The Administrative Transformation of American Education: School District Consolidation, 1938–1980

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Over the period 1938–1980, the local administrative units of American education were transformed from small and informal community arrangements into large, professionally run bureaucratic organizations. This paper explores the causes of this structural change in American education by analyzing variation among states in the speed and extent of school district consolidation. It argues that the growth and formalization of district organizations through consolidation stemmed in large part from the expanding role of state bureaucracies. Cross-sectional and longitudinal analyses of the numbers of school districts per state support this argument.•

In recent decades, school district consolidation—the merging of two or more district jurisdictions into one—has largely remade the local administration of American public education. Over 100,000 school districts were eliminated between 1940 and 1980. The average number of districts per state declined eightfold from 2,437 to 318, while the number of pupils per district increased from 216 to 2,646 (Meyer et al., 1987). These figures suggest the qualitative change in the typical school district. In the 1940s most districts consisted of informal community arrangements with little organizational structure. By 1980 most districts were bureaucratically organized, relatively insulated from the communities they served, and oriented toward the larger professional definition of educational administration.

The consolidation of school districts is thus a contemporary instance of the structuring of collective activity in formal organization. Accounts of the first bureaucracies tend to refer to their technical advantages in managing large and complex tasks (Chandler, 1962; Weber, 1968). But with the success of formal organizations, task environments are increasingly made up of other organizations and the cultural rules that surround organizing (Meyer and Rowan, 1977). Through a variety of isomorphic pressures, such environments support the further formalization of collective action (DiMaggio and Powell, 1983). This paper argues that, through just such a process, the growth and formalization of school district administration stems from the state's increasing penetration and organization of the local arena.

THEORY

Consolidation embodies a new model of how to administer public education, one in which the rationalities of formal organization replace those of local politics. I argue that state educational agencies are the critical generators and carriers of this model. As state-level funds and regulations penetrate local educational systems, the ability of state agencies to impose consolidation increases, and the grounds for local resistance decrease.

Consolidation as bureaucratization and centralization. By expanding the scale of districts, consolidation implies two kinds of organizational change. At the level of the district organization, increased scale makes for more formal structure (Pugh et al., 1968; Blau and Schoenherr, 1971). A Weberian notion of bureaucracy captures the character of the new districts: hierarchies of formal positions, professional credentials,

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specialized functions, and insulation from external political influence (Weber, 1968). Few of these elements could be found in most districts prior to the consolidation movement. In 1940 only one out of ten districts had even a superintendency, the fundamental administrative role in local education. Figure 1, below, shows how the average number of districts per state declines to meet the average number of superintendents per state.

Taking the education system as a whole, district consolidation means the centralization of authority. This occurs not by the movement of authority to higher levels, but by the concentration of authority within the local level. Consolidation locates in one organization the functions and jurisdiction previously dispersed among two or more organizations. Such centralization is limited—it does not affect the distribution of authority between the federal, state, and local levels. But from the perspective of a student, parent, school, or neighborhood, organizational authority is clearly more distant and more centralized.

Consolidation in central and local perspective. The locations and roles of federal, state, and local organizations lead them to hold fundamentally different models of appropriate district structure. Central and local perspectives are contrasted here. From a central perspective, large, bureaucratic organizations make sense. They are big enough and standardized enough for information and influence to flow smoothly to and from the center. This occurs through direct organizational contacts and the common professional training of administrators (March and March, 1977). From the local point of view, the reverse is true. Smaller and less formally organized districts facilitate linkages to the community and match the heterogeneity of local conditions, while large, bureaucratic organizations are difficult to penetrate.

The specific actors making up this central-local opposition are identified here in a very broad sense. Many different kinds of public and private organizations, and less formally organized interests, are linked by their essentially local perspective. For the purposes of this paper, actors can be described as locally oriented when they lie within the jurisdiction of existing districts. They include community-based associations like religious and ethnic groups, individuals as residents, businesses, and local governments. They also include the existing district organization and school board.

The organizational centers of American education are found at the state level. More than their location "above" districts is involved. State centrality also derives from the state's broadly defined sovereignty in the educational arena, organizational and policy integration, and focus on core concerns like curriculum and personnel certification. The "fragmented centralization" of the federal government provides a useful contrast (Scott and Meyer, 1983); although federal agencies are centrally located, federal policy is disconnected and marginal, typically managing a variety of special programs for special students (the Elementary and Secondary Education Act programs, for instance). While a fragmented center promotes intraorganizational complexity (Meyer, Scott, and Strang, 1987), it is the integrated center, here found at the state level, that is linked to the centralized and bureaucratic district model.

Consolidation through state expansion. In part, the state's expansion simply makes it easier for the state to dictate organizational arrangements. An expanded regulatory presence legitimates the state's authoritative reorganization of districts in the face of local resistance. An expanded funding presence makes state incentives for locally initiated reorganization more effective (Hooker and Mueller, 1970). Where state funds make up a large part of district revenues, their threatened reduction or promised expansion has a greater impact.

But the expanding role of the state does more than increase the ability of state agencies to impose their preferences. It also changes the calculus of local resistance. From a resource dependence perspective (Pfeffer and Salancik, 1978), the state's expansion fosters the adoption of bureaucratic structures. Local district personnel and school boards learn to organize in ways that attract the state's resources. From a population ecology perspective (Hannan and Freeman, 1977), state expansion simplifies the local environment, replacing the diverse pressures exerted by multiple local groups and interests with a single, more unified and rationalized set of constraints (Meyer, Scott, and Strang, 1987). These constraints take the form of block grants (funds not tied to specific uses) and statewide regulation of curriculum, school accreditation, and teacher certification (Wirt, 1977). Legal mandates for transdistrict equalization (often on a statewide basis) of kinds of pupils and fiscal support also reduce the need to match district boundaries to social boundaries. As the heterogeneous local constraints that make consolidation problematic from a local perspective become less significant, organization on a larger scale becomes more appropriate (Hannan, 1979).

Several lines of theory thus produce the following proposition:

Proposition: The expansion of the state's role into the local educational arena leads to larger and more bureaucratic district structures.

A comparative analysis of the effects of fiscal, regulatory, and legal pressures on centrally and locally initiated consolidation would be of great interest. An initial step is made here by tracing the effects of the state's funding expansion on district organizational structures.

HISTORICAL OVERVIEW

Movements to centralize and bureaucratize local administration have been consistent features of American education. While most European states first instituted national education rules and ministries and then expanded enrollments (Soysal and Strang, 1986), in the United States this pattern was reversed. In New England and the Midwest, formally unconnected systems of local schools preceded central institutions. Though American states successfully claimed authority over education in the nineteenth century, the median size of state departments of education was only two in 1900 (National Education Association, 1931).

The first calls for district reorganization were sounded in New England in the mid-1800s. Horace Mann, secretary of the Massachusetts Board of Education, and Horace Eaton, state superintendent in Vermont, sought to make the township the fundamental unit of educational administration by consoli-

dating neighborhood districts. Their arguments anticipated those made a century later, referring to the fiscal inefficiencies, unprofessional leadership, unequally distributed resources, and backward educational practice of small districts.

Ellwood Cubberley and other architects of educational professionalism constructed a social scientific theory of educational administration consistent with this perspective (Cubberley, 1912). By the early twentieth century the case for large and bureaucratic district organizations was widely accepted within the circles of professional administrators. But in rural areas, where the masses of tiny districts were located, local resistance blocked consolidation (DeAntoni, 1971; Rosenfeld and Sher, 1977). It was in major urban areas where central influence was first successful. Elite reformers and state-level officials took administration out of the hands of decentralized, patronage-based political machines and vested it in strong superintendents and formal organizations (Tyack, 1974).

In the 1930s and 1940s, the organizational structures developed for cities began to be applied outside urban areas. Numerous studies had concluded that consolidation was necessary for modern instruction and efficient administration (summarized and challenged by Sher and Tompkins, 1977). A report commissioned by the American Association of School Administrators (1958:53) described tiny rural districts in these harsh terms: "They are outdated and outmoded. They have outlived their usefulness. They can no longer do the job that needs to be done."

The conviction of these analyses was seldom successfully communicated to local groups, and the professional literature is full of complaints about local particularism, selfishness, and short-sightedness. The "Conant Report" (Conant, 1959) helped to modify attitudes when it argued that district consolidation would solve the educational ills revealed by Sputnik. But this came too late to do more than accelerate already massive consolidation.

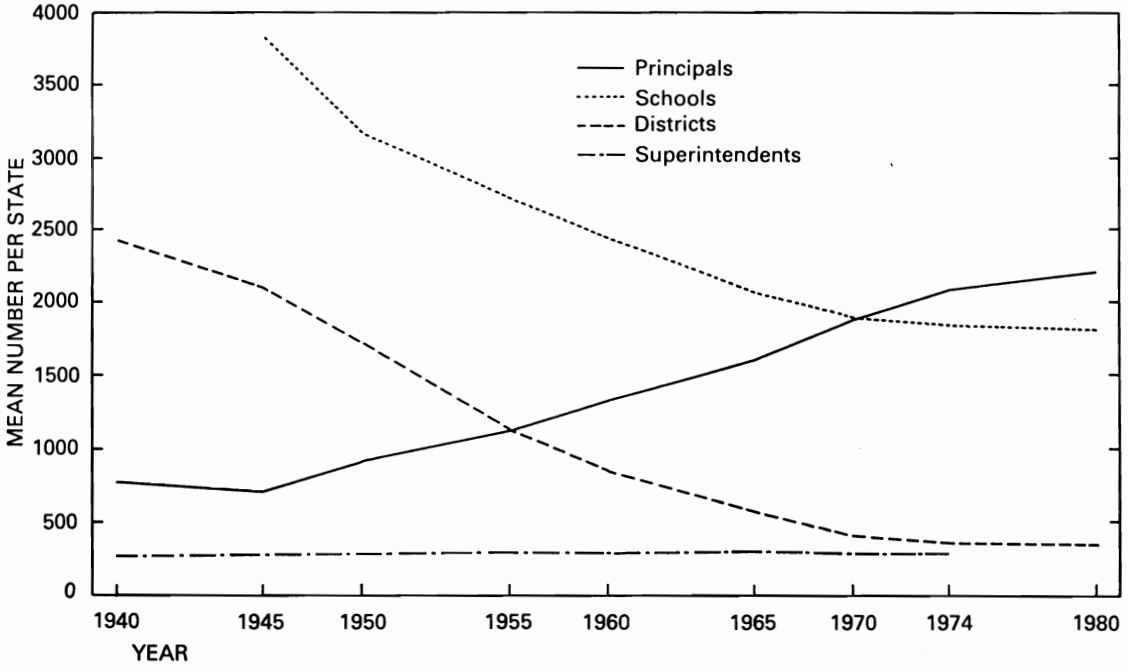
Most states underwent one or more episodes of district consolidation between 1940 and 1980. Two examples give an indication of the variety of state experiences. In 1952, Nevada had 177 districts, a large number for a sparsely populated state. A crisis in school revenues forced the state government to get more deeply involved in educational funding, and a statewide commission recommended a drastic reduction in the number of districts. Over a two-year period, the old districts were eliminated and 17 new districts, one for each county, were created.

By contrast, the California Department of Education struggled for decades to reorganize its districts effectively. As early as the 1920s, professional educators had argued that the state's over 3000 districts should be reduced to between 100 and 300 (Bohne, 1950). In 1946, after a number of reorganization bills had been rejected by the state legislature, special committees were set up across the state to formulate consolidation plans and present them to the voters. Most plans were rejected, and the annual decrease in districts for the two years of this state initiative equalled the annual rate for the previous 20 years. In the 1950s and 1960s more statewide

consolidation programs were instituted, but the number of districts fell slowly.

As shown in Figure 1, the number of districts across the nation decreased in a reasonably uniform manner from 1938 to 1970, most rapidly in the fifties and early sixties. Since 1970 there has been little consolidation. But Nevada and California exhibit the heterogeneity of state experiences within the aggregate trend toward consolidated districts. Three patterns of change characterize most states. About 15 states had relatively few districts in 1938 and have experienced little change. At the extreme, Florida had 67 districts (matching its 67 counties) during the entire period. A second set of 12 states, like Nevada, experienced more than half of their total decrease in school districts within a single five-year period. Finally, a little less than 20 states show steady declines over a couple of decades, either in the 1940s–1950s, or the 1950s–1960s. California falls into this group. These characteristic paths inform the model developed below, which must account both for variation in rates of consolidation and the limits that consolidation appears to reach.

Figure 1. Changes in the organization of public education.



A common thread runs through the movements for local organizational change from Horace Mann to the present. In each case the reformer's vision is of the rational, formal organization typified by European public bureaucracy and the American corporation. Historians of education varyingly speak of modernization, the urban model, and the corporate model. In each case, professional educators linked to state departments of education initiated the calls for change. They contended that the small scale, informal organization, and lack of professionalism of small districts made for fiscal inefficiency and educational ineffectiveness. And in each case, these cen-

trally placed educators were opposed by local groups citing the rationality of local control and attention to local conditions.

METHOD

Data and Variables

Data for this study were assembled from the publications of the National Center for Education Statistics (NCES), which requests summary data from the individual state departments of education. Only such data, aggregated to the state level, are readily available for national comparisons. Data was compiled from the NCES's *Statistics of State School Systems* for 1938, 1946, 1950, 1956, 1960, 1966, 1970, 1974, and 1980. Nineteen thirty-eight was chosen as the first time point because of the unavailability of earlier data on revenue. The inability to observe the consolidation that occurred before this date limits the present analysis, though national records show no important trend in the numbers of school districts between the two world wars.

The proposition above stated that the state's expansion and penetration of the previously local system should lead to consolidation. Although this expansion occurred in a variety of ways (as discussed above), in this study the level of state funding of education was taken as the single indicator of the level of penetration. While this variable captures only one dimension of what is clearly a multifaceted process, it appears to be a central one. State control was explicitly brought to bear through fiscal incentives for consolidated districts (Rosenfeld and Sher, 1977). And because state funds are seldom earmarked for particular expenditures, they simplify the set of environmental constraints facing districts, spurring locally initiated consolidation.

Since it was the scale of state involvement vis-à-vis the local system that was of interest, state revenue was defined as the ratio of state educational revenue to total educational revenue. This measure has face validity as an index of the expanding state presence. Its mean value doubled between 1938 and 1950 (from 20 to 40 percent), remained at this peak until 1970, and then increased by another 8 percent before 1980. Dividing state revenue by total educational revenue constructs a conservative index of the state's fiscal impact, since federal monies are often administered by the state or even go directly to fund the state department of education. Analyses that omitted federal revenue altogether, on the grounds that these funds sometimes increase and sometimes decrease the state's fiscal leverage, gave similar results to those reported below.

Urbanization was controlled for in the study because cities were typically readier to accept the bureaucratic model than rural areas and because high population density clearly permits larger and fewer districts. Increasing urbanization provides an explanation of district consolidation based on environmental change internal to rather than external to the district.

Regional location also captures important interstate differences, as shown in Table 1. The classification of Northeast, North-central, South, and West reflects different historical

Table 1

School Districts per State in 1938 and 1980

	1938			1980		
	Mean	S.D.	C.V.*	Mean	S.D.	C.V.
All states	2481	3073	1.23	330	291	.88
Northeast	1363	2447	1.79	350	224	1.56
North-central	5943	3317	.55	525	274	.52
South	1401	2199	1.56	216	273	1.26
West	1188	1011	.85	230	290	1.26

* Coefficient of variation.

sequences of system building. Due to the Puritan emphasis on reading the Bible and the early organization of North-central territories, school systems predated the states themselves in the Northeast and North-central regions. In the South and West, public education became universal after the state governments were established, leading to more centralized structures. These "birth effects" explain regional differences by the same logic that links later state expansion to the consolidation process. Whether such effects persist in the face of massive reorganization is of great interest.

All variables were measured at the state level. Only fully incorporated states were included in the analyses, making a baseline of 48 cases in periods prior to 1960 and 50 afterwards. The number of districts in a state was the dependent variable, and the state enrollment and area were introduced to control for the size of the state system. The variables were measured as follows:

Districts: The number of school districts in the state. NCES figures were compared to state documents. Delaware had to be dropped from the dynamic analysis because of inconsistent definitions of district units.

State revenue: The fraction of educational revenue generated by the state government. Total revenue includes federal sources except in 1938, when federal data was unavailable (the average federal contribution was less than 1 percent for that year). Hawaii had to be dropped from all analyses because it has only 1 district, making it impossible to separate state and local revenues.

Urbanization: The fraction of the state population living in urban areas, taken from decennial census statistics. Values for non-census years were calculated by assuming linear change between the two closest decennial observations.

Region: Northeast, North-central, South, or West.

Enrollment: Total primary and secondary enrollment measured in 1000s.

Area: Area of the state measured in 1000s of square miles.

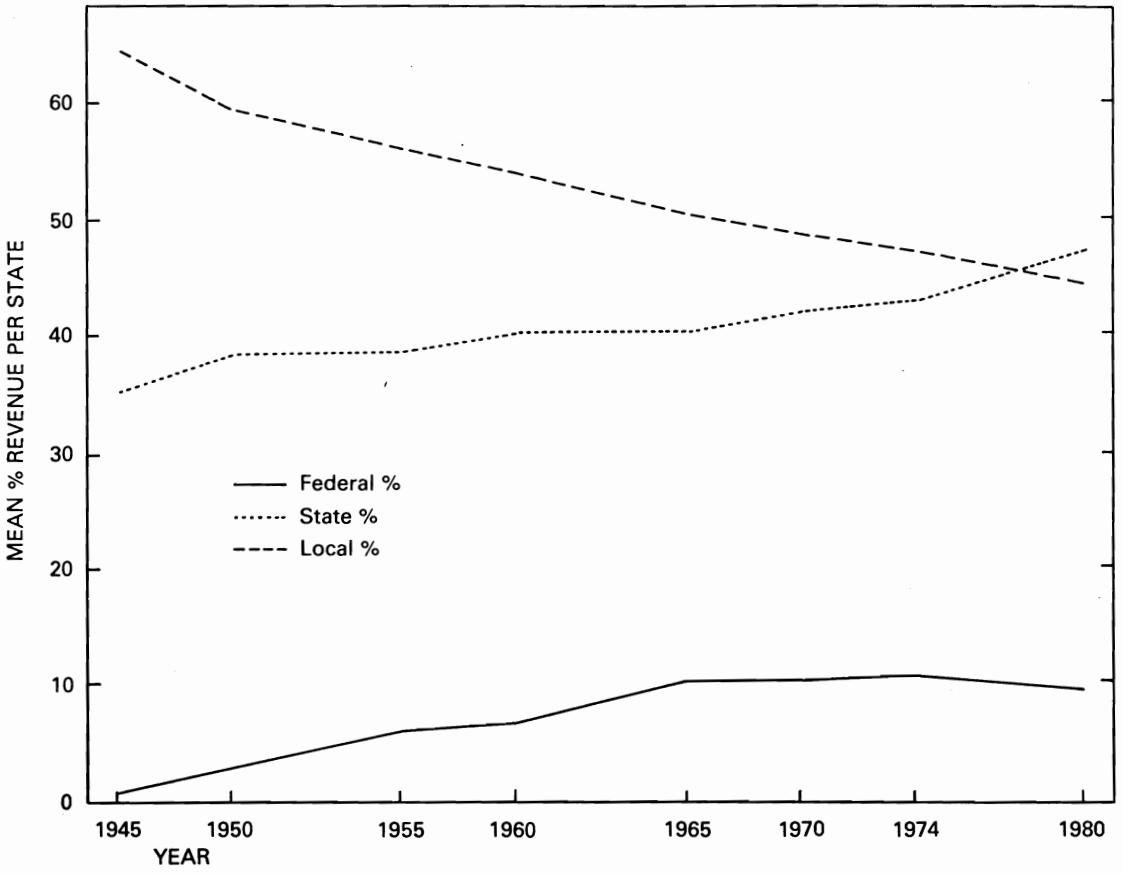
Table 2 gives the mean and standard deviation for each variable for 1938 and 1980. The natural logarithm of school districts was included because it was the dependent variable in some of the following analyses. Figure 2 plots the percentages of federal, state, and local sources of revenue over the observation period.

Table 2

Means and Standard Deviations

Variable	1938 Mean	1938 S.D.	1980 Mean	1980 S.D.
ln (districts)	6.63	1.83	5.34	1.08
State revenue	.30	.22	.51	.16
Urbanization	.47	.18	.66	.14
Enrollment	539	482	859	836
Area	61.83	46.90	70.81	85.36

Figure 2. Mean revenue for education by source.



Models

Static analyses of consolidation. Levels of consolidation in 1938 and 1980 were analyzed cross-sectionally. OLS regressions took the form:

$$\ln(\text{Districts}) = B0 + B1 * \text{State Revenue} + B2 * \text{Urbanization} + B3 * \text{Northeast} + B4 * \text{South} + B5 * \text{West} + B6 * \text{Enrollment} + B7 * \text{Area} + e. \quad (1)$$

Since the mean number of districts declined so sharply, the dependent variable was logged to facilitate comparison of effects across the two time periods. Analyses of the raw number of districts produced results substantially similar to those presented here.

These analyses serve to frame dynamic models of consolidation, presented below. The two cross sections identify the correlates of district levels at the observed start and end of the consolidation process. While these time points do not bound the actual process, the fact that consolidation is most important after World War II and slows to a halt after 1970 makes them reasonable approximations. Results for 1938 and 1980 can be compared to see the differing roles of variables at qualitatively different points in the history of consolidation.

Dynamic analysis of consolidation. Consolidation represents change in the organizational form of local educational administration. While a comparison of cross-sectional analyses at different points in time provides some insight into this process, models of change represent it explicitly. Here the concern is to account for the conditions that differentiate states on two distinct dimensions: the rapidity of consolidation and the extent of consolidation. A partial-adjustment process models both dimensions. This approach has been used in analyses of the relation between organizational size and formalization (Hummon, Doreian, and Teuter, 1975), the expansion of national educational systems (Nielsen and Hannan, 1977), the dynamics of political mobilization (Nielsen, 1980), and organizational growth and decline processes (Freeman and Hannan, 1980). A systematic discussion of the model and its estimation is provided by Tuma and Hannan (1984).

Partial adjustment is specified by two parameters: a "rate of adjustment" and a "target." In the present context it is useful to consider the target as the number of districts toward which causal forces are pushing a state and the rate of adjustment as the speed at which the state is moving to that level (Tuma and Hannan, 1984). The partial-adjustment model may be written in continuous time as

$$dY/dt = r * [Y^* - Y(t)], \quad (2)$$

where Y represents the number of school districts, dY/dt the instantaneous rate of change in school districts, r the rate of adjustment, and Y^* the target number of districts. The quantity $Y^* - Y(t)$ is the gap between the present number of districts and the target level. The characteristic feature of the partial-adjustment model is that the larger this gap is, the faster movement is to the target. In fact, partial adjustment implies that each case moves a fraction r of the gap closer to the target in each unit of time (hence, the name).

The model is written deterministically because the proper specification and implications of the error term for this kind of model are not well developed. See Tuma and Hannan (1984) for an explication of the stochastic treatment of this class of models.

Both the rate of adjustment and the target are modelled as functions of exogenous variables. Here the rate of adjustment takes the form

$$r = \text{BO} + \text{B1} * \text{State Revenue} + \text{B3} * \text{Urbanization}. \quad (3)$$

A positive coefficient indicates that the state approaches the target more quickly for higher values of the variable.

The expression for the target is more complicated, because it includes both variables of causal interest and controls for un-

observed variables that are fixed for individual states and periods. The target takes the form

$$Y^* = \exp(C1 * \text{State Revenue} + C2 * \text{Urbanization} + C3 * \text{Enrollment} + D * \text{Period Effects} + E * \text{Case Effects}). \quad (4)$$

An exponential form is used because the number of districts per state cannot be negative. State revenue and urbanization are included as above, and enrollment is included to control for the size of the state. Period effects is a vector of dummy variables for each time period (where the last period, 1974–1980, is omitted), and case effects is a vector of dummy variables for each state.

Case effects are introduced to control for the autocorrelation of errors for individual states over time. Unobserved factors that vary between states but change slowly over time introduce errors whose effects are credited to terms related in estimation to the lagged dependent variable (here, the rate of adjustment parameters). Similarly, period effects help to control for unobserved factors that change quickly over time but are constant across cases at a given time. These factors are expressed as dummy variables because it is informative to calculate the actual values of the effects.

The two sets of factors are located in the target term, for substantive reasons. The obvious unobserved factors that vary mostly across time but not states are technological differences in transportation and communication. Important effects that vary across states but not time involve historical legacies like those underpinning regional differences. Such factors seem to be constraints on the limiting number of districts in a state and, so, belong in the target rather than the rate of adjustment.

In evaluating the dynamic model it is important to note that a more common approach is to place all exogenous variables in the target term and estimate an invariant rate of adjustment. This strategy is often preferable because parameter estimates can then be recovered from OLS regressions. Such a procedure requires equally spaced observations, however, which the NCES data do not provide. In this analysis there is thus no estimation advantage in assuming a constant rate of adjustment. More importantly, it is worthwhile to consider the separate effects that variables have on establishing a target level and regulating movement toward that level. For example, the ability of states to impose the bureaucratic/central model authoritatively may lead to quick consolidation (a rate of adjustment effect) without influencing the long-run number of districts the state moves to (a target effect). On the other hand, the incremental process of consolidation resulting from state penetration may be slow but extensive. It seems useful to allow these effects to vary and make their analysis an empirical question.

The differential equation in (1) cannot be estimated directly because the instantaneous rate of change, dY/dt, is not observed. It has the integral solution,

$$Y(t) = \exp(-rt) * Y(t-1) + [1 - \exp(-rt)] * Y^*, \quad (5)$$

where t gives the time in years between $Y(t-1)$ and $Y(t)$. From this equation a standard nonlinear regression routine

can be used to solve for the coefficients in (2) and (3). The analyses presented below use an iterative least-squares minimization routine provided by SAS.

RESULTS

Cross-sectional analysis. Table 3 gives the results of cross-sectional analyses for 1938 and 1980. Since the dependent variable is the logarithm of the number of school districts, the scale of the coefficients is quite insensitive to the consolidation process.

Table 3

Cross-sectional Regression Analyses of the Natural Logarithm of School Districts per State

Variable	1938 (N = 48) Coefficient	S.E.	1980 (N = 49) Coefficient	S.E.
State revenue	−3.94	.94	−2.46	1.04
Urbanization	−3.33	1.42	−2.99	1.07
Northeast	−1.21	.61	−.15	.37
South	−1.57	.53	−.49	.34
West	−1.21	.59	.01	.35
Enrollment	.0023	.0005	.001	.0001
Area	.01	.005	.011	.017
Constant	8.2	.77	7.67	.79
R^2	.65		.49	

The effects of state revenue change dramatically over time. In 1938 the coefficient is very large in the hypothesized direction (−3.94) and significant. If we consider the model as a multiplicative one for the raw number of districts, an increase of 50 percent in state revenue halves the predicted number of districts. In 1980, state revenue's effect is still large and significant, though it has diminished somewhat. Even the weakening of the effect is misleading, however, since it is produced by changes in revenue patterns taking place after the consolidation movement has reached its limits, an indication of how cross-sectional results can represent a dynamic process poorly. The coefficient for state revenue in 1974 (not reported) is thus almost identical to the coefficient in 1938.

The level of enrollments has a consistent effect over the two time periods. Area has a significant positive effect in 1938 but insignificant effects after the wave of consolidation. This makes sense, since the districts most likely to be consolidated were in rural areas of low population density. The coefficient for urbanization declines in absolute value between 1938 and 1980, though it is significant in both time periods. This decline is not produced by shifts in the independent variable after the consolidation movement has essentially ended (during the 1970s), as in the case for state revenue.

Regional differences are large and significant in 1938. All three regions in the model differ importantly from the omitted category, the North-central region, though differences between the Northeast, South, and West regions are insignificant. By 1980, North-central educational systems are no longer significantly more decentralized than the systems in other regions. The historical differences that made this region

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Dynamic analysis. Table 4 gives the coefficient estimates and standard errors derived from estimation of the dynamic model of the consolidation process itself. These parameters may be directly substituted into the fundamental differential equation in (2) as components of the rate of adjustment and target parameters. Although the underlying model is deterministic, the standard errors provided by the estimation routine can be used to make some tentative statements about the stability of estimates.

Table 4

Dynamic Analysis of the Number of School Districts per State

Variable	Coefficient	S.E.	Antilog
Rate of adjustment			
Constant	−.269	.041	
State revenue	.359	.066	
Urbanization	.747	.093	
Target			
State revenue	−1.461	.381	
Urbanization	2.122	.643	
Enrollment	.0004	.00006	
1946	2.657	.186	14.25
1950	2.320	.176	10.17
1956	1.787	.167	5.92
1960	1.168	.162	3.21
1966	.587	.162	1.79
1970	.029	.185	1.02
1974	−.121	.133	.88
R^2	.92		

State revenue and urbanization have positive effects on the rate of adjustment, both considerably larger than their standard errors. As hypothesized, the rate of consolidation to the target level is faster when the state distributes more revenue and when more people live in urban areas. The constant term is negative, but for the range of values in the data the rate of adjustment is always positive.

Interpreting the rate of adjustment as the yearly percentage decrease in the gap between present and target district levels is a good way to judge the scale of these coefficients. From Table 4, a state with mean values on both independent variables shows an annual decrease in the gap of about 27 percent. The model thus predicts very quick adjustment; most states are calculated to nearly reach their targets over each observation period.

Adjustment is so rapid because, on the average, target levels are estimated to be quite close to existing district levels. This is due to the period and case corrections for correlated errors; targets were estimated to be much lower than actual district levels in models omitting these corrections. Period effects (shown in Table 4) allow target levels to decline over time, capturing overall national trend. State-specific effects (tabulated in the Appendix) improve the model's ability to estimate the plateaus that almost all states reach. Overall, the

picture is of rapid consolidation within limits set by the constraints of time and place.

Within these limits, higher levels of state revenue lower the target estimate. Its coefficient of -1.46 is more than three times its standard error. Central control of revenue thus has a long-run as well as a short-run influence. This finding supports the contention that expanding state revenues have a fundamental impact on district environments, setting the numbers of districts in a state and not just accelerating movement to an exogenously determined level.

Urbanization has an implausible positive effect, raising the target level of districts. This effect works in the opposite direction from its impact on the rate of adjustment; urbanization thus quickens decline to higher target levels. For the period of rapid consolidation under study, higher levels of urbanization may advance or retard the overall rate of consolidation. In the long run, however, the model's prediction is that more urbanized states should have more districts. Enrollment has a positive and stable effect on the target. As one would expect, higher numbers of students tend to produce higher target values for the number of school districts.

The central argument of this paper has been that the consolidation of school districts depends importantly on the scale of state involvement in education. Both analyses support this proposition, most importantly in the dual effect of state revenue in quickening adjustment and lowering target levels in the dynamic analysis. Where central actors play larger roles in the educational system, school districts are reorganized more quickly and extensively. By contrast, urbanization has an unclear relation to consolidation, while regional differences linked to the founding conditions of state school systems are washed out by nationwide reorganization.

CONCLUSION

The importance of the administrative transformation occurring through district consolidation should not be overstated.Consolidation preserves the formal autonomy of local school districts. At the same time, however, it acts to concentrate local administration in organizations that attend to state and national policy much more than those they replace. Larger, more bureaucratic districts are subject to a common set of rules, both through central influence and by standardized training for formal positions. This is very different from the organizationally, though not culturally, isolated position of tiny districts before consolidation. Consolidated districts should thus be more susceptible to central initiatives across a range of policy issues.

In a decade when the federal government has delegated many of its educational duties to the states, the contemporary system of large, bureaucratic, and formally autonomous districts shows no sign of dissolving. Nevertheless, the consequences of future expansion at the organizational levels above the state are theoretically interesting. So far, the impact of fragmented federal programs has been to increase the internal complexity of district administration (Meyer, Scott, and Strang, 1987). Their small size has led them to have little effect on the distribution of administrative units. But if these

programs expand while retaining their fragmented character, the internal complexity they create may turn outward, replacing consolidated districts with networks of specialized organizations. The transformation of small, isolated districts into large bureaucratic organizations, shown here to depend on the expansion of integrated state centers into the local educational arena, forms a single chapter in the continuing interplay between organizations and their environments.

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APPENDIX: Estimates of Individual State Effects on Equilibrium Levels of School Districts per State

State	Estimate	S.E.	Antilog
Alabama	2.50	1.55	12.1
Alaska	3.23	5.23	25.2
Arizona	3.28	.72	26.5
Arkansas	3.12	1.65	22.6
California	3.75	.65	42.5
Colorado	3.60	.52	36.5
Connecticut	1.44	1.47	4.2
Florida	1.39	2.17	4.0
Georgia	2.85	.97	17.2
Idaho	0.0	31.59	1.0
Illinois	4.34	.61	76.7
Indiana	3.64	.54	38.0
Iowa	4.84	.42	126.4
Kansas	4.89	.44	132.9
Kentucky	2.95	1.12	19.1
Louisiana	1.73	2.39	5.6
Maine	3.33	.64	27.9
Maryland	0.0	6.32	1.0
Massachusetts	1.53	.83	4.6
Michigan	4.78	.59	119.1
Minnesota	5.51	.41	247.1
Mississippi	0.0	71.90	1.0
Missouri	5.33	.50	206.4
Montana	4.23	.52	68.7
Nebraska	5.39	.41	219.2
Nevada	1.56	2.84	4.7
New Hampshire	1.94	1.12	6.9
New Jersey	2.13	.71	8.4
New Mexico	2.74	1.52	15.4
New York	3.60	.70	36.5
North Carolina	2.98	1.16	19.6
North Dakota	4.77	.37	117.9
Ohio	3.45	.59	31.5
Oklahoma	5.07	.45	159.1
Oregon	3.55	.53	34.8
Pennsylvania	3.38	.60	29.3
Rhode Island	0.0	2.74	1.0
South Carolina	4.40	.51	81.4
South Dakota	4.83	.37	125.2
Tennessee	2.40	1.40	11.0
Texas	4.60	.53	99.4
Utah	.83	3.89	2.2
Vermont	3.01	1.52	20.2
Virginia	2.28	1.46	9.7
Washington	3.59	.61	36.2
West Virginia	1.81	3.92	6.1
Wisconsin	2.90	1.12	18.1
Wyoming	0.0	0.0	1.0

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