An Exploration of Partisan Control and the Progressivity of State Aid to Schools

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One of the functions of public education is to serve as an equalizing mechanism for society. Policy discussions around school finance adequacy and equity explore the appropriate levels of investment and strategies for distributing those investments that a community should pursue to enhance the wellbeing of its citizens. One strategy that policymakers can employ to achieve equity is distributing school funding progressively. That is, they could distribute education funding in such a way that the ratio of funding for students from poor families relative to that of students from non-poor families is greater than one. Policymakers at state and local levels are often the ones responsible for that decision.

This paper explores how partisan control and political culture at the state level are associated with the level and progressivity of state educational aid. We examine state aid because states are constitutionally responsible for the provision of K-12 education in the United States. Further, national trends in school expenditures shows that states have often been the biggest contributors to school funding (e.g., Cornman, Zhou, Howell, and Young, 2018). Three key questions guide our study: First, how, if at all, is partisan control of state-level elected bodies associated with the progressivity of state contributions to school districts? Second, how, if at all, is political culture associated with the progressivity of state aid to schools? Third, how, if at all, does political culture mediate the associations between partisan control and progressivity of state aid to schools?

We are curious about the role of partisan control and political culture on policy results because of the role that public investment plays in educational outcomes. For example, Baker (2016) studied extensively the importance of money to student achievement. He found that on average, there were positive correlations between per-pupil spending and higher student outcomes. Baker also noted that specific schooling strategies (e.g., additional supports, smaller
class size, more competitive teacher compensation) typically are associated with higher student achievement and “there is scarce evidence that there are more cost-effective alternatives” (p. i). Baker concluded that, “the available evidence suggests that appropriate combinations of more adequate funding with more accountability for its use may be [the] most promising” strategy for improving achievement, both overall and for disadvantaged groups (p. 20).

We also want to understand those factors that are associated with policy results pertaining to education, including how that aid is distributed. According to political science research, the effects of party control on policy decision results are mixed. While qualitative studies typically show that party affiliation matters, quantitative studies often have more mixed results (e.g., Garritzmann & Seng, 2016). In the United States, a study of the effect of the governor's affiliation on education finance shows that Democratic governors tend to transfer more state education funds to school districts with higher percentage of minority students than other political parties (Hill & Jones, 2017). Other studies show that there is a weak association between the policy decisions and the party control of state chambers (Reed, 2006; Sole-Olle & Validecans-Marsal, 2013).

Oftentimes, scholars examine the question of how political party matters through the lens of state-market ideology, where the policy results are assumed to be ideologically driven (Kraft, 2018). The mixed nature of the results suggests that ideology itself may be mediated by other factors, such as political culture. However, the understanding of the effect of political culture on policy results is also not complete. 'Path dependence' predicts that the existing institutions and cultures tend to remain even after the legislative majority has changed (Ostrom, 2007). However, an empirical study shows that the correlation between the political culture or ideology of the state residents and the policy results is not significant (Caughey, Warshaw, & Xu, 2017).
Following Chingos and Blagg (2017), we measure the progressivity of school funding by calculating the ratio of funding for students from poor families relative to that of students from non-poor families. We hypothesize that the partisan control of the state governments has impacts on the amount and the direction of the progressivity of state school funding. We also hypothesize that political culture also has impacts on progressivity because politics and the societal and cultural institutions affect political decision-making and thus school funding.

**Data and Method**

To explore the relationship among state partisan control, political culture, school funding levels and progressivity rates, we employ simple descriptive statistics on trends in the progressivity of state aid as well as partisan control of state-level elected bodies between 1995 and 2011. We also document the political culture for each state, which we assume is stable over time. Because Nebraska has only one legislative body and Hawaii is one school district, we omit those states from our analysis, consistent with prior research (e.g., Hill & Jones, 2017). To address the associations among partisan control, political culture, state contributions to school districts and the progressivity of those contributions, we employ a two-way fixed effects model to control both for variations across states that were not explicitly included in our models and to control for temporal effects. We provide a more detailed discussion of the data and our models below.

**Progressivity**

We obtained the progressivity of school funding data from the Urban Institute. It includes annual state level progressivity and revenue per pupil measures by funding sources adjusted for 2015 dollars: local, state, and federal. This dataset uses the school funding data from the US Department of Education’s Common Core of Data Local Education Agency Finance Survey (F-
AEFP: An Exploration of Partisan Control and the Progressivity of State Aid to Schools

33) and from the Census Annual Survey of School System Finances. Researchers of the Urban Institute measured progressivity by calculating the ratio between the levels of school revenue on poor students with the levels of school funding revenue on non-poor students.

To calculate the progressivity of school revenues, for each state, Chingos and Blagg (2017) followed three basic steps. First, they calculated a weighted average of each district’s per-student funding, where the weights are the number of poor kids in each district as measured by applying the Census Bureau poverty rates to district enrollment. Second, they calculated the same figure weighted by the number of non-poor kids. Third, they created a ratio where the weighted average calculated for poor kids was in the numerator and the weighted average for non-poor children was in the denominator. These calculations were conducted for total per-pupil revenues as well as by source (federal, state, local). Ratios greater than one indicate a progressive system of school funding allocations; ratios less than one indicate that the system is regressive. For example, when the progressivity measure is 1.1, this means that, on average, poor students in the district received 10% more funding compared to non-poor students in that district. Consistent with the research of the Urban Institute, we used a Comparable Wage Index (CWI) to adjust for cost differences among districts and states for each year examined. This standardization allows us to make meaningful comparisons in the progressivity measure across states and over time.

Partisan Control of State Governments

For the data for partisan control of government bodies and state level economic measures, we used the data from the Correlates of State Policy Projects from the Institute for Public Policy and Social Research (IPPSR). The researchers of the IPPSR collected and merged a variety of variables around public policy across the 50 states. From those data, we used measures of the partisan control of the state senate, house and governorship; we also employed several state level
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economic measures including the state’s poverty rate and its level of inequality, as measured by Atkinson Index. The Atkinson index varies between 0 and 1 and is a measure of the amount of social utility to be gained by complete redistribution of a given income distribution. Lower values of the measure indicate a more equal distribution than higher values, given a particular degree of inequality aversion (Atkinson, 1970).

In the original dataset, IPPSR created dummy variables to reflect partisan control. From the state senate variable, when the Democratic Party had the majority, then the senate variable was coded 1; when the Republican Party was in the majority, then the variable was coded 0. When there was no clear majority in the senate, then the variable was coded 0.5. For the purposes of our analysis, we modified the senate control variable so that it was coded 1 if the Democrats had the majority of the seats, and 0 otherwise. We followed a similar strategy to create a dummy variable for partisan control of the State House. Consistent with IPPSR, we assume that the governor’s party is the party membership of the governor who was in charge at the time of budget passage.

**State Political Culture**

This paper uses Elazar’s (1970) classification of US state-based political culture as traditionalistic, individualistic, and moralistic. We include political culture because research indicates that political culture can mitigate policy decisions by establishing notions of the kinds of actions that are appropriate for governments to pursue (e.g., Seashore, Thomas, and Febey, 2008). That is, political culture is essentially a categorization of a community’s expectations of its government. In traditionalistic cultures, the community expects its government to provide support for the status quo. Thus, we anticipate that states with traditionalistic political cultures will not alter the associations between partisan control and the progressivity of state aid. In states
AEFP: An Exploration of Partisan Control and the Progressivity of State Aid to Schools

with individualistic political cultures, communities expect that their governments will be efficient. Thus, we assume that individualistic political cultures are better aligned with market-driven forces than other political cultures (e.g., Elazar, 1970; 1984), so we expect that for those states, progressivity would be lessened, other things being considered. In states with moralistic political cultures, communities expect their governments to be effective and to work for the good of the whole. Consequently, we anticipate that moralistic states will likely have a more progressive system of allocation regardless of party control. We have no expectations regarding the associations between level of state education funding and political culture.

Following Elazar’s taxonomy, the different kinds of political cultures are evenly distributed across the United States. We coded 16 states as traditionalistic: Alabama, Arizona, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. They are all located in the south and southwestern United States. We coded 15 states as having an individualistic political culture. These states are Alaska, Connecticut, Delaware, Illinois, Indiana, Maryland, Massachusetts, Missouri, Nevada, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, and Wyoming. We coded 17 states as having a moralistic political culture. These include California, Colorado, Idaho, Iowa, Kansas, Maine, Michigan, Minnesota, Montana, New Hampshire, North Dakota, Oregon, South Dakota, Utah, Vermont, Washington, and Wisconsin.

Modeling the Associations

Given the research questions of this paper requires analysis of both cross-sectional and temporal variations, we applied a two-way fixed effects model. In other words, we want to analyze the impact of partisan control on the state school funding progressivity over time, which is best suited for a case fixed effects model. In addition, we want to analyze the impact of state
AEFP: An Exploration of Partisan Control and the Progressivity of State Aid to Schools

characteristics on the state funding progressivity by comparing 48 states, which best fits a time
fixed effects model. By employing the two-way fixed effects model, we can consider both time-
varying variations and cross-sectional variations.

The Dickey-Fuller test was conducted to check the stochastic trends and the test results
showed that the unit roots were not present. The Breusch-Pagan test was conducted to test the
heteroscedasticity, and we found that there was heteroscedasticity in the data so we used the
robust covariance matrix to account for it. As a result, we used the “Arellano” estimator to take
into account heteroscedasticity and serial correlation. The Breusch-Godfrey/Wooldridge test was
conducted to test the serial correlation, and we detected serial correlation. To test the robustness
of each model, we employed a variety of analytic models, including a case-fixed effects model
with control variables. Ultimately, we found the two-way fixed effects model to be the most
appropriate. The two-way fixed effects model that we used for this research is as follows:

\[
\text{Progressivity}_{it} = \beta_1 \text{Senate}_{it} + \beta_2 \text{House}_{it} + \beta_3 \text{Gov}_{it} + \sum_j \gamma_j z_{it} + u_i + v_t + \epsilon_{it} \quad (1)
\]

where \(t=1998, 1999, \ldots, 2011\) and \(i=48\) states. \(y_{it}\) denotes the progressivity measure of \(i\)th state
in \(t\)th year. \(\text{Senate}_{it}\) indicates a Democratic senate majority, \(\text{House}_{it}\) indicates Democratic
house majority, and \(\text{Gov}_{it}\) indicates a Democratic governor. \(z_{it}\) denotes time-varying state
characteristic variables including the state share of school funding, the progressivity of local
school funding, and state income inequality measure. \(u_i\) is state-specific intercepts and \(v_t\) is
year-specific intercepts. \(\epsilon_{it}\) is an error term for each state and each year.
Results

What are the trends in progressivity across time and states?

Figure 1 illustrates the distribution of school funding progressivity across states between 1995 and 2011. In the years examined, the progressivity of state aid was relatively flat; a key exception was between 2000 and 2005, when the progressivity of state aid to schools dropped slightly from 1.06 in 2001 to 1.05 in 2004. This drop was consistent with a slight increase in progressivity of local per-pupil revenues.

Figure 1. State and Local Funding Progressivity between 1998 and 2011

The median progressivity rate for state education funding is just over 1.05 while the median progressivity rate of local funding ranged between 0.92 and 0.95 over the 16 years examined. This means that, on average, state aid is generally more progressive than local systems of revenue. The median rate of progressivity for state and local school revenue combined is slightly over 1.00, which means the overall state and local school funding is only slightly progressive in the years examined.
What are the trends in partisan control across time and states?

Figure 2 shows the number of states controlled by the Democratic Party for different bodies of state governments over time. Between 1995 and 2011, there were some changes in state government majorities. Partisan control seems to occur in waves. From 1995 through 2006, the Republican Party seemed to dominate much of the leadership in state government; from 2007 through 2011, the Democrats were in control of much of state government.

What are the differences in progressivity among the different political cultures?

Figure 3 shows the differences in progressivity and state share of school funding among the different state political culture groups. States with an individualistic political culture tended to have higher progressivity in their state aid and lower progressivity in their local revenues compared to states with other political cultures. For individualistic states, the state contributes a lower portion of overall school funding than in other communities. Seventy-five percent of states with individualistic political culture funds less than 50% of total school funding in the state. Consequently, even though states with an individualistic political culture have higher progressivity
in their state contribution to school funding, their higher reliance on local revenues makes the progressivity of their overall school funding similar to that of other political cultures.

Figure 3. Progressivity of State and Local School Funding and the State Share of School Funding by State Political Culture

Note: “IN” represents Individualistic culture, “MO” represents Moralistic culture, and “TR” represents Traditionalistic culture.
Table 1 provides a descriptive summary of the key variables used in the analysis for all states and parsed by political culture. In the 15 years examined, the Democrats controlled the state senate 48% of the time, were in the majority of the state house 51% of the time and held the governorship 43% of the times. Overall, state aid to districts was progressive, with poor students receiving 12% more funding, on average, than non-poor children. Local funding, by contrast, was regressive, with more local revenues expended on non-poor kids than poor ones. The state provided the bulk of state and local school funding, with the state share accounting for 53.5% of state and local aid. Districts were relatively small at 5,005 pupils; however, there is a large range among states with different political cultures with traditionalistic states averaging 6,875 pupils and moralistic states averaging 2,331 students. On average, state and local school funding totaled $6,106 per pupil. The level of inequality was relatively high at 0.27, as measured by the Atkinson index, and poverty rates hovered around 12.4%.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Overall Mean (SD)</th>
<th>Individualistic Mean (SD)</th>
<th>Moralistic Mean (SD)</th>
<th>Traditionalistic Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democratic senate majority*</td>
<td>0.48 (.50)</td>
<td>0.44 (.50)</td>
<td>0.4 (.49)</td>
<td>0.6 (.49)</td>
</tr>
<tr>
<td>Democratic house majority*</td>
<td>0.51 (.50)</td>
<td>0.6 (.49)</td>
<td>0.3 (.46)</td>
<td>0.64 (.48)</td>
</tr>
<tr>
<td>Democratic governor*</td>
<td>0.43 (.50)</td>
<td>0.44 (.50)</td>
<td>0.43 (.5)</td>
<td>0.43 (.5)</td>
</tr>
<tr>
<td>State funding progressivity</td>
<td>1.12 (.14)</td>
<td>1.24 (.19)</td>
<td>1.07 (.04)</td>
<td>1.06 (.05)</td>
</tr>
<tr>
<td>Local funding progressivity</td>
<td>0.91 (.08)</td>
<td>0.85 (.09)</td>
<td>0.93 (.05)</td>
<td>0.94 (.04)</td>
</tr>
<tr>
<td>State and Local combined funding progressivity</td>
<td>1.01 (.04)</td>
<td>1.01 (.06)</td>
<td>1.01 (.02)</td>
<td>1.01 (.01)</td>
</tr>
<tr>
<td>State share of total state and local funding (%)</td>
<td>53.47 (12.79)</td>
<td>46.22 (11.20)</td>
<td>55.23 (13.05)</td>
<td>58.38 (10.78)</td>
</tr>
<tr>
<td>Average district membership</td>
<td>5005.67 (6990)</td>
<td>6044 (8942)</td>
<td>2331 (2230)</td>
<td>6875 (7387)</td>
</tr>
<tr>
<td>State revenue per pupil</td>
<td>6106.16 (2064)</td>
<td>6091 (2180)</td>
<td>6474 (2433)</td>
<td>5729 (1334)</td>
</tr>
<tr>
<td>Atkinson index</td>
<td>0.27 (.04)</td>
<td>0.29 (.04)</td>
<td>0.26 (.03)</td>
<td>0.27 (.03)</td>
</tr>
<tr>
<td>Poverty rate (%)</td>
<td>12.38 (3.38)</td>
<td>10.73 (2.27)</td>
<td>10.96 (2.48)</td>
<td>15.44 (2.98)</td>
</tr>
<tr>
<td>Observations</td>
<td>816</td>
<td>225</td>
<td>289</td>
<td>272</td>
</tr>
<tr>
<td>States</td>
<td>48</td>
<td>15</td>
<td>17</td>
<td>16</td>
</tr>
</tbody>
</table>

* 1 = Democratic majority, 0 = Republican majority or no clear majority
When we examine each political culture, important differences emerge among these variables. The total state and local investment in schools differed among political cultures with moralistic states providing the highest level of funding per pupil ($6,474) and traditionalistic states providing the least ($5,729). Similarly, moralistic states tended to have the lowest measure of inequality (.26), slightly lower than that seen in traditionalistic states (.27); individualistic states had the highest measure of inequality (.29). Traditionalistic states, however, had the highest rates of poverty (15.4%), 4.5 points higher than that for moralistic states (10.96%) and 4.7 points higher than that of individualistic states (10.73%).

Individualistic states tended to have much lower shares of school funding than moralistic and political cultures (46.2% v. 55.2%, v. 58.4%, respectively). As noted above, individualistic states tended to have more progressive state aid to school districts than moralistic or traditionalistic states (1.24 v. 1.07v.1.06, respectively). However, this progressivity was muted by its relatively high reliance on regressive local school aid. On average, individualistic states had local revenue systems that gave 15% more funds to non-poor students than they did to poor students. This contrasts with the relatively less regressive local funds of moralistic (progressivity=.93) and traditionalistic (progressivity=.94) states.

We recognize that univariate analysis can mask relationships among key covariates and progressivity and does not allow us to address the questions that guide our study. To address how partisan control of state-level elected bodies and political culture are associated with the progressivity of state aid to schools, we turn to multivariate analysis.
What are the associations among state partisan control, political culture, and state aid to districts?

Table 2 shows the results from our statistical analyses. Column (1) of Table 1 is an Ordinal Least Square model that only includes a variable to capture partisan control of the house, senate, or governorship. Column (2) model includes state fixed effects and time-fixed effects models without time-varying control variables. After controlling for time and state fixed effects, the significance of Democratic house majority and Democratic governor coefficients in the OLS model disappears. Column (3) model is the two-way fixed effects model that includes time-varying state characteristic variables including school system variables and state economic variables. To test the robustness of the findings, we included separate state-fixed effects model (column 4) and time-fixed effects model (column 5) as alternative models. The results of the two-way fixed effects model in column (3) was not substantially different from the alternative models.

Table 2. The Democratic Control of State Governments Effects on the Progressivity of State School Funding

<table>
<thead>
<tr>
<th></th>
<th>OLS</th>
<th>Two-way fixed effects</th>
<th>Two-way fixed effects</th>
<th>State-fixed effects</th>
<th>Time-fixed effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democratic senate majority</td>
<td>-.000</td>
<td>-.002</td>
<td>.005</td>
<td>.005</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>(.012)</td>
<td>(.005)</td>
<td>(.004)</td>
<td>(.004)</td>
<td>(.005)</td>
</tr>
<tr>
<td>Democratic house majority</td>
<td>.041</td>
<td>.006</td>
<td>.006</td>
<td>.008</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>***</td>
<td>(.005)</td>
<td>(.005)</td>
<td>(.005)</td>
<td>(.005)</td>
</tr>
<tr>
<td>Democratic governor</td>
<td>-.030</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>**</td>
<td>(.006)</td>
<td>(.004)</td>
<td>(.004)</td>
<td>(.005)</td>
</tr>
<tr>
<td>State fixed effects</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Control variables</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>816</td>
<td>816</td>
<td>816</td>
<td>816</td>
<td>816</td>
</tr>
<tr>
<td>States</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>.03</td>
<td>.00</td>
<td>.24</td>
<td>.23</td>
<td>.23</td>
</tr>
</tbody>
</table>

Note: Adjusted standard errors are used to control heteroscedasticity applying the Arellano method for models (2), (3), (5), and for model (4) Driscoll and Kraay method was applied. Standard errors are in parenthesis. Significance levels: .05 > * > .01 > ** > .001 > ***.
We conducted the Breusch-Pagan's Lagrange Multiplier Test and the Hausman Test to test the time-effects, the two-way effects and the random effects and failed to justify the time-effects model and the random effects model. As a result, we chose the model reflected in Column (3), the two-way effects model, as the most appropriate analytical model.

Table 3 demonstrates the different effects of state characteristics on the progressivity of state school funding by state political culture groups in addition to the partisan control of state governments. Column (1) of Table 3 shows the two-way effects model analysis results using the full sample of states. We also conduct separate analysis for individualistic, moralistic, and traditionalistic political cultures in Columns (2), (3), and (4), respectively. For the full sample, our model explains about one-fifth of the variation in the progressivity of state education aid ($R^2 = .24$). One noticeable difference among the results from the cultural samples is that the $R^2$ of the model for the moralistic states is much higher ($R^2 = .79$) than for individualistic ($R^2 = .22$) and traditionalistic states (.20). The results from the full-sample model suggests that Democratic control of the state senate is not associated with progressivity in state aid to schools. Focusing on the results presented in Column (1), we see that at the national level, the state share of total school funding is negatively associated with the progressivity of state education aid. The coefficient associated with the state share of school funding was $\beta = -.002$.

For states with individualistic political cultures, having a Democratic senate majority and a Democratic house majority were positively and significantly associated with higher progressivity in state aid to schools ($\beta = .031$ and $\beta = .029$ respectively). District size was negatively and significantly associated with the progressivity of education state aid; a one percent increase in enrollment was associated with a 0.16-point reduction in progressivity ($\beta = -.161$).
Table 3. Two-way Effects Model Analysis Results

<table>
<thead>
<tr>
<th></th>
<th>Full Sample</th>
<th>Individualistic Political Culture</th>
<th>Moralistic Political Culture</th>
<th>Traditionalistic Political Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Democratic senate majority</td>
<td>.005</td>
<td>.031 *</td>
<td>.000</td>
<td>-.001</td>
</tr>
<tr>
<td></td>
<td>(.004)</td>
<td>(.014)</td>
<td>(.004)</td>
<td>(.004)</td>
</tr>
<tr>
<td>Democratic house majority</td>
<td>.006</td>
<td>.029 *</td>
<td>-.010 *</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>(.005)</td>
<td>(.013)</td>
<td>(.004)</td>
<td>(.003)</td>
</tr>
<tr>
<td>Democratic governor</td>
<td>.001</td>
<td>-0.16</td>
<td>.001</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>(.004)</td>
<td>(.010)</td>
<td>(.003)</td>
<td>(.002)</td>
</tr>
<tr>
<td>Progressivity of Local School Funding</td>
<td>-.264</td>
<td>-.469</td>
<td>-.233 ***</td>
<td>-.109 (***.080)</td>
</tr>
<tr>
<td></td>
<td>(.157)</td>
<td>(.279)</td>
<td>(.053)</td>
<td>(.080)</td>
</tr>
<tr>
<td>State share of Total State and Local Funding</td>
<td>-.002 **</td>
<td>.001</td>
<td>-.002 ***</td>
<td>-.003 **</td>
</tr>
<tr>
<td></td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.000)</td>
<td>(.001)</td>
</tr>
<tr>
<td>log(Average district size)</td>
<td>-.022</td>
<td>-.161 ***</td>
<td>.029 *</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>(.024)</td>
<td>(.041)</td>
<td>(.013)</td>
<td>(.013)</td>
</tr>
<tr>
<td>log(State revenue per pupil in 2015 dollar)</td>
<td>-.023</td>
<td>-.066</td>
<td>-.033 **</td>
<td>.068 ***</td>
</tr>
<tr>
<td></td>
<td>(.022)</td>
<td>(.055)</td>
<td>(.010)</td>
<td>(.017)</td>
</tr>
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<td>Atkinson index</td>
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<td>-.447</td>
<td>-.080</td>
<td>-.141</td>
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<tr>
<td></td>
<td>(.238)</td>
<td>(.434)</td>
<td>(.061)</td>
<td>(.131)</td>
</tr>
<tr>
<td>Poverty rate</td>
<td>-.001</td>
<td>-.004</td>
<td>-.002 *</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>(.001)</td>
<td>(.003)</td>
<td>(.001)</td>
<td>(.000)</td>
</tr>
<tr>
<td>State and Year Fixed Effects</td>
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<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Observations</td>
<td>816</td>
<td>255</td>
<td>289</td>
<td>272</td>
</tr>
<tr>
<td>States</td>
<td>48</td>
<td>15</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.24</td>
<td>.22</td>
<td>.79</td>
<td>.20</td>
</tr>
</tbody>
</table>

Note: Adjusted standard errors are used to control heteroscedasticity applying the Arellano method. Significance levels: .05 > * > .01 > ** > .001 > ***.

For states with moralistic political cultures, a Democratic house majority was negatively associated with the progressivity of state school funding ($\beta = -.010$). In contrast to states with individualistic cultures, in moralistic culture states, the logged average district size was positively associated with the progressivity of state aids to schools. That is, a percent increase in district enrollment was associated with an 0.03-point increase in progressivity ($\beta = .029$). By contrast, there was a negative association between the level of per pupil funding and the progressivity of state education aid. That is, a one percent increase in constant 2015 per pupil revenue was associated with a .033 reduction in the progressivity of state education funding.
AEFP: An Exploration of Partisan Control and the Progressivity of State Aid to Schools

(β=-.033). Among moralistic political culture states, higher rates of poverty in the state were significantly associated with lower rates of progressivity in state aid to schools (β=-.002).

For states with traditionalistic political cultures, there were no significant associations between the partisan control of state government bodies and the progressivity of state aid to schools. Similar to other political cultures, the state share of total education funding was negatively associated with the progressivity of state school funding (β=-.003). In contrast to states with a moralistic culture, traditionalistic states had a positive and significant association between per pupil revenue and the progressivity of state aid. That is, a one percent increase in constant 2015 per pupil revenue was associated with an increase of .068 points in the progressivity of state aid to schools (β=.068).

**DISCUSSION AND IMPLICATIONS**

Three key questions guided our study: First, how, if at all, is partisan control of state-level elected bodies associated with the level of state contributions to school districts? Second, how, if at all, is political culture associated with the progressivity of state aid to schools? Third, how, if at all, does political culture mediate the associations between partisan control and progressivity of state aid to schools? We hypothesized that the partisan control of state governments has an impact on the progressivity of state school funding and those associations would be mitigated by a state’s political culture.

*How, if at all, is partisan control of state-level elected bodies associated with the progressivity of state contributions to school districts?*

The results from various analytic model gives us mixed results on the effect of partisan control on the progressivity of state aid. In general, looking at the national sample, we conclude that there is little or no significant association between partisan control and the progressivity of
state school funding. Simply including partisan control of state government bodies explained very little in the variation of the progressivity of state education aid. Accounting for other state structural factors, such as funding levels, state share, state income inequality, and poverty rates, mattered more. For example, once these time-varying covariates were included in the model, we were able to account for over one-fifth of the variation in the progressivity of state aid. Nevertheless, while accounting for funding structure, poverty, and inequality could help us to have a fuller overall understanding of the variations in progressivity, no single variable mattered significantly to the national sample.

*How, if at all, is political culture associated with the progressivity of state aid to schools.*

All states had relatively progressive systems regardless of political culture, with the progressivity of the state’s contribution to education funding largely driving the progressivity of overall education funding. For individualistic cultures, local contributions to education aid were predictably and highly regressive and accounted for the bulk of overall support for education. Nevertheless, state education aid in individualistic political cultures acted as an effective progressive counterbalance to regressive local funding structures. By contrast, in moralistic and traditionalistic cultures, the state contributed the bulk of education aid, and the regressivity of local aid was much less than that of individualistic cultures. State policy makers tended to counter the regressive nature of their local education funding system on the front end with higher overall state investment in education.

These results lead us to two key speculations regarding the intersection of political culture and the progressivity of state aid. First, state policymakers step in when local communities do not address funding gaps between poor and non-poor students. However, the more that states contribute to overall funding, the lower their capacity to garner additional
AEPF: An Exploration of Partisan Control and the Progressivity of State Aid to Schools

funding targeted at the poor. Our results suggest that in moralistic and traditionalistic cultures, additional education investment went towards improving the adequacy of educational systems rather than decreasing funding gaps between poor and non-poor students. Second, states with individualistic cultures spend their equalization dollars more efficiently by targeting their equalization efforts more narrowly.

How, if at all, does political culture mediate the associations between partisan control and progressivity of state aid to schools?

Political culture plays a substantial role in mediating the associations between partisan control and progressivity. Depending on the political culture, our model explains between 20% and 79% of the variation in the progressivity of state aid. That is, our model explains just over one-fifth of the variation for states with individualistic and traditionalistic cultures. We explain about four-fifths of the variation in states with moralistic cultures. We speculate that our model explains much of the variation in progressivity in moralistic cultures because communities in those states have higher positive expectations of their government. Thus, a model that relies primarily on government structures would have a bigger explicative role.

Over the years examined, individualistic states tended to have divided government with Republicans often holding a majority in the Senate and Democrats holding a majority in the house. For moralistic states, Republicans were frequently in control of all three state governing bodies. For traditionalistic states, the Democrats largely controlled both legislative bodies while Republicans controlled the executive branch. The significance of the relationship between partisan control of state government bodies and the progressivity of state aid is different for different political cultures. While Democratic control of the state senate and house has a positive association with the progressivity of state aid, this association is significant only for those states
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with an individualistic political culture. In the states with moralistic political cultures, Democratic control of the house had a negative association with the progressivity of state aid. No significant associations emerged between partisan control and states with traditionalistic cultures.

Overall, our findings suggest that partisan control can matter to the equalization of education aid, but how it matters varies with context. An important context is political culture, which shapes the boundaries of what is collectively possible. Our findings are consistent with the conclusions of “path dependence,” which indicates that existing institutions and cultures tend to remain even after the legislative majority has changed. However, we extend that theory by illustrating that it is not so much that legislative majorities do not matter. They do matter, but they do so in unexpected ways. For example, partisan control matters for individualistic communities where initial investment in education is lower and policymakers have a more targeted distribution of education aid. If initial education investments are already high, then other policy priorities besides equalizing funding between rich and poor students come to the fore. Thus, the key to understanding policy and its power to address inequity is not only knowing which party is in control, but also knowing in what political culture that control exists.

References


AEPF: An Exploration of Partisan Control and the Progressivity of State Aid to Schools


