of total | 0.003 | 0.092 | 0.005 |
| | (0.007) | (0.141) | (0.008) |
| State size Percentage of total | 0.0004 | 0.171 | 0.001 |
| | (0.008) | (0.150) | (0.010) |
| Sex (Male) | 0.086** | -0.389 | -0.032 |
| | (0.029) | (0.549) | (0.033) |
| Age | -0.003*** | -0.065*** | -0.0004 |
| | (0.001) | (0.019) | (0.001) |
| Education | 0.040*** | -0.195 | -0.024** |
| | (0.008) | (0.147) | (0.009) |
| Income | 0.022** | 0.267 | 0.043*** |

| | | | |
|---|---|---|---|
| | (0.008) | (0.145) | (0.009) |
| Subjective | 0.024 | 0.568 | -0.048* |
| Class | (0.018) | (0.313) | (0.020) |
| Wave 6 | -0.089* | | -0.380*** |
| | (0.044) | | (0.051) |
| Constant | | 65.97*** | 3.291*** |
| | | (4.037) | (0.291) |
| Cut 1 | 0.843** | | |
| | (0.263) | | |
| Cut 2 | 3.009*** | | |
| | (0.263) | | |
| Cut 3 | 5.560*** | | |
| | (0.266) | | |
| *State Fixed Effects* | | | |
| Australia | 0.543 | | -0.261 |
| | (0.337) | | (0.374) |
| Brazil | -0.201 | 0.667 | -0.582* |
| | (0.243) | (3.017) | (0.268) |
| Canada | 1.083*** | | -0.405 |
| | (0.297) | | (0.329) |
| Germany | 0.866** | -21.13*** | -0.049 |
| | (0.277) | (4.175) | (0.307) |
| India | 1.388*** | -3.622 | -0.829** |
| | (0.254) | (3.634) | (0.281) |
| Mexico | 0.207 | 8.252** | -0.170 |
| | (0.235) | (2.860) | (0.260) |
| South Africa | -0.322 | -5.111 | -0.309 |
| | (0.254) | (3.610) | (0.307) |
| Spain | 0.185 | | 0.147 |
| | (0.260) | | (0.289) |
| United States | 0.0256 | | -0.601 |
| | (0.288) | | (0.320) |
| *State Random Effects* | | | |
| Variance | 0.206 | 5.334 | 0.497 |
| | (0.031) | (0.613) | (0.040) |
| Base country | Argentina | Argentina | Argentina |
| $N$ | 18339 | 6889 | 18314 |

Standard errors in parentheses

$^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

Table A6: Breaking down the Electoral Malpractice Index

| | (A4) Opp. Cand. can't Run | (A5) News favors incumbent | (A6) Voters are Bribed | (A7) Rich Buy Elections | (A8) Voters Violence |
|---|---|---|---|---|---|
| SEDS | -0.196** | -0.242** | -0.242*** | -0.195* | -0.052 |
| | (0.068) | (0.091) | (0.071) | (0.091) | (0.089) |
| Financial Satisfaction | -0.012 | -0.016 | -0.034*** | -0.027** | -0.029** |
| | (0.009) | (0.009) | (0.009) | (0.009) | (0.009) |
| Financial Security | -0.095*** | -0.020 | -0.040 | -0.026 | 0.029 |
| | (0.024) | (0.024) | (0.025) | (0.025) | (0.025) |
| National "Winner" | 0.018 | -0.073 | -0.089 | -0.112* | -0.229*** |
| | (0.052) | (0.051) | (0.054) | (0.054) | (0.055) |
| Subnational "Winner" | -0.041 | -0.042 | 0.038 | 0.042 | 0.244*** |
| | (0.055) | (0.053) | (0.056) | (0.056) | (0.056) |
| Patriotism | -0.093** | -0.073* | -0.122*** | -0.060* | -0.080** |
| | (0.030) | (0.0290 | (0.030) | (0.030) | (0.0303) |
| Interest in Politics | 0.092*** | 0.066** | 0.059** | 0.056* | 0.065** |
| | (0.022) | (0.022) | (0.023) | (0.023) | (0.023) |
| Interpersonal Trust | 0.067 | -0.060 | -0.099 | -0.080 | 0.033 |
| | (0.052) | (0.051) | (0.053) | (0.053) | (0.053) |
| Confidence in Government | 0.050* | -0.017 | -0.154*** | -0.176*** | -0.114*** |
| | (0.024) | (0.024) | (0.024) | (0.024) | (0.024) |
| State GNI | -0.019 | -0.026* | -0.014 | -0.028* | -0.017 |
| | (0.010) | (0.012) | (0.010) | (0.013) | (0.013) |
| State Population Percentage of total | 0.009 | 0.005 | 0.006 | 0.012 | -0.007 |
| | (0.007) | (0.010) | (0.008) | (0.010) | (0.010) |
| State size Percentage of total | -0.013 | 0.024 | -0.003 | 0.004 | -0.001 |
| | (0.010) | (0.013) | (0.010) | (0.013) | (0.013) |
| Sex (Male) | -0.088* | 0.040 | 0.025 | 0.035 | -0.033 |
| | (0.042) | (0.041) | (0.043) | (0.043) | (0.043) |
| Age | -0.008*** | 0.001 | -0.0032* | -0.004** | -0.003* |
| | (0.001) | (0.001) | (0.001) | (0.00147) | (0.002) |
| Education | -0.033** | 0.020 | 0.025* | -0.055*** | -0.031** |
| | (0.011) | (0.011) | (0.011) | (0.012) | (0.012) |

| | | | | | |
|---|---|---|---|---|---|
| Income | 0.023* | -0.020 | 0.008 | 0.028* | 0.024* |
| | (0.011) | (0.011) | (0.011) | (0.012) | (0.011) |
| Subjective Class | 0.004 | 0.067** | 0.064** | 0.013 | 0.055* |
| | (0.024) | (0.024) | (0.024) | (0.025) | (0.024) |
| *Cut Points* | | | | | |
| Cut 1 | -1.893*** | -1.997*** | -2.722*** | -2.947*** | -1.613*** |
| | (0.308) | (0.370) | (0.320) | (0.386) | (0.389) |
| Cut 2 | -0.703* | -0.856* | -1.608*** | -1.895*** | -0.462 |
| | (0.307) | (0.369) | (0.319) | (0.385) | (0.388) |
| Cut 3 | 0.929** | 0.718 | -0.085 | -0.355 | 0.999* |
| | (0.308) | (0.370) | (0.318) | (0.385) | (0.389) |
| *Fixed Effects* | | | | | |
| Brazil | -0.709*** | 0.230 | 0.719** | 0.788** | -0.490 |
| | (0.214) | (0.273) | (0.220) | (0.280) | (0.279) |
| Germany | -0.693* | -0.0183 | -1.977*** | -1.358** | -1.833*** |
| | (0.311) | (0.402) | (0.324) | (0.414) | (0.418) |
| India | 0.0456 | -0.229 | -0.408 | -0.913** | -0.051 |
| | (0.255) | (0.326) | (0.266) | (0.336) | (0.336) |
| Mexico | 0.356 | 0.248 | 0.722*** | 0.658* | 0.596* |
| | (0.206) | (0.263) | (0.213) | (0.269) | (0.267) |
| South Africa | 0.381 | 0.119 | -0.514* | -0.548 | 0.376 |
| | (0.214) | (0.281) | (0.222) | (0.288) | (0.287) |
| *Random Effects* | | | | | |
| State Variance Component | 0.157 | 0.326 | 0.174 | 0.335 | 0.326 |
| | (0.036) | (0.069) | (0.039) | (0.065) | (0.069) |
| $N$ | 8078 | 8241 | 8181 | 8045 | 8175 |

Standard errors in parentheses

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

Table A7: Three level models

| | (A9) Respect for Human Rights | (A10) Perceptions of Electoral Malpractice | (A11) Perceived Democracy |
|---|---|---|---|
| SEDS | 0.292*** | -3.444*** | 0.231*** |
| | (0.039) | (0.973) | (0.042) |
| Financial Satisfaction | 0.060*** | -0.436*** | 0.116*** |
| | (0.007) | (0.117) | (0.007) |
| Financial Security | 0.048** | -0.605* | -0.015 |
| | (0.017) | (0.308) | (0.019) |
| National "Winner" | 0.253*** | -1.843** | 0.379*** |
| | (0.035) | (0.657) | (0.040) |
| Subnational "Winner" | 0.124*** | 0.887 | 0.018 |
| | (0.035) | (0.681) | (0.039) |
| Patriotism | 0.235*** | -1.388*** | 0.316*** |
| | (0.021) | (0.375) | (0.023) |
| Interest in Politics | 0.140*** | 1.144*** | 0.078*** |
| | (0.016) | (0.285) | (0.018) |
| Interpersonal Trust | 0.252*** | -0.274 | 0.183*** |
| | (0.033) | (0.662) | (0.038) |
| Confidence in Government | 0.385*** | -1.193*** | 0.611*** |
| | (0.018) | (0.301) | (0.019) |
| State GNI | 0.012* | -0.424*** | 0.015*** |
| | (0.005) | (0.116) | (0.005) |
| State Population Percentage of total | 0.007 | -0.032 | 0.005 |
| | (0.007) | (0.118) | (0.007) |
| State size Percentage of total | -0.004 | 0.130 | 0.005 |
| | (0.010) | (0.157) | (0.011) |
| Sex (Male) | 0.081** | -0.303 | -0.031 |
| | (0.029) | (0.537) | (0.033) |
| Age | -0.003*** | -0.061*** | -0.0005 |
| | (0.001) | (0.018) | (0.001) |
| Education | 0.039*** | -0.187 | -0.027** |
| | (0.008) | (0.144) | (0.009) |

| | | | |
|---|---|---|---|
| Income | 0.020* | 0.277 | 0.041*** |
| | (0.008) | (0.144) | (0.009) |
| Subjective | 0.024 | 0.540 | -0.050* |
| Class | (0.018) | (0.309) | (0.020) |
| Wave 6 | -0.088* | | -0.364*** |
| | (0.045) | | (0.0491) |
| Constant | | 65.62*** | 2.860*** |
| | | (4.456) | (0.200) |
| Cut 1 | 0.473 | | |
| | (0.247) | | |
| Cut 2 | 2.637*** | | |
| | (0.247) | | |
| Cut 3 | 5.175*** | | |
| | (0.250) | | |
| *Random Effects* | | | |
| Country-level | 0.262 | 7.740 | 0.239 |
| Variance | (0.127) | (92.553) | (0.074) |
| State-level | 0.220 | 5.746 | 0.524 |
| Variance | (0.034) | (0.645) | (0.042) |
| $N$ | 18688 | 7162 | 18657 |

Standard errors in parentheses

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

Table A8: Models with additional individual and state level control variables

| | (A12) Respect for Human Rights | (A13) Perceptions of Electoral Malpractice | (A14) Perceived Democracy |
|---|---|---|---|
| SEDS | 0.226*** | -2.395** | 0.113* |
| | (0.0407) | (0.923) | (0.0449) |
| Financial Satisfaction | 0.0607*** | -0.447*** | 0.113*** |
| | (0.00691) | (0.120) | (0.008) |
| Financial Security | 0.0469** | -0.760* | -0.022 |
| | (0.0172) | (0.313) | (0.020) |
| National "Winner" | 0.241*** | -1.987** | 0.385*** |
| | (0.0358) | (0.667) | (0.041) |
| Subnational "Winner" | 0.112** | 0.756 | -0.010 |
| | (0.0355) | (0.692) | (0.040) |
| Patriotism | 0.250*** | -1.473*** | 0.323*** |
| | (0.0218) | (0.384) | (0.025) |
| Interest in Politics | 0.136*** | 1.050*** | 0.078*** |
| | (0.0161) | (0.291) | (0.018) |
| Interpersonal Trust | 0.240*** | -0.384 | 0.169*** |
| | (0.0346) | (0.676) | (0.039) |
| Confidence in Government | 0.378*** | -1.257*** | 0.597*** |
| | (0.0181) | (0.307) | (0.020) |
| State Population Percentage of total | 0.00686 | -0.036 | 0.008 |
| | (0.00589) | (0.108) | (0.007) |
| State size Percentage of total | -0.00522 | 0.062 | -0.007 |
| | (0.00832) | (0.147) | (0.010) |
| Sex (Male) | 0.0886** | -0.086 | -0.012 |
| | (0.0302) | (0.561) | (0.034) |
| Age | -0.00342** | -0.066** | -0.001 |
| | (0.00112) | (0.022) | (0.001) |
| Education | 0.0390*** | -0.178 | -0.025** |
| | (0.00807) | (0.146) | (0.009) |
| Income | 0.0183* | 0.283 | 0.036*** |
| | (0.00812) | (0.146) | (0.009) |
| Class | 0.0218 | 0.493 | -0.065** |
| | (0.0187) | (0.319) | (0.021) |
| *Additional individual-level control variables* | | | |

| | | | |
|---|---|---|---|
| Importance of Religion | -0.017<br>(0.019) | 0.177<br>(0.346) | 0.041<br>(0.021) |
| Catholic | 0.049<br>(0.048) | -0.464<br>(0.908) | 0.014<br>(0.054) |
| Other Christian | 0.069<br>(0.051) | 0.838<br>(0.962) | 0.061<br>(0.058) |
| Jewish | 0.106<br>(0.216) | -1.793<br>(7.528) | 0.113<br>(0.250) |
| Muslim | -0.058<br>(0.148) | -5.035*<br>(2.568) | 0.361*<br>(0.160) |
| Hindu | 0.080<br>(0.126) | -5.924*<br>(2.384) | 0.428**<br>(0.136) |
| Buddhist | 0.369<br>(0.192) | 1.141<br>(3.476) | 0.502*<br>(0.209) |
| Other | -0.135<br>(0.073) | -0.689<br>(1.442) | -0.226**<br>(0.083) |
| Religious Attendance | 0.008<br>(0.008) | 0.043<br>(0.142) | 0.004<br>(0.009) |
| Married/ Living together | -0.007<br>(0.040) | -0.752<br>(0.701) | 0.025<br>(0.045) |
| Divorced/ Separated | 0.038<br>(0.065) | -1.841<br>(1.225) | 0.048<br>(0.073) |
| Widowed | -0.003<br>(0.078) | 2.172<br>(1.474) | -0.011<br>(0.089) |
| *Additional state-level control variables* | | | |
| State Human Development Index | -1.634<br>(1.171) | -49.90*<br>(20.72) | -2.871*<br>(1.264) |
| Wave 6 | -0.124*<br>(0.062) | | -0.362***<br>(0.069) |
| Constant | | 102.9***<br>(17.42) | 5.825***<br>(1.029) |
| Cut 1 | -0.707<br>(0.952) | | |
| Cut 2 | 1.435<br>(0.951) | | |
| Cut 3 | 3.985***<br>(0.951) | | |
| *Country Fixed Effects* | | | |

| | | | |
|---|---|---|---|
| Australia | 0.781* | | 0.242 |
| | (0.323) | | (0.354) |
| Brazil | -0.444 | -0.593 | -0.955*** |
| | (0.242) | (3.165) | (0.265) |
| Canada | 1.375*** | | 0.086 |
| | (0.273) | | (0.298) |
| Germany | 1.390*** | -22.35*** | 0.707* |
| | (0.268) | (3.622) | (0.293) |
| India | 0.764* | -1.842 | -1.962*** |
| | (0.339) | (5.203) | (0.372) |
| Mexico | 0.019 | 6.170* | -0.464 |
| | (0.234) | (3.109) | (0.257) |
| South Africa | -0.573* | -8.119 | -0.774* |
| | (0.259) | (4.263) | (0.324) |
| Spain | 0.392 | | 0.511 |
| | (0.242) | | (0.265) |
| United States | 0.543* | | 0.085 |
| | (0.242) | | (0.266) |
| *State Random Effects* | | | |
| Variance Component | 0.193 | 5.153 | 0.475 |
| | (0.031) | (0.594) | (0.040) |
| $N$ | 17516 | 6870 | 17474 |

State GNI is left out because it is highly correlated to the state Human Development Index (HDI). Standard errors in parentheses

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

## 4.1 Electoral Integrity Scale

In addition to the electoral malpractice scale, there is also a scale measuring electoral integrity (EIS) (Norris, 2019). The EIS is based on the same question on the WVS "In your view, how often do the following things occur in this country's elections?" However, it relies on different items which tap positive elements of the electoral practice. These include: "Election officials are fair," "Women have equal opportunities to run for office," "Journalists provide fair coverage of elections," "Voters are offered a genuine choice in the elections," and "Votes are counted fairly." Table A9 presents the results of a series of models exploring the relationship between the SEDS, the EIS, and its component indicators. The SEDS does not have a significant impact on any of these variables which suggest that subnational democracy helps determine when individuals are likely to see instances of electoral malpractice but not their positive evaluation of electoral freedom.

Table A9: Breaking down the Electoral Integrity Scale

| | (A15) Electoral Integrity Scale | (A16) Election officials are fair | (A17) Voters have a genuine choice | (A18) Journalists provide fair coverage | (A19) Votes are counted fairly |
|---|---|---|---|---|---|
| SEDS | -0.156 | 0.030 | -0.056 | 0.069 | -0.014 |
| | (0.885) | (0.079) | (0.067) | (0.097) | (0.088) |
| Financial Satisfaction | -0.057 | -0.006 | 0.010 | -0.019* | 0.006 |
| | (0.103) | (0.009) | (0.009) | (0.009) | (0.010) |
| Financial Satisfaction | 1.175*** | 0.064* | 0.115*** | 0.051* | 0.101*** |
| | (0.272) | (0.025) | (0.024) | (0.024) | (0.025) |
| National "Winner" | 2.460*** | 0.142** | 0.142** | 0.049 | 0.379*** |
| | (0.585) | (0.055) | (0.054) | (0.053) | (0.056) |
| Subnational "Winner" | 1.181 | 0.078 | 0.139* | 0.085 | 0.123* |
| | (0.608) | (0.058) | (0.056) | (0.055) | (0.058) |
| Patriotism | 3.283*** | 0.255*** | 0.297*** | 0.161*** | 0.223*** |
| | (0.334) | (0.031) | (0.030) | (0.030) | (0.031) |
| Interest in Politics | 0.774** | 0.058* | 0.068** | -0.004 | 0.081*** |
| | (0.253) | (0.023) | (0.023) | (0.022) | (0.023) |
| Interpersonal Trust | -1.218* | -0.028 | -0.085 | -0.106* | 0.050 |
| | (0.583) | (0.055) | (0.053) | (0.052) | (0.055) |
| Confidence in Government | 3.989*** | 0.299*** | 0.205*** | 0.130*** | 0.335*** |
| | (0.267) | (0.0245) | (0.024) | (0.024) | (0.025) |
| State GNI | 0.084 | 0.004 | 0.004 | 0.009 | 0.011 |
| | (0.115) | (0.012) | (0.010) | (0.013) | (0.013) |
| State Population Percentage of total | -0.074 | 0.003 | -0.001 | -0.007 | -0.005 |
| | (0.107) | (0.009) | (0.007) | (0.011) | (0.010) |
| State size Percentage of total | 0.240 | 0.026* | 0.018 | 0.007 | 0.017 |
| | (0.143) | (0.011) | (0.010) | (0.014) | (0.013) |
| Sex (Male) | 0.104 | 0.036 | 0.006 | -0.008 | 0.053 |
| | (0.474) | (0.043) | (0.043) | (0.042) | (0.044) |
| Age | 0.031 | 0.002 | 0.003* | 0.002 | 0.003* |
| | (0.016) | (0.001) | (0.001) | (0.001) | (0.002) |
| Education | 0.390** | 0.031** | 0.001 | 0.010 | 0.041*** |

| | | | | | |
|---|---|---|---|---|---|
| | (0.128) | (0.012) | (0.012) | (0.011) | (0.012) |
| Income | -0.653*** | -0.052*** | -0.037*** | -0.013 | -0.059*** |
| | (0.126) | (0.012) | (0.011) | (0.011) | (0.012) |
| Subjective | 0.671* | 0.030 | 0.069** | 0.075** | 0.025 |
| Class | (0.273) | (0.025) | (0.024) | (0.024) | (0.025) |
| Constant | 32.37*** | | | | |
| | (3.724) | | | | |
| Cut 1 | | 0.183 | 0.128 | -0.852* | 0.448 |
| | | (0.351) | (0.308) | (0.397) | (0.387) |
| Cut 2 | | 1.625*** | 1.429*** | 0.536 | 1.804*** |
| | | (0.351) | (0.307) | (0.397) | (0.387) |
| Cut 3 | | 3.349*** | 3.057*** | 2.193*** | 3.443*** |
| | | (0.353) | (0.308) | (0.398) | (0.388) |
| *Fixed Effects* | | | | | |
| Brazil | -0.328 | 0.099 | 0.535* | -0.302 | -0.064 |
| | (2.717) | (0.244) | (0.210) | (0.297) | (0.269) |
| Germany | 24.27*** | 2.872*** | 1.729*** | 0.917* | 2.711*** |
| | (3.884) | (0.369) | (0.311) | (0.436) | (0.414) |
| India | 1.590 | 0.039 | -0.162 | 0.157 | 0.529 |
| | (3.255) | (0.295) | (0.254) | (0.353) | (0.329) |
| Mexico | -4.253 | -0.480* | 0.107 | 0.084 | -0.585* |
| | (2.622) | (0.234) | (0.205) | (0.285) | (0.258) |
| South Africa | -1.424 | -0.100 | -0.338 | -0.050 | 0.175 |
| | (3.095) | (0.249) | (0.212) | (0.305) | (0.278) |
| *Random Effects* | | | | | |
| State variance | 5.231 | 0.231 | 0.151 | 0.394 | 0.300 |
| | (0.578) | (0.050) | (0.039) | (0.084) | (0.066) |
| $N$ | 7750 | 8291 | 8448 | 8306 | 8426 |

Standard errors in parentheses

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

# Notes

[1]This is currently being updated to include more recent data

[2]Please see the article for a discussion about case selection

[3]In parliamentary systems these are calculated using the party vote share in legislative elections. In presidential systems these are calculated using the candidate vote share in executive elections.

[4]To ensure that higher values signal more competitive executive elections I subtracted this value from 1.

[5]The full SEDS dataset has data on the legislative Shannon's H measure as well.

[6]The code book for this data set contains the full array of electoral variables that I collected to initially develop the SEDS. It is available at `https://doi.org/10.7910/DVN/OPD3LW`.

[7]Separate models were estimated for each variable and each country.

[8]Please see the SEDS codebook for the full results of this SEM.

[9]See Coppedge et al. (2019); Pemstein et al. (2019) for additional information.

[10]Montero (2007); Borges (2007); Montero (2010*a*); Borges (2011)

[11]Gibson (2005); Gervasoni (2010*a*,*b*); Behrend (2011); Gibson (2013); Giraudy (2013)

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