Converging on Choice:
The Inter-State Flow of Foundation Dollars to Charter School Organizations

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Abstract

A growing body of research has been documenting the pivotal role that philanthropic funding plays in advancing state and local charter school reform. However, there is little understanding of the geographic flow of these funding networks and the social and political conditions that have concentrated funding in some clusters of states more than others. To address this limitation we use QAP regression to analyze longitudinal funding data from 15 philanthropic foundations along with data related to the political and evidentiary contexts of the states where grant recipients reside. We find that between 2009 and 2014 foundations were increasingly converging their funding flows to charter school organizations in select clusters of states as they shifted the concentration of funds away from individual charter schools to CMOs and advocacy organizations. A substantial portion of the variation in this inter-state convergent grant funding was associated with previously established funding flows. However, the policy context of states and certain forms of evidence of charter school effectiveness were also strongly associated with inter-state convergent funding. These findings point to the potential ways public policy and research can shape the flow of private money into public education, and yet illuminate substantial geographic inequality in the ways these funds are distributed.

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In just a few decades, school choice policies have shifted from the fringe of education policy discussions to a central focus of contemporary education reform. The rise in support for charter school reform, in particular, has taken shape alongside a long-standing discourse that says our traditional public schools are in crisis and require a shift toward market-oriented practices (Chubb & Moe, 1990; Friedman, 1955). Indeed, this discourse points to democratic governance—and the bureaucratic structures that arise in the process—as the fundamental problem facing public education. As this discourse has gained traction in the collective imagination of U.S. citizens, new organizational alliances have pushed for the expansion of school choice in the vast majority of states (Scott, Lubienski, & DeBray-Pelot, 2008). By all

measures, these efforts have been effective, as 43 states now have laws authorizing charter schools and the proportion of students attending such schools is steadily increasing (National Alliance for Public Charter Schools, 2016).[1]

Philanthropic foundations have played a crucial role in this transformation. In the 2000s, major philanthropic foundations in the United States dramatically increased their funding of charter school organizations and other jurisdictional challengers while proportionately decreasing the funding to traditional public schools and associated institutions (Reckhow & Snyder, 2014). This increase in funding to charter school organizations has taken shape in a coordinated fashion and thus enabled some organizations (e.g., KIPP) to expand at a dramatic rate. The co-funding of promising charter schools and organizations (i.e., convergent grant funding) is a central feature of venture philanthropic practices, defined as the adoption of venture capital investment strategies by corporate elites working to shape education policy through foundations (Scott, 2009). These convergent grant practices give foundations considerable leverage to influence organizational capacity and charter school expansion.

Due to the decentralized structure of the American education system, philanthropic foundations have largely worked at the state and local levels to advance charter school reform. This strategy has aligned well with the Obama Administration's own tactics, as they have worked to mobilize jurisdictional challengers at the state and local levels through competitive grant programs such as Race To The Top (RTTT). For the federal government, this marks a shift away from adopting policy ideas toward the practice of supporting policy actors who share their policy beliefs (Mehta & Teles, 2012). Contemporary philanthropic foundations function in a similar manner by providing grants directly to charter school organizations in states and districts working to expand school choice infrastructure. The geographic context is important because

philanthropic foundations seek to strategically move their resources where they can have the greatest impact (Ferris, Hentschke, & Harmssen, 2008). Ostensibly, foundations use research evidence to inform these decisions (Scott & Jabbar, 2014), but the social and political conditions of states must also be favorable for their efforts to move forward.

The idea of convergence is central to these processes because the capacity of foundations to influence education policy comes not from individual endowments, but rather the combination of funding flows in a network context (Reckhow, 2013; Scott & Jabbar, 2013). This is especially true at the state level where grants from individual foundations, while significant, pale in comparison to state budgets. As a result, a growing body of research has been documenting the pivotal role that convergent grant funding plays in advancing state and local charter school reform. However, there is little understanding of the inter-state flow of these funding networks and the social and political conditions that have facilitated this movement to some clusters of states more than others. In addition, while much of the work to date has powerfully described philanthropic convergence on school choice policy in cities and states around the country, few researchers have attempted to model these patterns in order to uncover the conditions that give rise to these practices (Snyder & Reckhow, 2016).

In this paper we make use of a longitudinal data set to address the following questions: 1. In which states have philanthropic foundations converged to support charter school organizations, and how have these inter-state funding flows changed over time? 2. What are the evidentiary, political, and organizational network conditions within and between states that facilitate these processes of inter-state convergence? To address these questions we use social network analysis to analyze funding data from 15 major philanthropic foundations in 2009, 2012, and 2014. We find that over this time period foundations were increasingly converging their

funding flows to CMOs and advocacy organizations in select clusters of states. A substantial portion of the variation in this inter-state convergent grant funding was associated with previously established funding flows (i.e., convergence breeds convergence). However, evidence of charter school effectiveness and the political context of states also appear to have influenced inter-state convergent funding. These findings point to the potential ways public policy and research can shape the flow of private money into public education, while also illuminating substantial geographic inequality in the ways these funds are distributed.

Foundations and Charter School Reform: Policy Networks, Information Flows, and Politics

Foundations seeking to support organizations that promote school choice policies must navigate multiple contexts that can both challenge or facilitate their efforts. On the surface, these decisions may reflect simple economic exchanges through which foundations choose to fund organizations that appear able to produce outcomes most closely aligned to their objectives. Our assumptions, grounded in organizational field theory, suggest these exchanges are embedded in a variety of social and political fields of action that shape these relationships (Fligstein & McAdam, 2012; Granovetter, 1985). While foundations may, for example, base their funding decisions on perceived need, the quality of a grant proposal, and/or available evidence of a program's effectiveness, organizational field theory assumes these decisions interact with established social relationships, conflicting information, and constraints imposed by the political environment. In particular, we argue (and later test) that three contexts emerge as especially relevant to these exchanges: organizational networks, information flows, and politics.

Foundations that practice venture (or strategic) philanthropy in the realm of education policy operate in a networked environment (Reckhow, 2013; Scott, 2009). These "policy

networks" are informal sets of inter-connected organizations who exchange and leverage resources within and between state subsystems in an effort to achieve desired policy outcomes (Knoke, 2011; Rhodes, 2006). Scholars have argued that philanthropic foundations serve as key actors in policy networks by channeling resources to a wide variety of intermediary organizations such as think tanks, charter management organizations, and advocacy groups (Scott & Jabbar, 2014). For example, in the 2012 general election, a national network of corporate executives and their philanthropic foundations converged in the state of Washington to help pass a statewide charter school initiative that had failed in three consecutive elections (Au & Ferrare, 2014). These actors flocked together in an advocacy coalition (Henry, Lubell, & McCoy, 2011) that was facilitated through their previous ties with a residential policy entrepreneur, Bill Gates Jr., and his philanthropic foundation, the Bill and Melinda Gates Foundation. When the law was ruled unconstitutional by the Washington State Supreme Court, some actors from this network again mobilized resources to keep the state's charter schools open while lobbying the legislature for a version of the law that could endure a constitutional challenge (Cornwell, 2016).

Aside from providing financial capital, foundations play an important role in policy networks by acting as knowledge brokers (Scott & Jabbar, 2013). Indeed, a growing body of research has examined the impact of the information flows working through education policy networks (Lubienski, Scott, & Debray, 2014). For instance, scholars have found that disparate sources of research often flow redundantly through advocacy coalitions resulting in the appearance of a consensus (Lubienski, Weitzel, & Lubienski, 2009). Between-group tensions then arise in debates concerning charters schools, as competing coalitions draw from disparate evidence—and sometimes competing interpretations of the same evidence—to frame support or opposition to school choice policy. Many of these coalitions lack the capacity to critically engage

with technical research and rely on the reputations of research producers (e.g., CREDO) rather than the quality of the research itself (Debray, Scott, Lubienski, & Jabbar, 2014). Further, there is a tendency for a select number of non-peer-reviewed studies produced by intermediary organizations (think tanks, etc.) to be more influential than peer-reviewed studies, creating what has been termed an "echo chamber" effect (Goldie, Linick, Jabbar, & Lubienski, 2014).

Finally, foundations and the policy networks in which they are embedded operate within and between political fields that facilitate or complicate the capacity for charter school policies (Holyoke, Henig, Brown, & Lacireno-Paquet, 2009) and broader education reforms (Snyder & Reckhow, 2016). These fields are constituted by the political coalitions and governance structures working to maintain power in their respective jurisdictions (Reckhow, 2013), as well as the policies influencing charter schools within these contexts. As noted above, for example, the Obama Administration's Race To The Top (RTTT) program incentivized states to develop infrastructure to support jurisdictional challengers in the charter school sector (Mehta & Teles, 2012). States without charter school laws or those states that placed caps on the number of authorized charter schools were penalized during the grant application process. This approach was guided by the popular belief that the most effective charter school policies can be found in states without limits on charter school growth (Ziebarth & Palmer, 2014).

There are a number of hypotheses that can be derived from the theoretical perspective outlined above. First, we expect foundations to converge their funding flows toward geographic centralization. In particular, inter-state foundation convergence—operationalized as multiple foundations funding organizations in the same pairs of states—should be positively associated with pre-established inter-state convergence in states. That is, foundations are likely to flock to clusters of states where other foundations are already funding charter school organizations. In

addition, inter-state funding flows should also converge in states where there is evidence that charter schools outperform traditional public schools. As identified in the literature above, non-peer-reviewed evidence should be more influential than evidence coming from peer-reviewed studies. Finally, we hypothesize that more foundation grants will flow between states with political conditions favorable to school choice reform. This includes states with a Republican "trifecta" (control of house, senate, and gubernatorial seat), those without caps on charter school growth, and those who have been awarded RTTT grants.

Data and Methods

The sources of data for the analysis included foundation grants, state-level attributes, and articles and reports concerning state-level charter school outcomes. First, we collected and entered information related to grants awarded by 15 philanthropic foundations to charter school organizations in 2009, 2012, and 2014. We chose to use 2009 as our initial data point because we wanted to capture funding flows to charter school organizations immediately before and after the Obama Administration's Race To The Top initiative. The foundations in our sample were chosen based on their support of charter school reform as identified in the literature (e.g., Au & Ferrare, 2014; Reckhow & Snyder, 2014; Scott, 2009) and their own mission statements. Grant data was collected through a combination of foundations' 990 tax documents, databases on foundation websites, and annual reports.[2] For each grant awarded by our sample of foundations we entered the following information about the recipient and their award: organization name; geographic location (city/state); type of organization (CMO, school, advocacy, etc.); amount of the award; and year the grant was awarded. In total, the sample of foundations gave 667 grants—totaling

$375M—to 398 charter school organizations across the three years under analysis. See Appendix A for a list of the foundations in the sample.

Given our geographic interests we then collected attribute data for each state where charter schools were legal prior to 2009. These 40 states included those where local charter school organizations did not receive any grants from our sample of foundations during the time period under analysis. For each state we created dummy variables (1/0) for the following attributes: no caps on charter school growth (2012 & 2014); Republican trifecta (2012 & 2014); receipt of RTTT funds (2010 – 2011 & 2012 – 2013); and whether or not a state housed the organizational headquarters of one or more of the sampled foundations.

For the evidentiary data, we searched the literature for peer-reviewed and non-peer-reviewed studies published between 2009 and 2013 that attempted to measure the effectiveness of student achievement in charter schools. Our goal was to identify studies that dissagregated results by state (including major cities). Each study was then coded based on the evidence of charter school effectiveness in terms of student achievement: higher, lower, same, or mixed. We also coded whether or not the studies had been subjected to the peer review process. In the end, a total of 20 studies with state-level data were included in our evidence sample (see Appendix B for the list of studies). We then added four dummy attribute vectors to the state-level attribute data set (see above) indicating whether or not each state had peer-reviewed or non-peer-reviewed evidence that charter schools increased student achievement between 2009 - 2011 and 2012 - 2014. A '1' was assigned if there was any evidence that charter schools increased student achievement—even if the evidence was mixed (e.g., gains for low-income students and no effect for middle-class students). Our intent was to be judicious and assume that foundations could view any evidence of improvement as worthy of future investment.

Analytic Strategy

Our analytical approach begins with a descriptive look at how major foundations' giving patterns to charter school organizations changed between 2009 and 2014. In particular, we examine changes in the types of charter school organizations receiving funding and identify some of the more commonly funded organizations. Next, we begin to explore the geographic context of these longitudinal giving patterns by identifying the states where organizations received the most funding from the sample of foundations. To do this, we used a choropleth map of the United States to illustrate the geographic distribution of the funding flows across the three years under analysis. These descriptive findings help set the stage for testing our network model of inter-state funding flows using quadratic assignment procedure (QAP) regression.

To prepare the data for our network model, we first created foundation-by-state matrices for 2009, 2012, and 2014. Each matrix indicated whether or not foundation *i* had funded one or more charter school organizations in state *j*. The matrices were then post-multiplied into state-by-state matrices in which the off-diagonal cells indicate the number of foundations that funded charter school organizations in states *j* and *k* (i.e., the number of foundations states *i* and *j* share in common). These dyads represent our measure of inter-state convergence and the primary unit of analysis. For example, if California and New York shared six foundations in common in 2012, then we know that six foundations from our sample converged in those two states to help fund and/or promote charter school reform during that year. The state-by-state dyads in the 2012 and 2014 matrices comprised the dependent variables in our analysis, and the 2009 matrix was used as a set of independent variable dyads measuring previous network activity (analogous to prior test scores in a model of student achievement). Thus, as described below, we tested our model of inter-state convergence on the 2012 and 2014 matrices.

For the independent variables in the analysis we converted the state-by-attribute vectors into the same state-by-state matrices discussed above, with the values indicating whether or not states *j* and *k* shared a given attribute in common. This means there were as many matrices as attribute vectors in the original file. In the 2009 - 2011 peer-reviewed evidence matrix, for example, a value of '1' in the California/New York cell indicates that peer-reviewed evidence of student achievement gains were present for both states during those years. Just as the dependent variable is a matrix of inter-state convergence dyads, then, the independent variables are also made up of matrices of inter-state attribute dyads.

The primary analytical objective in the analysis was to model changes in inter-state convergence as a function of the independent dyadic variables. However, standard OLS regression was not appropriate since, by definition, we could not assume the inter-state dyads were independent observations, but instead inter-dependent conditional upon the row or column location. Krackhardt (1988) described this as a complex autocorrelation problem. While autocorrelation is typically a problem for time-series data, in the present analysis Krackhardt argued that we can expect the error terms to be autocorrelated within the rows and columns of the matrix. In fact, Monte Carlo simulations demonstrate that Type 1 error rates skyrocket at even moderate degrees of autocorrelation (see Figure 2 in Krackhardt, 1988, p. 369).

An effective strategy to inoculate the analysis from the autocorrelation problem is quadratic assignment procedure (QAP) regression. QAP regression allows one to model changes in dyadic dependent variables using dyadic independent variables all while keeping Type 1 error rates at an acceptable level—even in the expected case of autocorrelated errors. The procedure accomplishes this objective by using a permutation test that compares the observed correlation between matrices to that of thousands of permutations that are known to be independent due to

the random rearrangement of one of the matrices (Borgatti, Everett, & Johnson, 2013). The ingenuity of the procedure is that since the permutation is a rearrangement of the original matrix, it retains the same properties (e.g., means).

We used QAP regression to test our model of inter-state convergence on the 2012 and 2014 matrices.[3] The 2012 inter-state convergence model was specified as follows:

$$Y_{ij} = B_0 + B_1(2009/2011\ non\ peer\ review) + B_2(2009/2011\ peer\ review) + B_3(2012\ trifecta) + B_4(no\ caps) + B_5(2011\ RTTT) + B_6(in\ state\ found.) + B_7(2009\ converge) + e_{ij}$$

where inter-state convergence between states *i* and *j* in 2012 was regressed on: non-peer-reviewed and peer-reviewed data between the date of prior convergence (2009) and 2011; 2012 Republican trifecta status; the absence of caps on charter school growth; receipt of RTTT funds by 2011; the co-presence of an in-state foundation; and prior inter-state convergence in 2009. The model was tested in stepwise fashion beginning with the sources of evidence, then political context, and, finally, the pre-existing network environment. The 2014 model of inter-state convergence was then tested on the same variables but with changes to the years of measurement. For example, in this model we updated the trifecta variable to those states with a Republican trifecta in 2014 rather than 2012.

Results

We begin with a descriptive look at the patterns of funding flows from the sample of major foundations to charter school organizations. Figure 1 illustrates the changes in the distribution of total funds across the different types of charter school organizations. It is immediately apparent that the organizational priorities of these foundations shifted over time away from charter school funds and individual schools toward advocacy organizations and charter management organizations (CMOs). The latter organizations received 26.8% and 30.0%

of the total funds given by these foundations to charter school reform organizations in 2014—up from 12.2% and 19.9%, respectively, in 2009. The National Association of Charter School Authorizers ($5M), California Charter Schools Association ($4.7M), and Black Alliance for Educational Options ($3.5M) were the top funding advocacy organizations in 2014, while the top CMOs included Building Excellent Schools ($12.9M), Success Academy ($6.3M), and KIPP ($3.5M). However, some CMOs have foundations and other organizational forms. For example, in 2014 KIPP Foundation ($9.7M) and KIPP's child CMOs (e.g., KIPP NYC) also received grants that brought the total KIPP funding to $13.5M during that year alone.

While the total funding for advocacy organizations and CMOs grew to be greater than that of charter school funds and schools, individual organizations within the latter categories still received some of the largest amounts of funding overall and in 2014. For example, the Charter School Growth Fund received more grant funding than any other organization across all three years, with a three-year total of $45.6M and $9.5M in 2014 (third overall).[4] NewSchools Venture Fund was also among the most highly funded organizations overall with $16.1M in total funding and $3.6M in 2014. Despite the substantial gifts these organizations received in recent years, though, it remains clear that major foundations shifted their strategies toward building organizational capacity in the charter school advocacy sector and among CMOs.

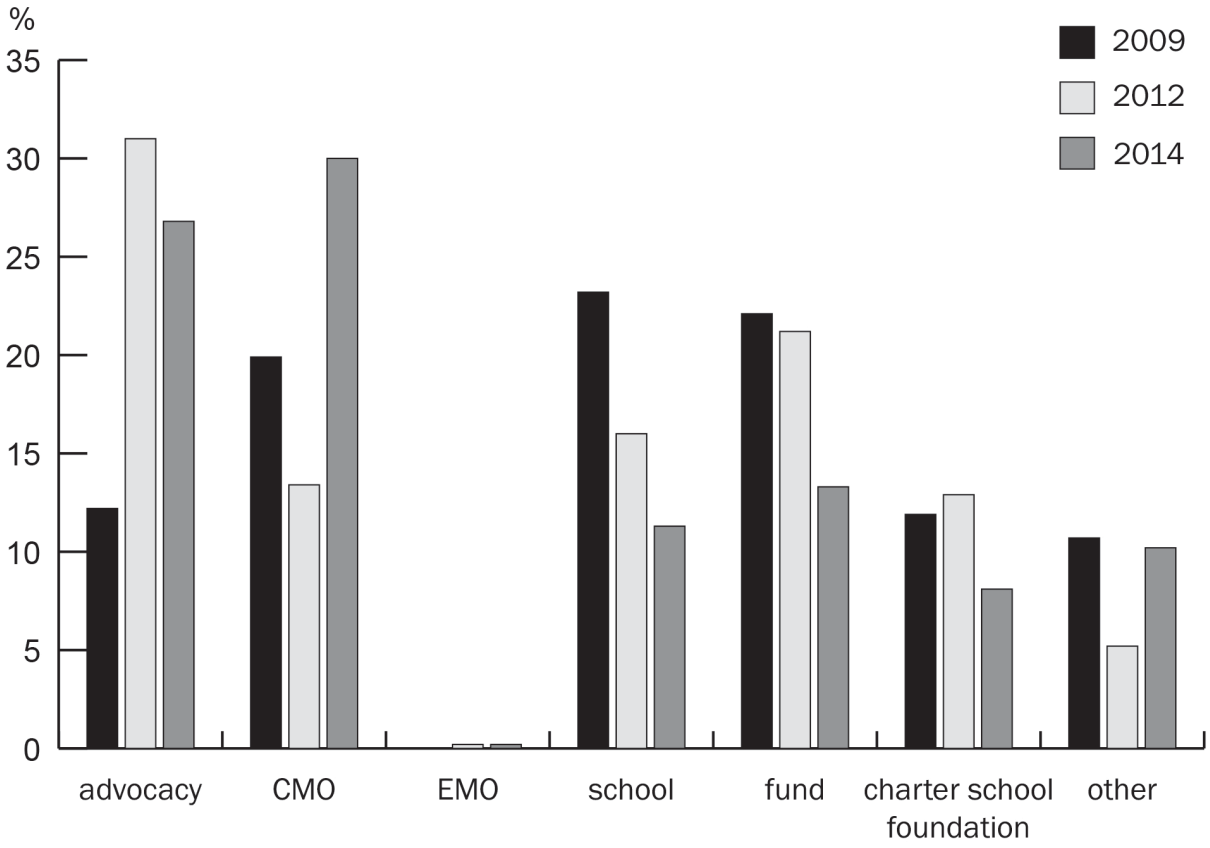

FIGURE 1. Distribution of funding across categories of charter school organizations for 2009, 2012, and 2014

Figure 2 provides an aggregate look at the geographic context in which these categorical changes took shape. Overall, the funds awarded were highly concentrated, with 80% of the total funding across all three years being awarded to organizations in ten states. Summing across all three years, California received 26.1% of the total funds—by far the most of any state with a charter school law prior to 2009. In fact, charter school organizations in California were awarded the most funds by the greatest number of foundations in each of the three years in the sample (10 foundations in 2009 and 9 in 2012 and 2014). Colorado (13.8%) and New York (12.2%) rounded out the top three, followed by District of Columbia (7.9%) and Illinois (6.1%) to complete the top five. On the other hand, charter school organizations in 13 states—one-third of states with a

charter school law prior to 2009—did not receive a single grant during any of the three years under analysis.

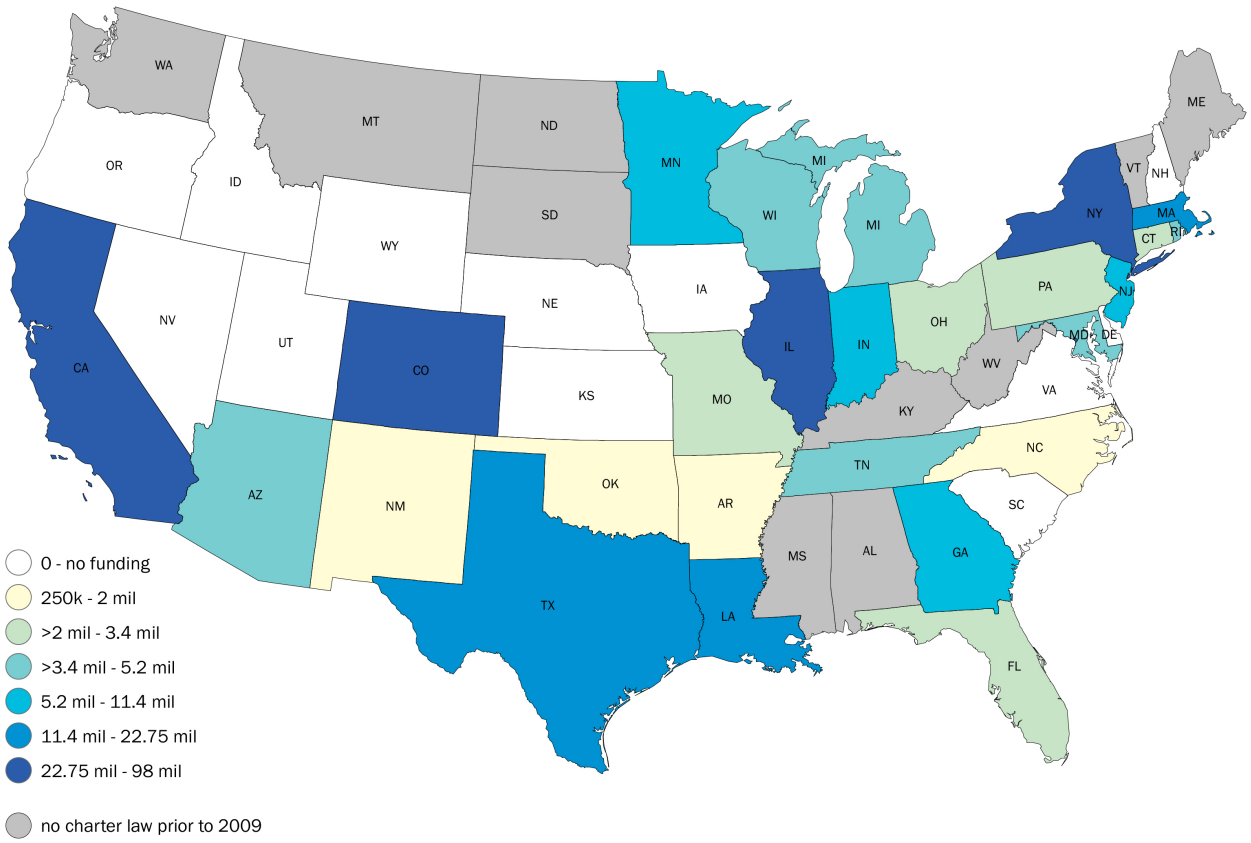

FIGURE 2. Choropleth map showing geographic distribution of aggregated funding across 2009, 2012, and 2014

Figure 3 adds greater context to the geographic findings by illustrating the number of years each foundation granted funds to at least one charter school organization in a given state. The rows and columns are sorted so as to show the foundations that tended to fund organizations in the same states, while also illustrating the states where organizations received funding from the same foundations. Next to Walton's funding in 27 states, what comes to the fore is the cluster of states—California, Louisiana, New York, and District of Columbia—that shared a substantial portion of funders in common. Walton, Calder, and Gates were especially consistent in the

geographic distribution of their support for charter school organizations, with shared funding activity in eight states in at least one of the three years.

	CA	NY	LA	DC	CO	MN	IL	IN	MA	TX	RI	CT	GA	MO	AR	NC	NJ	TN	WI	AZ	MI	OH	PA	FL	MD	NM	OK	*
Walton Family	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	2	1	1	27
Louis Calder	1	3	3	0	2	1	1	0	2	0	2	3	0	0	2	1	2	0	2	1	0	0	0	0	0	0	0	14
Bill & Melinda Gates	3	2	2	2	1	3	2	0	0	2	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	13
Broad	3	3	3	3	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6
Dell	3	1	1	1	0	0	0	1	1	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8
Joyce	1	1	0	1	0	1	2	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7
Kauffman	2	2	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Carnegie Corp	3	3	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
WK Kellogg	0	1	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	6
Ford	1	1	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Hewlett	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
James Irvine	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Silicon Valley	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Wallace	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Woodruff	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total foundations	13	12	6	7	5	5	4	4	5	3	4	3	3	2	2	3	2	3	2	2	2	2	2	1	1	2	1	

*Total states funded

FIGURE 3. Foundation-by-state matrix showing geographic funding activity among the sample of foundations across 2009, 2012, and 2014

It is clear from Figures 2 and 3 that foundations have geographic preferences in their support of charter school reform. But what draws foundations to fund organizations in the same set of states while excluding others? To gain insight into this question we now turn to the QAP regression of inter-state funding flows. Table 1 provides the coefficients and standard errors in three blocks for the 2012 model, beginning with the evidentiary variables, followed by the political attributes and, finally, the network context variables (2009 convergence and in-state foundation). In Model 1, both of the evidentiary variables are significant, indicating that 2012 inter-state convergence was positively associated with peer-reviewed and non-peer-reviewed evidence of charter school effectiveness. However, by Model 3 only the non-peer-reviewed

variable was significant, which suggests the effect of peer-reviewed evidence observed in Models 1 and 2 was moderated by pre-existing network ties.

TABLE 1. QAP regression of 2012 inter-state convergence on forms of evidence, policy contexts, and network variables

	Model 1		Model 2		Model 3	
	B	S.E.	B	S.E.	B	S.E.
Intercept	0.399***	0.000	0.338***	0.000	0.067***	0.000
2009-2011 Non-peer-reviewed evidence	1.097***	0.243	1.094***	0.228	0.510**	0.141
2009-2011 Peer-reviewed evidence	1.049**	0.279	0.837**	0.237	−0.054	0.168
2010-2011 RTTT funding			0.526**	0.171	0.225*	0.109
2012 Republican trifecta			0.004	0.149	0.031	0.098
2012 No charter caps			−0.202~	0.163	−0.093	0.106
2009 Inter-state convergence					0.768***	0.095
In-state foundation					0.958***	0.172
r^2	0.23		0.30		0.64	

Note: ***p<0.001, **p<0.01, *p<0.05, ~p<0.10

TABLE 2. QAP regression of 2014 inter-state convergence on forms of evidence, policy contexts, and network variables

	Model 1		Model 2		Model 3	
	B	S.E.	B	S.E.	B	S.E.
Intercept	0.374***	0.000	0.435***	0.000	0.190***	0.000
2012-2013 Non-peer-reviewed evidence	1.040***	0.203	0.963***	0.186	0.341**	0.101
2012-2013 Peer-reviewed evidence	1.322**	0.329	1.198**	0.309	0.461*	0.187
2012-2013 RTTT funding			0.322*	0.163	0.007	0.104
2014 Republican trifecta			−0.038	0.140	−0.019	0.090
2014 No charter caps			−0.260*	0.140	−0.076	0.083
2012 Inter-state convergence					0.659***	0.073
In-state foundation					−0.296**	0.139
r^2	0.29		0.33		0.66	

Note: ***p<0.001, **p<0.01, *p<0.05, ~p<0.10

Among the political variables, only the receipt of RTTT funding appeared to account for any variation in 2012 inter-state convergence when controlling for all other variables in the model. The RTTT coefficient was positive suggesting states that received these funds also

attracted higher levels of inter-state convergent grant funding from the sample of foundations than those states that did not receive RTTT awards. While the absence of caps on charter growth was marginally significant and negative in Model 2, the coefficient was not significantly different from zero once the network context variables were included in Model 3. The co-presence of a Republican trifecta, meanwhile, did not appear to have any influence on the propensity of foundations to converge in the same pairs of states. Once the 2009 inter-state convergence and in-state foundation variables were included, the full model accounted for 64% of the variation in 2012 inter-state convergence. Previous inter-state convergence and the presence of an in-state foundation were both significant, as expected.

The results for the 2014 model of inter-state convergence were similar to those in 2012 (see Table 2), but three notable differences were observed. First, both forms of evidence were again significant and positively associated with the dependent variable. However, unlike the 2012 model, both variables remained positive and significant through Model 3. Next, state dyads receiving RTTT funds from the later round of awards (2012 – 2013) were also positively associated with inter-state convergence in 2014. Yet, unlike the 2012 model, the coefficient was not significantly different from zero once adding the network context variables in Model 3. Finally, while still significant, the in-state foundation variable was negative in the 2014 model despite a positive bivariate correlation with the dependent variable (.190, $p<.05$). When controlling for prior convergence in 2012, the co-presence of an in-state foundation was then associated with a decrease in inter-state convergence in 2014.

Conclusions

Our primary objectives in this paper were to describe and explain the inter-state flow of foundation dollars to charter school organizations in the United States between 2009 and 2014. At the outset we argued that a focus on inter-state convergent grant funding is needed to better gauge the impact foundations are having on charter school reform. This argument rests on the notion that the power of foundations is greatest when leveraged through networks rather than as individual organizations. Thus, our focus on modeling variation in the number of foundations that states shared in common allowed us to gain insights into why foundations are concentrating on building organizational capacity in certain clusters of states and not others.

Our theoretical perspective assumed that foundations' decisions in this policy sector are influenced by multiple contexts: information flows, the political climate, and organizational networks. Overall, we found evidence supporting each dimension of our theoretical model. First, we found support for our hypothesis that foundations converged in states where evidence suggests charter schools are associated with positive student achievement outcomes. Although peer-reviewed evidence had a less stable association in the 2012 model, both forms of evidence were consistently significant when controlling for all variables in the 2014 regression. This finding is generally consistent with previous research that has explored the use of research in policy networks (Goldie et al., 2014). One possible reason why peer-reviewed evidence emerged as a more consistent finding in the 2014 model is the proliferation of such studies in recent years. Whereas non-peer-reviewed reports such as those coming from the Center for Research on Education Outcomes (CREDO) garnered substantial attention in 2009 and 2010, more recent peer-reviewed studies using lottery designs and other robust methods may be penetrating these

"echo chambers" and having a more direct influence on foundations' policy decisions. Future research should further examine the evolving use of evidence in policy network contexts.

We also saw that the policy climate of states facilitated inter-state convergent funding patterns. Most notably, states that received RTTT grants between 2010 and 2011 shared more foundations in common when controlling for all other covariates in the model. RTTT grants received in later phases of the program were also associated with inter-state convergence, but the positive association appears to have been mediated through prior network affiliations. Thus, foundations tended to converge in states that had been awarded federal funds to, among other things, expand school choice options. These federal investments in states working to bolster jurisdictional challengers further leveraged the power of foundations interested in promoting charter school reform (Mehta & Teles, 2012). In fact, these investments emerged as the most important facet of the political contexts measured in our analysis. In this sense, we can see how, intentional or not, the federal government and foundations work in concert to advance charter school reform. It also illustrates how policy can impact where foundations distribute their endowments. Future research should examine the long-term consequences of these dynamics, and consider ways policy instruments can be used as a mechanism of accountability for the ways private wealth shapes public education.

Finally, prior network affiliations were evidently a driving force in inter-state convergent funding of charter school organizations. In both models these affiliations explained a substantial portion of the variation in the patterns of inter-state convergence. This suggests that foundations working to build the organizational capacity of charter schools look to existing investments and infrastructure established by other foundations. This practice likely reduces the uncertainty of investing in a contentious policy domain (Reckhow, 2010), an insight anticipated by new

institutional theorists (DiMaggio & Powell, 1983). At the same time, we saw that this practice came at the expense of other states where charter school organizations received little to no financial support from our sample of major charter school donors. Future research should examine how this geographic inequality is impacting the proliferation of charter schools and associated organizations—especially in states where local organizations do not receive any support from major foundations. This is especially important given that many of the states that received little to no funding were also among the lowest ranked states according to "The Nation's Report Card" (Institute for Education Sciences, 2013).

The findings that emerged from our analysis provide important insights for policymakers and researchers paying attention to the ways that private wealth is shaping public education in the United States. Foundations have historically played an influential role in constructing and transforming the education system, but a new wave of venture philanthropists are implementing strategies previously unseen in the education sector (Colvin, 2005; Saltman, 2010; Scott, 2009). Thus, we argue in closing that more work is needed to uncover the social, political, and evidentiary processes driving these decisions, especially as they relate to partnerships between private foundations and publicly elected governing bodies. These relationships blur the boundaries of public and private and suggest the need for new ways of fostering a robust public education system in an era of intensifying private investment.

Notes

[1] Washington State's charter school law was ruled unconstitutional in 2015, but the state legislature recently passed a law reinstating charter school funding through the state's lottery. Future legal challenges are expected.

[2] The analysis was first run using UCINET software (Borgatti, Everett, & Freeman, 2002), and was re-tested in *R* (R Development Core Team, 2008) using the SNA package (Butts, 2008). Both programs produced identical results.

[3] Form 990s were gathered from the Foundation Center (http://foundationcenter.org/findfunders/990finder/) and Economic Research Institute (http://www.eri-nonprofit-salaries.com/?FuseAction=NPO.Search).

[4] All amounts are expressed in 2014 inflation-adjusted dollars.

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APPENDIX A

Sample of foundations included in the analysis (state location of headquarters)

1. Bill and Melinda Gates Foundation (WA)
2. Eli and Edythe Broad Foundation (CA)
3. Carnegie Corporation of New York (NY)
4. Michael and Susan Dell Foundation (TX)
5. William and Flora Hewlett Foundation (CA)
6. Ford Foundation (NY)
7. James Irvine Foundation (CA)
8. Ewing Marion Kauffman Foundation (MO)
9. Louis Calder Foundation
10. Joyce Foundation (IL)
11. Silicon Valley Community Foundation (CA)
12. Wallace Foundation (NY)
13. Walton Family Foundation (AR)
14. W. K. Kellogg Foundation (MI)
15. Robert W. Woodruff Foundation (GA)

APPENDIX B

Sources of peer-reviewed and non-peer-reviewed evidence of state-level charter school effectiveness, 2009 – 2013

2009

1. Abdulkadiroglu et al., *Informing the Debate: Comparing Boston's Charter, Pilot and Traditional Schools*
2. Hoxby & Murarka, *Charter Schools in New York City: Who Enrolls and How they Affect Their Students' Achievement*
3. CREDO, *Multiple Choice: Charter School Performance in 16 States*
4. Booker et al, *Achievement and Attainment in Chicago*
5. Hoxby et al., *The New York City Charter Schools Evaluation Project*

2010

6. Carlson, Lavery, & Witte, *Charter School Authorizers and Student Achievement*
7. Nicotera, Mendiburo, & Berends, *Charter School Effect in a Urban School District: An Analysis of Student Achievement Gains in Indianapolis*
8. Berends et al., *Instructional Conditions in Charter Schools and Students' Mathemetics Achievement Gains*
9. Drame, *Measuring Academic Growth in Students with Disabilities in Charter Schools*
10. Angrist et al., *Inputs and Impacts in Charter Schools: KIPP Lynn*

2011

11. Carruthers, *New Schools, New Students, New Teachers: Evaluating the Effectiveness of Charter Schools*
12. Davis & Raymond, *Choices for Studying Choice: Assessing Charter School Effectiveness Using Two Quasi-Experimental Methods*
13. Witte et al., *Milwaukee Independent Charter Schools Study: Report on Two- and Three-Year Achievement Gains*
14. Booker et al., *The Effects of Charter High Schools on Educational Attainment*
15. Dobbie & Fryer, *Are High Quality Schools Enough to Increase Achievement Among the Poor? Evidence from the Harlem Children's Zone*

2012

16. Zimmer et al., *Examining Charter Student Achievement Effects Across Seven States*
17. Ni & Rorrer, *Twice Considered: Charter Schools and Student Achievement in Utah*
18. Angrist et al., *Student Achievement in Massachusetts Charter Schools*
19. Angrist et al., Who Benefits from KIPP?

2013

20. CREDO, *National Charter School Study*