A Preliminary Analysis of Charter Schools and District Superintendent Turnover in Arizona: Politics, Market Forces, and Leadership*

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1.1 For and Against School Choice

Supporters of school choice such as Milton Friedman (1962), Chubb and Moe (1990), Coulson (1998), and Maranto (2001) argue that political incentives make public school reform impossible, and so favor market-based education with low barriers to entry for new education providers, parental choice, and public money

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following parental enrollment decisions. This would foster innovation, provide a better fit with individual student needs, enlarge effective schools, and (over the long term) eliminate ineffective schools. It could also send signals to school boards and other policy-makers as to which schools serve students, and which do not.

In sharp contrast to the school choice supporters, skeptics like Wells (1993), Guttman (1987), Smith and Meier (1995), Berliner and Biddle (1995), Landy (1993), Halchin (2001), and others argue that enabling parents to choose their schools could decrease participation in and resources devoted to public schools, thus diminishing efforts to improve them. As Landy (1993, quoted in Greene 1998, p. 88) argues, without school choice parents "are 'stuck' in a particular school district [so] they have very strong incentives to exercise their political skills to make it better." On the other hand, school choice may allow the most motivated parents (and teachers) to leave traditional public schools, thereby halting momentum toward reform. Yet tests of this theory suggest that its proponents are too optimistic about the potential for parental activism to improve traditional public schooling (Doherty, 1998; Brouillette, 1996; Portz et al., 1999; McDermott, 1999).

In contrast, we argue that when political incentives combine with comprehensive market competition, reform in traditional public schools becomes more possible: market and political decision-making complement rather than detract from each other, a theme commonly found in the reinventing government literature (Maranto, 2001). Political and administrative elites use cues to make sense of complex realities, as indeed do citizens generally (Popkin, 1991; Jervis, 1976). For local government leaders, those cues often focus on revenues (Meltsner, 1971; Schneider, 1989). Accordingly, we propose that in an education free market where money follows parental enrollment decisions and low barriers to entry for new providers, the exit of large numbers of parents from traditional district schools to charter schools signals bureaucrats, elected officials, and possibly voters that district schools require reform. As Hirschman (1970) suggests, the *possibility* of exit makes one's voice more powerful. Since superintendents are the key local educational actors, we propose that changing superintendents is the most important (and most easily measured) reform (Hess, 1999).

In sum, we theorize that comprehensive school choice allows large numbers of parents to exit a school system, and thus the system will often respond with leadership changes. We tested this theory using the most comprehensive state level school choice regime in the U.S., Arizona. From fall 1995 until 2004, Arizona allowed an essentially unlimited number of charter schools to start each year. In the fall of 1995 the first 55 Arizona charter schools opened, serving a roughly 1% market share of public school students; as of fall 2004 just over 500 charters served nearly 9% of market share. State subsidies, which account for a mean of just over half of public school expenditures, follow parent enrollment decisions; thus traditional public schools have strong incentives to respond to charter competition (Maranto et al., 2001). To study this comprehensive education market, we sampled 24 districts where as of spring 1998 30% or more of public elementary school campuses were charter schools, and 21 districts matched on other dimensions, but with 12% or fewer elementary charter campuses. (Only small charter elementary school in our sampled districts and fewer than ten statewide were sponsored by their school districts, so virtually all the charters would be considered competitive threats.) Districts with 30% or more charter campuses lost an estimated mean of 8.6% of their elementary school students to charters, compared to .5% for the other districts in the sample. We defined these as the *high competition* and *low competition* districts. We designated the school years *before* the 1995-96 school year (the first year with charters) as T1; school years starting at 1995-96 and beyond as T2. We hypothesize:

H1: Superintendent turnover is higher in T2 relative to T1 for the entire sample (low and high competition districts).

Next we assess the probable differences between low and high competition districts. We hypothesize that, all else equal, districts which experienced little charter entry after 1995 – the low competition districts – fall into one of two categories: [a] either they were already providing attractive educational opportunities to most parents prior to 1995, or else [b] they weren't providing attractive educational opportunities prior to 1995, but were able to quickly respond to the charter threat by making the necessary organizational changes needed after 1995. Either [a] or [b] would have reduced the attractiveness of charter schools in these districts, and so would explain the lack of entry.Further, without significant charter market share to

signal performance problems, school boards in those districts would have been more likely to retain their superintendents.

In contrast, we hypothesize that high competition districts – which by definition were hit by significant charter entry – were more likely to suffer from one or more significant organizational deficiencies which prevented them from quickly responding to the threat of charter entry after 1995. Such deficiencies could have included a lack of responsiveness to parent or teacher concerns, misallocation or resources, or even corruption. This reasoning is supported by other work in which a larger Arizona database found strong statistical relationships between teacher dissatisfaction (as measured in a survey by "I feel I'm treated as a valued employee" in 1994-95) and charter school market share after 1994-95 (Milliman & Maranto, 2009). This implies that school leadership which alienates teachers and parents increases the demand for charter alternatives, and that this alienation is difficult to quickly reverse in the short run – hence charter entry more likely occurred in these districts. This in turn would signal voters and school boards that leadership changes were needed; hence our second hypothesis:

H2: The increase in superintendent turnover from T1 to T2 will be greater for the high competition districts relative to the low competition districts.

We readily acknowledge that superintendent turnover is driven by a number of factors: retirement, office politics, inter-organizational disputes, employment opportunities elsewhere, and so on (Black & English, 1986). Indeed this is what we found in fieldwork in some of the affected districts. Unfortunately, we lack the data to control for these factors, and accordingly must assume that this turnover "noise" is uncorrelated with either time (T1 or T2) or the level of post-1995 charter entry (low v. high competition districts).

Since this statistical result is somewhat weaker then barely missing statistical significance at p=.05, the next two sentences should be (slightly) modified to reflect this. Currently the next sentence says "In short, H1 is supported." Modify this sentence to say: In short, H1 is tentatively supported. The next sentence says "On the state level in Arizona, increased competition is associated with increased turnover among school superintendents leading traditional public schools. This sentence should be modified to say: Although not conclusively established, at the state level in Arizona, increased competition appears to be associated with increased turnover among school district superintendents leading traditional public schools.

1.2 The Sample

As Table 1 shows, the high and low competition samples were very similar demographically. They also had statistically similar test scores, and were similarly reliant on state (as opposed to local) funding streams; indeed the only statistically significant difference at p=.10 was charter school market share.

Descriptive statistics for the low and high-penetration samples

Variable	Low PenetrationDistricts(N = 19)		High PenetrationDistricts(N = 23)	
	Mean	S.D.	Mean	S.D.
Elem. Charter market share, Fall 1997	0.005	0.012	0.086	0.078

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4^{th} grade test scores, Spring 1995	128.35	32.97	134.70	36.83
Fraction pop. Below poverty line, 1989	0.261	0.212	0.240	0.130
Median household income, 1989	26,831	8,880	29,481	10,092
Fraction parents with college degree, 1990	0.116	0.073	0.161	0.115
Fraction black , 1990	0.019	0.027	0.024	0.032
Fraction Hispanic, 1990	0.327	0.270	0.246	0.216
Fraction Native American, 1990	0.058	0.147	0.058	0.121
District enrollment change, 1989-94	0.113	0.158	0.161	0.196
District enrollment, fall 1994	5817	6712	7223	14552
Fraction of Maintenance and OperationFunds from the State, 1997	0.610	0.194	0.512	0.243

Table 1

To test H1 and H2, we tracked superintendent turnover, using various Arizona school directories published by Market Data Retrieval. These directories identify superintendents for each Arizona school district at the beginning of a school year, and this may understate turnover for districts experiencing more than one superintendent change in a given school year. More importantly, we were unable to obtain directories for the 1991-92 school year, and the Arizona Department of Education was unable to supply this data. We made up for this data deficiency by contacting district offices in 2009. Two of our sampled districts were formed in the T1 time period, while a third was mistakenly added to the data set even though it was in an Indian reservation. This dropped the number of districts in the study from 45 to 42, 19 low competition districts and 23 high competition districts. The T1 time period was from the 1987-88 to the 1994-95 school years, while T2 covers 1995-96 to 2002-03. Each time period runs eight years, in hope that these long time periods will generate enough data to overcome random variation unrelated to the hypothetical independent and dependent variables.

Our measure of charter school competition was the charter school market share of elementary (K-8) students in a district for spring, 1998. This was the number of elementary students enrolled in charter schools located within a district, divided by the total number of public school elementary students (charter and traditional) within a district. This measure of competition is imperfect because parents residing within district boundaries can elect to send their children to a charter outside of these boundaries. Although we have no data on the extent of inter-district transfers, we assume that these transfers are uncommon due to parental concerns about long commutes for younger children (Schneider et al., 2000).

1.3 Results

Results are listed in Table 2. Focusing initially on superintendent turnover for all districts (low and high competition), on average each district incurred 1.167 turnovers in T1 (1987-95), which increased to an average number of turnovers per district of 1.528 in T2 (1995-2003). The change just barely fails to reach statistical significance at the p=.10 level (two-tailed test), perhaps due to the small sample size. In short, H1 is tentatively supported. Although not conclusively established, at the state level in Arizona, increased competition appears to be associated with increased turnover among school district superintendents leading traditional public schools. This seemingly confirms findings from fieldwork (Hess et al. 2001) suggesting that a high charter market share signals voters and school boards that leadership changes are needed.

Comparison of means tests for various groups of districts, pre-charter (1987-94) vs. post-charter (1995-02), for the average number of superintendent turnovers per district

Relevant Sample	Number of Observations	Pre-Charter (1987-94)	Post-Charter (1995-02)	T-Statistic
All Districts	42	1.167	1.528	-1.65
Low-Penetration Districts	19	0.947	1.631	-2.26**
High-Penetration Districts	23	1.348	1.435	-0.26

Table 2

**=Significant at a 5% significance level.

Turning now to the change in superintendent turnover for low and high competition districts, the low competition districts (N = 19) on average experienced .947 turnovers per district for T1, and 1.631 turnovers for T2. Despite the small sample size, these two means differ at p=.05 (two-tailed test). In contrast, for the high competition districts (N = 23), the mean turnover rate increased from T1 to T2 from 1.348 to 1.435, a much smaller change not approaching statistical significance. Despite the larger sample size relative to the low competition districts, these two means are not significantlydifferent from each other at the .10 level. In short, results tend to refute H2. The increase in turnover is greatest in the low competition districts. This may bolster the views of school choice opponents, who might argue that without the exit option, activist parents focus their energies on holding school boards and the superintendents they hire accountable through traditional political means.

1.4 Implications

We must stress the limits of our current data set. We have examined only 42 of a possible 204 Arizona school districts enrolling elementary students. (An additional 18 districts enroll only secondary students.) Clearly, these must be considered preliminary results. In addition, extensive fieldwork suggests that particularly in small districts, *superintendent turnover is often related less to matters of school policy than to personalities, leadership styles, and individual ambitions (or lack thereof) to go from smaller to larger jobs, in effect the privatization of public leadership.* For example, one informant commented:

[Superintendent] left on his own [in 1993]. We serve as a training ground for a lot of guys who work here for four years. ...[in 1995 the next superintendent] had only limited time here because he was wanting more money. We're a small [district] and we don't have money.

A regional and increasingly national market for school superintendents may have a role in fueling superintendent turnover. Quite possibly, school districts with low charter market share are regarded as better school districts within the state education policy community. Their leaders may thus seem more attractive when school boards in larger districts seek to fill vacant superintendent posts. This could explain why findings contradict H2.

Further, *national trends in education politics and policy have contributed to the increase inschool superintendent turnover over the study period.* Schools face increased controversy over the purpose and methods of schooling, the values taught in school, and increased demands for performance (Ravitch, 2000; Hess, 1999; Maranto, 2001). These broader trends may have hit the high competition districts first, fueling demands for leadership changes *and* for more options for parents. In effect, such districts are the canaries in the coal mine among school districts.

Finally, while losing a few students to charter schools may not affect superintendent turnover, losing large numbers of students and associated funding to charters may have serious repercussions for district school leadership. Three of the four districts in our sample which had lost from 10-32% of their students to charter schools by 1998 in fact changed their district leadership, and the fourth very nearly did so. Seemingly, market competition may have threshold effects. Losing some students to a charter school, particularly in rapidly growing Arizona, may have few impacts on a dysfunctional district. Losing large numbers of students (and attendant funding), however, may signal policy-makers that changes are needed. The policy implication is that when competitive pressures are extremely high, market and political processes can complement each other. Again, this accords with fieldwork by Hess et al. (2001) conducted in high competition Arizona school districts. As charters grow in number, they may indeed complicate the job of school superintendents.

Several avenues for future research are suggested by this preliminary analysis, including assessing the impact of charter competition with a larger sample and more sophisticated statistical tests. Further, the transparency resulting from No Child Left Behind seems likely to increase the already substantial turnover rates found in this sample, as results from Texas suggest (Hamidullah et al., 2009). Finally, exploring the long term statistical impacts of superintendent turnover on student learning and other performance indicators in a high choice, high accountability school environment is in and of itself is worthy of study.

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