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Creaming Versus Cropping: Charter School Enrollment Practices in Response to Market Incentives

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Proponents of school choice present market-based competition as a means of leveling disparities between race, class and performance in public school systems. Opponents see school choice as threatening to exacerbate this problem because competition for students will pressure individual schools into targeting students with the highest performance and the least encumbered with personal and social disadvantages. We suggest that some charter schools, by background and affiliation, are likely to be more market-oriented in their behavior than others, and test the proposition that market-oriented charter schools engage in cream-skimming while others disproportionately serve highly disadvantaged students. Comparing student composition in market-oriented charter schools, nonmarket-oriented charter schools, and traditional public schools in Washington, DC, we find little evidence that market-oriented charters are focusing on an elite clientele, but they are less likely than the other two types of schools to serve some high need populations. Rather than skimming the cream off the top of the potential student population, market-oriented charter schools may be "cropping off" service to students whose language or special education needs make them more costly to educate.

Keywords: *charter schools, cream skimming, disadvantaged students, educational management organizations (EMOs), school choice*

Those who are wary of vouchers and charter schools have particularly emphasized the risk that market-oriented strategies will exacerbate inequities based on race, socioeconomic status, and special need (Henig, 1994; Smith & Meir, 1995; Ascher, Fruchter, & Berne, 1996; Wells et al., 1998; Fiske & Ladd, 2000). Not that markets and school-choice are fundamentally incompatible with equity—except in abstract theory, markets operate within institutional and programmatic constraints. It is almost certainly possible to design a progressively structured choice system that would favor minorities and the poor. Rather, the debate hinges on predictions about response to the needs of disadvantaged families in the relatively privatized and deregulated environment that a "markets over government" orientation is likely to develop and sustain. The concerns of market skeptics reflect both "demand-side" and "supply-side" dynamics. On the demand-side, they worry whether parents—particularly low-income parents—have sufficient information to allow them to play the consumer role effectively and whether the values and preferences of racial and ethnic subgroups might lead them to voluntarily segregate into homogeneous school settings (Henig, 1996; Martinez, Godwin, & Kemerer, 1996; Maranto, Milliman, Hess, & Gresham, 1999; Kleitz, Weiher, Tedin, & Matland, 2000; Schneider, Teske, & Marshall, 2000; Teske,

Schneider, Buckley, & Clark, 2000; Weiher & Tedin, 2002). On the supply-side, they worry that competition for a greater share of the market will place pressure on schools both to lower their costs and to demonstrate the highest levels of student achievement as quickly as possible (Zollers & Ramanathan, 1998; Cobb & Glass, 1999; Henig, Moser, Holyoke, & Lacireno-Paquet, 1999; Maranto, Hess, & Gresham, 1999; Fiske & Ladd, 2000; McEwan, 2000; Schneider, Teske, & Marshall 2000).

As a consequence of such pressure, schools may "cream" students, that is, they may attempt to siphon off those students who, because of favorable background circumstances, will be easier and perhaps less costly to educate. These students give the school the edge it needs to thrive in the market place (for example, through higher parent participation and financial support).

Proponents of market-based strategies for school reform reply that school-choice can simultaneously promote educational quality and equity (Hassel, 1999; Viteritti, 1999; Schneider, Teske, & Marshall, 2000). Low-income and minority parents, they argue, do not want markedly different things from schools. They either have sufficient information to effectively exercise choice or can benefit indirectly from those who do (Kleitz et al., 2000; Schneider, Teske, & Marshall, 2000). Especially, if we presume that certain institutional parameters will be in place (publicly funded information centers to disseminate data about schools and their performance, favored terms for students with disadvantages, and protections against racial discrimination by schools), proponents argue that the education market will ameliorate the often quite severe levels of racial and income segregation.

The relative accuracy of these competing visions is open to investigation, but the empirical record so far is slim and contested. To those who favor a market-based approach to public education, publicly funded vouchers that families can apply to tuition in private schools are the "purest" alternative, but only two programs (in Milwaukee and Cleveland) have been in place long enough to generate meaningful data. Moreover, since the terms of those programs legally restrict them to low-income families,[1] thereby formally constraining the range of possible variation in student socioeconomic status, they do not provide a particularly useful field test for questions relating to cream-skimming.[2] Charter schools, on the other hand, have spread much more widely, with over 2,400 schools serving over half a million students operating in the Fall 2001 (Center for Education Reform, 2001). Most, however, have opened in just the past several years and researchers have only recently begun to report empirical findings. Furthermore, almost all existing analyses of student composition in charter schools treat them as a single class of institution when, in fact, there is reason to believe that there exists considerable variation in types of charter schools. Some charter schools may be aggressively catering to advantaged populations while others may go out of their way to serve at-risk and special needs students. If that is the case, statistics showing that charters "on average" do not engage in creaming might mask a more complex and problematic phenomenon.

In this article we take some initial steps toward disaggregating and analyzing the "creaming" issue with special attention paid to a theoretical distinction we draw between market-oriented charter schools and those with less entrepreneurial ambitions and profiles. Market-oriented charter schools—those with links to for-profit corporations, with a strong business presence on their founding boards, and those with entrepreneurial plans for expansion—are hypothesized to be more responsive to pressures to engage in cream-skimming of students based on academic performance and cost. Other charter schools, many of which were spawned by existing non profit organizations with long traditions in the local community, are more likely to be already serving a distressed clientele without larger entrepreneurial goals. Using data on charter schools in Washington, DC, we examine variation in the student populations of market- and nonmarket-oriented charter schools in terms of special needs, income level, and English proficiency.

The Literature: Charter Schools as Markets

Proponents of charter schools claim that the monopoly local governments traditionally hold over public education has spawned a culture of mediocrity, unresponsiveness, and indifference to student performance. Requiring schools to compete for students and funding, they argue, will force them to demonstrate their capacity to deliver a quality product in order to survive in a market where parents, as education consumers,

can choose to vote with their feet and leave a school with which they are dissatisfied (Chubb & Moe, 1990). Proponents also claim that this combination of market incentives and parental choice within or across districts will lead to schools that are less segregated by race, class, or student ability with the market acting as the ultimate leveling agent. This is an important claim for both legal and political reasons. Historically, the idea of school choice has some association with efforts to evade the consequences of the 1954 *Brown v. Board of Education* desegregation decision. Voucher and charter school supporters have come to believe that they must answer concerns about possible resegregation if they hope to build the large and diverse constituency their proposals require in order to gain public acceptance (Henig, 1994).[3] The current system of assigning children to schools based on location of residence, choice proponents argue, creates schools that are a reflection of the neighborhoods in which they are located. Wealthier families use their greater residential mobility to cluster in exclusive communities and then use their political clout to create and sustain public policies that buffer their local schools from "invasion" by lower income and minority students. These newcomers, they believe, will demand disproportionate attention from teachers, lead to a less rigorous curriculum, undermine school safety, and tarnish the reputation of the school and community. This system of governmentally reinforced inequities is contrasted to a market system in which parental choice is the driving force, rather than bureaucratic rules and political power. Choice proponents assert that if parents are provided with the financial means and a full range of schools from which to select, they can pull their children from the local schools and search for a better alternative. The availability of such choice means that segregation of student populations by race and class would decrease because populations would be shaped by school performance instead of geography (Hassel, 1999; Maranto, et al., 1999; Viteritti, 1999; Schneider, Teske, & Marshall, 2000).

Opponents of charter schools and school choice make almost diametrically opposite claims. Rather than reducing inequities between schools, they argue that parental choice is likely to lead to even greater segregation by race, class, and ability while at the same time failing to deliver on the promise of educational quality. Part of this argument focuses on demand-side expectations. They fear that low-income parents are less likely to have the time, money, and knowledge, to seek out and evaluate schools in order to identify the best schools for their children. Even if low-income parents can make good choices for their children, they may not be able to implement such choices. It may be difficult for them to transport their children across town, for example, to attend the school of their choice. Moreover, the presumed link between parental choice and educational performance will be attenuated if parents—regardless of their socioeconomic class—select schools based on criteria like convenience, facilities, safety, compelling advertisements, or the inculcation of traditional values rather than the proven quality of the education they provide.

Segregation by race and class will result not only from this unequal capability of consumers, choice opponents argue, but also from the incentives for suppliers to proactively shape their clientele. Driven by the demands of the market, schools may come under pressure to recruit as many students as possible in order to achieve economies of scale and target recruitment at students who are believed to be less costly to educate, less disruptive in the classroom, and more likely to produce high test scores that will improve the school's reputation and attract even more "customers." Schools more attuned to the market may perceive monetary incentives to enroll students from an applicant pool that centers on the median in socioeconomic status and educational needs. The particular form that low-cost cream skimming takes will depend not just on the degree of market sensitivity that charter schools exhibit but also on the funding and regulatory structure laid down in state and federal policies. For instance, charter schools may be more likely to practice "cost creaming" in states that do not add appropriate weights to general funding formulas to account for cost differences across grade level or academic level (Theobald, 2001).[4]

While charter schools would have incentives to skim off the "cream" of potential students (Smith & Meir, 1995; Ascher, Fruchter, & Berne 1996; Henig, 1996; Fiske & Ladd, 2000), the need to maintain high enrollments may mitigate this to some degree. So might the possibility that the parents of the most advantaged students will be aggressive in demanding other potentially high-cost programs, such as Advanced Placement courses, well-equipped laboratories, foreign language

instruction, and the like. The financial disincentives to serving highly disadvantaged populations, in other words, may be more certain and extreme than the incentives to target only a very selective elite, making the temptation to operate schools which attract students of average or above average academic achievement more powerful than that to cream off the top.

From a profit-maximization standpoint, then, both at-risk and gifted or high-income students make problematic targets for charter entrepreneurs. There are fewer of them than so-called "typical" students, and their projected cost to educate can be high. The paperwork and regulations required by the federal government in order to receive available funding creates further disincentives to seek out these student populations Whatever its specific form, it is likely to be attention to the bottom line, shaped by the policy structure, that dictates the student population charter schools are most likely to target. Attention to the "bottom line" could make charter schools especially anxious to steer away special education and limited English proficiency students, who would impose additional expenses and almost certainly deflate mean performance rates on standardized exams, making the school less attractive to consumers.

To date there has been little empirical evidence with which to test the cream-skimming behavior of charter schools. Based on data from 927 charter schools in 27 states, the Department of Education's *The State of Charter Schools 2000* report found that "Charter schools were more likely than all public schools to serve black students (almost 24% versus 17%) and Hispanic students (21% versus 18%)" (Research Policy Practice International, 2000, p.30). While evidence surfaced that some disparity between charter schools and traditional schools in the provision of service to students with disabilities might exist, the divide was hardly dramatic: "charter schools enrolled three percent fewer students with disabilities than all public schools (8% versus 11%) in the 27 charter states (in 1997–98)" (Research Policy Practice International, 2000, p. 36). A study of California's charter schools supports a less sanguine outlook. Although charter laws in California, as is the case in almost every state, place strict formal limitations on the right of schools to screen students for entrance, Wells et al. (1998) found that various methods of recruitment and informal steering give "charter schools more power than most public schools to shape their educational communities," and that there was evidence of under representation of low-income, special education, and bilingual students as well.

What comes across in this research is that charter schools *in the aggregate* do not serve a higher proportion of easier to serve students than traditional public schools. But looking at aggregated data can mask considerable segregation at the school level. While most charter schools had nonwhite populations within 20 percentage points of the average for the districts in which they were located, the national data showed that 17% of all charter schools were more than 20 percentage points above the district average and another 14% were more than 20 points below (Research Policy Practice International, 2000, p. 31). Similarly, an early analysis of Washington, DC charter schools revealed that a few schools were serving disproportionately high percentages of special education students, while most others were at or below the average for the traditional public schools (Henig et al., 1999, p. 27).

Wong and Shen (2000) recognize the importance of disaggregation in their analysis of school-level data in California where they find evidence of racial segregation by the level of school performance, although only limited segregation when they classified schools by curricular focus. Similarly, Cobb and Glass (1999) compared charter schools in Phoenix and several rural towns in Arizona and found that among charter high schools, those that were obviously focused on vocational education were predominantly Hispanic and those that were obviously college-preparatory academies were largely white.

Although these studies find evidence that *some* charter schools may be cream skimming, they do not provide a theoretically anchored typology for distinguishing among them. This limits their ability to interpret the significance of their findings or for understanding the broader charter movement and the more general promarket notions in which that movement is enmeshed. Considering that many existing charter schools evolved out of local social service agencies, there is no reason to believe that the promarket argument of competition-oriented schools is an accurate description of all charter schools. Rather, we expect some schools to be driven more by financial and economic interest than others. Such a systematic

difference in school type almost certainly creates important variation in the features of student body composition that has yet to be untangled in the research.

Market, Mission, and the Incentive to Engage in Creaming

The market metaphor that animates much of the discussion about the beneficial consequences of parental choice and school competition presumes that schools will orient their behavior in a manner analogous to that employed by profit-maximizing firms. Paradoxically, in seeking empirical support for their claims, proponents of market-based schemes for school reform have relied heavily on the experiences of schools that are not market actors in the conventional sense. Much of the empirical evidence claimed to support vouchers, for example, is drawn from the performance of Catholic schools (Chubb & Moe, 1990), despite the fact that they are at their core mission-driven organizations that frequently act in ways quite incompatible with a profit motivation (Bryk, et al., 1993).

We hypothesize that some charter schools, by background and affiliation, are likely to be more market-oriented in their behavior than others and are more likely to respond to incentives to cream the student population. Weisbrod (1998) draws a similar distinction between the *profit maximizer,* an organizational orientation central to the behavior of for-profit firms, and the *bonoficer,* which "might seek to generate less than maximum profit, while engaging in activities that are socially desirable but unprofitable, for example, supplying information to underinformed consumers rather than taking advantage of its informational superiority or helping the poor or avoiding activities that pollute" (Weisbrod, 1998, pp. 73–74).[5] He also presents evidence that this difference in orientation is reflected in organizational behavior. For example, for-profit nursing homes are more likely to sedate their patients (a cheaper means of handling troublesome patients than by increasing staff), which Weisbrod interprets as indicative of the fact that they—more than nonprofits—are willing to take advantage of their informational edge over consumers to increase their profit margins. In nursing homes and facilities for the mentally handicapped, nonprofits (especially church-related ones) tend to employ more staff per patient than do for-profits, to have higher levels of consumer satisfaction, and to be less likely to raise prices when confronted with excess demand.[6]

While most charter schools are formally structured as nonprofit organizations, the number and proportion that are run by, or work in close affiliation with, for-profit educational management organizations (EMOs) is rapidly expanding. The presence of EMOs in charter schools is increasing rapidly, especially in states such as Michigan where 70% of all charter schools contracted out some services to an EMO in the 1998–99 school year (Arsen, Plank, & Sykes, 1999). Moreover, while many nonprofit charter schools were spawned by human service oriented organizations with well-established philanthropic missions, individuals with business backgrounds and explicit entrepreneurial ambitions launched others. They either tactically adopt the nonprofit form because the charter law mandates that they do so, or to gain access to foundation, corporate, and charitable funding channels. Despite their legal status, these charter schools, too, will be more market-oriented in their behavior.

We seek to test the proposition that market-oriented charter schools engage in cream-skimming. Schools that are more market-oriented are those that best fit the descriptions of the choice advocates. They can be characterized as profit driven, desiring to draw large student populations in order to maximize net profits from per-pupil funding formulas relative to the costs of operating a school through achieving economies of scale. They are more likely to have a relationship with a for-profit EMO, founded by individuals outside of the local community, and characterized by networks of campuses, as more campuses permits them access to a greater number of potential customers and reduced administrative costs. We believe charter schools that exhibit these characteristics are more likely to seek out a higher proportion of easier-to-serve students.

Less market-oriented schools, including those with long established social service ties to their local community, on the other hand, are more likely to be characterized by a mission that focuses on an at-risk population rather than mass education and profit generation. Often sprouting out of local community development organizations that predate the school, they retain the essential mission of the parent organization. For example, local organizations specializing in helping poor immigrants might establish a charter school to provide

ESL and GED courses. Not only would these schools have a different student composition, they would also deliberately target hard to serve students in order to fulfill their mandate. Both market and social service and nonmarket-oriented types are found in the universe of charter schools, but their orientations tend to diverge. While market-oriented schools are more likely to cream students performing well academically, these social service-nonmarket charter schools are more likely to target poor performing and at-risk students, creating a balancing effect in the data that may, in the aggregate, lead some researchers to conclude that little or no cream skimming exists.

If this is so, then this leads us to propose the following testable hypotheses:

- Market-oriented charter schools will tend to serve fewer special education students than other types of charter schools or traditional public schools.
- Market-oriented charter schools will tend to serve fewer Free and Reduced Lunch (FARL) students than other types of charter schools or traditional public schools; and
- Market-oriented charter schools will tend to serve fewer Limited English-Non English Proficient (LEP-NEP) students than other types of charter schools or traditional public schools.

For our purposes here, we define cream skimming to exist when a school is identified as serving a significantly lower percentage of LEP-NEP students, special education students, and FARL students. Unfortunately, racial segregation in Washington, DC public schools cannot be tested here, as the overwhelming majority of students are African-American.[7]

Methods and Data

Our analysis focuses on whether market-oriented schools are more likely than other charter schools to enroll fewer at-risk and special needs students. We test our hypotheses using data on charter schools and traditional public schools in Washington, DC. The Washington, DC law is one of the most favorable charter school laws in the nation and, as a result, the city has one of the densest concentrations of charter schools in the country (Henig et al., 1999). For the 1999–2000 school year, the period of time for which we have the most recent set of complete data, there were 25 charter schools in operation, plus one school with three campuses and one with two campuses, giving us a group of 30.[8] We also have data on 147 traditional District of Columbia Public School System (DCPS) schools. Our dependent variables are the percentage of students participating in the FARL program as an indicator of socioeconomic status, the percentage of students classified as special education (those having an IEP or individual education plan for special needs students), and the percentage of LEP-NEP students. These data come from the official audit conducted annually of all Washington, DC public schools, including charter schools, as well as from administrative data provided by the DCPS Office of Categorical Programs.

To enable us to compare schools that are alike in the age of students served, we create a variable coded for elementary school, middle school or high school. We include this control variable because some indicators of student attributes vary systematically by student age; most notably, older children are less likely to enroll in FARL programs, with the result that the FARL indicator tends to underestimate economic need, especially at the high school level. We also introduce measures of total enrollment and the racial-ethnic composition of the student body as additional control variables. School size is an important control variable because, holding all else constant, larger schools may be able to more easily support the costs of high needs students. Table 1 presents summary statistics of the key variables used in the analysis comparing means and standard deviations for market-oriented schools, nonmarket-oriented schools and traditional DCPS schools. The table shows that market- and nonmarket-oriented charter schools have vastly different means on a number of important student composition variables. For example, the mean percentage of LEP-NEP students in the three types of schools ranges from 0.53% in market-oriented charters to 15.88% in nonmarket-oriented charters, with DCPS falling about halfway in between. Wide disparities are also found in mean school size as well as in the mean percentage of special education students served.

Our key independent variable, "market orientation," is derived by first scoring each charter school on seven dimensions designed to capture the extent to which the school has organizational, personal, or strategic attributes consistent with the behavioral assumptions economic theories apply to profit-maximizing firms:

TABLE 1
Summary Statistics

Variable	Observation	*M*	*SD*	Minimum	Maximum
All Charter Schools					
School Size	30	213.17	225.89	30	906
Percent FARL	30	68.25	25.14	0	100
Percent LEP-NEP	29	9.00	22.22	0	92
Percent Special Education	30	11.41	16.42	0	82
Market-Oriented Charter Schools					
School Size	13	367.46	271.62	30	906
Percent FARL	13	62.88	19.97	20	100
Percent LEP-NEP	13	0.53	1.74	0	6
Percent Special Education	13	7.76	5.29	0	18
Nonmarket Oriented Charter Schools					
School Size	17	95.18	54.95	30	245
Percent FARL	17	72.36	28.37	0	100
Percent LEP-NEP	16	15.88	28.40	0	92
Percent Special Education	17	14.19	21.17	0	82
DCPS School Size	147	459.35	202.93	80	1543
Percent FARL	144	64.00	26.79	0	98
Percent LEP-NEP	147	7.82	14.87	0	79
Percent Special Education	146	10.52	6.55	0	40

1. Was a for-profit organization an original cofounder of the school?
2. Is the founding for-profit organization still partnered with the school?
3. Did the school acquire a for-profit partner after opening?
4. Is one of the school's founders from outside Washington, DC?
5. Does the school have plans for multicampus expansion in Washington, DC in the original application?
6. Does the school have, or have plans for multiple campuses outside Washington, DC?
7. Is the founder from the business community or a business-oriented background?

One point is assigned for each characteristic that accurately describes the history and status of each charter school. A score of zero indicates no market orientation in the school and any positive, or nonzero score indicates some level of market orientation, with a higher score indicating a stronger market orientation. This operationalization allows us to account for the fact that the Washington, DC charter school law requires all charter schools to hold a formal nonprofit status as well as for the more general fact that nonprofit organizations in the United States increasingly are likely to adopt organizational tactics and behaviors associated with the for-profit sector (Weisbrod, 1998; Cordes, Steurle, & Twombly, 2001).[9]

Since our hypotheses require us to look for the effect of variation between different types of charter schools, as well as between these schools and the population of traditional public schools, we divide our analysis into two different sections. To test our hypotheses between types of charter schools, we make use of difference of means tests, or *t*-tests, since our population of charter schools is small ($N = 30$).[10] To test our hypotheses comparing DCPS schools to charter schools, we use standard OLS regression analysis. We categorize schools as set of dummy variables: DCPS, market-oriented charters or nonmarket charters, with DCPS schools serving as the reference group. We consider a charter school to be "market-oriented" if it scored a 2 or more, the median value, on the index, exhibiting more than just nominal market competition behavior.

Analysis and Findings

Variation of Charter School Type

Before we begin our analysis of the variation in the populations served by traditional and different types of charter schools, we need to estab-

lish that our distinction between types of charter schools is a valid one. Figure 1 presents a summary of the 30 charter schools operating in the District of Columbia in the 1999–2000 school year along the lines of market orientation, revealing that about half of them appear to have virtually no indication of such characteristics what so ever. This is substantively significant in that, contrary to the premises of charter school proponents, quite a number of charter schools may not be the product of education entrepreneurs looking to improve the status of the overall educational system through competition.

In order to learn whether there is a significant difference in this distinction we conducted a number of tests on the data. We started by looking at whether charter schools in Washington, DC are significantly smaller than the public schools as well as whether market-oriented charter schools are larger in size than the nonmarket driven schools. We present the results in Table 2.[11] Overall, we found that charter schools are smaller than are DCPS schools. This difference is large and statistically significant, with the average DCPS school enrolling more than twice as many students as the average charter school, a finding consistent with most other studies of the early waves of charter schools. It may, as some charter school proponents suggest, reflect a characteristic endemic to charter schools due to their effort to meet parent wishes for smaller and more intimate settings and to respond to contemporary research suggesting that small schools generate superior educational achievement. It is also possible, however, that this relationship is time-bound, reflecting the fact that charter schools are all relatively new and that many have not yet reached their anticipated scale. Indeed, many charter schools in Washington, DC plan to increase their size by increasing by a grade level each year.

Data on charter schools in the aggregate, moreover, may mask important differences depending on school orientation. We have suggested that market-oriented charters will tend to be larger, based on their greater responsiveness to presumed economies of scale, and Table 2 indicates that this is the case. We found that on average, nonmarket oriented charters have fewer than 100

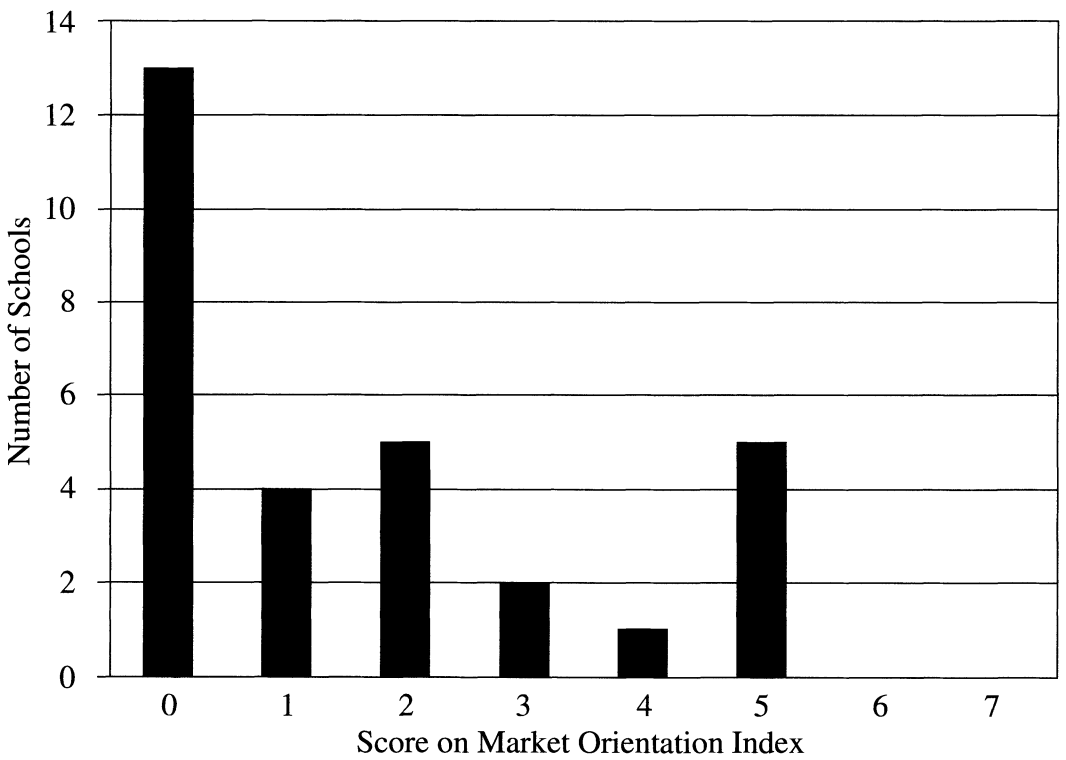

FIGURE 1. *Market orientation of Washington, DC charter schools.*

TABLE 2
Difference in Means Tests Between Traditional Schools and Charter Schools and Between Nonmarket-Oriented and Market-Oriented Charter Schools

Group	School Size Mean	Percent Special Education Mean	Percent FARL Mean	Percent LEP-NEP Mean
Traditional Schools	459.35 (16.74)	10.52 (0.54)	64.00 (2.23)	7.82 (1.23)
Charter Schools	213.17 (41.24)	11.41 (3.00)	68.25 (4.59)	9.00 (4.13)
t-score	5.94***	–0.29	–0.80	–0.27
Combined *N*	177	176	174	176
Nonmarket-Oriented Charters	95.18 (13.33)	14.19 (5.14)	72.36 (6.88)	15.88 (7.40)
Market-oriented Charters	367.46 (75.33)	7.76 (1.47)	62.88 (5.54)	0.53 (0.48)
t-score	–3.56***	1.20	1.02	2.16**
Combined *N*	30	30	30	29

Note. Two sample *t*-tests, two-tailed. Standard error in parentheses. Excludes the three DCPS special education schools. ** $p < .05$, *** $p < .01$.

students, with market-oriented charters having more than three times as many, about 367 students on average.

Serving Special Education Students

Looking first at whether there is a difference in the percentage of special education students enrolled in charter schools and traditional public schools, our difference in means test shows that charter schools taken together do not appear to serve a different percentage of special education students than DCPS schools.[12] In order to disaggregate charters and examine the impact of market orientation we construct a regression analysis where we model the percentage of special education students in a school as a function of market orientation and a set of control variables, excluding the DCPS schools serving only special education students.[13] Our regression model (see Table 3) indicates that special education students make up about six percentage points less of the market-oriented charter schools' student body compared to DCPS. The difference between nonmarket-oriented charter schools and DCPS schools is not statistically significant but the coefficient suggests that, at least within the educational system as operating in Washington, DC, special education students do make up a greater percentage of nonmarket oriented charter school students.[14]

When we consider whether different types of charter schools are more likely to serve special education students, we find that market-oriented schools are serving a much lower percentage of special education students than do other types of charter schools (7.8% vs. 14.2%). The means also indicate that the nonmarket-oriented charter schools serve the highest percentage of special education students, with DCPS (including or excluding the three special education schools) serving more than market-oriented charter schools. This suggests that perhaps some nonmarket-oriented charter schools are targeting special education students.[15]

Serving Students From Low-Income Families

In turning to the issue of whether charter and traditional schools serve a similar percentage of students from low-income families, we acknowledge that using participation in the FARL program as a proxy for low-income status is imperfect. We choose it simply because qualification for the FARL program is dependent on the family demonstrating a low level of annual income. With this in mind, we first look at whether charter schools and traditional schools serve different percentages of FARL students. Overall, charter schools serve a slightly higher percentage of FARL students (68.25% compared to 64%).

TABLE 3
Regression Results (with Robust Standard Errors)

Variable	Percent Special Education†	Percent FARL	Percent LEP-NEP‡
Market-oriented Charter Schools (compared to DCPS)	−5.52*** (1.44)	−3.91 (5.69)	−8.27*** (1.93)
Nonmarket-Oriented Charter Schools (compared to DCPS)	1.74 (5.91)	2.29 (8.91)	4.38 (6.02)
School Size	−0.003 (0.002)	−0.01 (0.01)	−0.004 (0.005)
Middle and Junior High School	8.57*** (1.51)	−4.91 (3.79)	−2.41 (2.30)
High and Senior High Schools	4.02 (2.71)	−13.51* (6.48)	3.69 (4.84)
Percent FARL	0.10*** (0.02)	—	0.07 (0.05)
Percent Black	0.24** (0.12)	1.15 (0.99)	—
Percent Hispanic	0.12 (0.14)	1.47 (1.07)	—
Percent White	0.27** (0.13)	0.16 (1.08)	—
Constant	−19.01 (11.75)	−39.51 (99.28)	5.08 (3.69)
N	172	173	173
R^2	0.2779	0.4157	0.0590

Note. Standard error in parentheses. Excludes the three DCPS special education schools.
*$p < .10$, ** $p < .05$, *** $p < .01$
†We also ran this regression including the three DCPS special education schools and found the results were consistent with those presented here. The coefficient on market-oriented charters decreased slightly to −7.06 but remained statistically significant with a p value of .005.
‡Race variables excluded from the Percent LEP-NEP model because Percent Hispanic is almost perfectly collinear with the dependent variable ($r = 0.9501$).

However, The average percentage of FARL students enrolled in nonmarket-oriented charter schools is 10 points higher than in market-oriented schools, and eight points higher than DCPS schools.

In our regression analysis we modeled the percentage of FARL-classified students as a function of market orientation and a set of control variables. The results are presented in Table 3. The coefficient for market-oriented schools indicates that they serve almost four percentage points fewer FARL students compared to DCPS when controlling for other school and student characteristics. The positive coefficient on the nonmarket-oriented variable continues a pattern of nonmarket-oriented charter schools serving the highest percentage of harder-to-serve populations, with market-oriented schools serving the lowest, and DCPS falling in between.

Serving Limited or Non-English Speaking Students

Finally, we turn to an analysis of how traditional and charter schools serve limited or non-English proficient students. We modeled percent of LEP-NEP students in our regression as a function of charter school market orientation, controlling for the size of the school, grade levels served, and percent FARL students in a school.[16] The coefficient for market-oriented charters is large, negative (−8.27), and statistically significant, indicating that LEP-NEP students make up

a smaller percentage of their student bodies compared to DCPS schools. The variable for nonmarket-oriented charters is positive, indicating that they serve a higher percentage of LEP-NEP students on average than do DCPS schools.

We also wanted to test whether market-oriented schools served fewer LEP-NEP students compared to nonmarket-oriented charter schools. We find that nonmarket-oriented charter schools are much more likely to serve LEP-NEP students than are market-oriented charter schools. Indeed, LEP-NEP students make up 15.88% of the nonmarket-oriented charter schools' student bodies, but only 0.53% of the market-oriented charter schools. Notice again that traditional DCPS schools fall between the market and nonmarket-oriented charters when it comes to serving LEP-NEP students, serving more than the market-oriented schools, but less than the nonmarket-oriented schools.

Implications and Conclusions

We find that charter schools taken as a whole do not appear to be cream skimming the pool of potential students in Washington, DC. To the contrary, in the aggregate they are serving a population that has many characteristics associated with educational disadvantages. That is not surprising when one considers the fact that many of the early charter schools were founded by individuals or organizations with a distinct mission of serving those with the greatest needs.

Although subject to important caveats, our analysis provides evidence that this aggregate pattern may be masking some meaningful differences across types of charter schools. While nonmarket-oriented charter schools are serving equal or higher proportions of needy populations than the traditional public school system, those with more entrepreneurial aspirations are not. The percentage of special education students served is nearly twice as high in nonmarket-oriented charters than in market-oriented ones. The overall responsiveness of Washington, DC charter schools to the special needs of Latino students, who constitute the overwhelming majority of those with special language needs, appears to be entirely attributable to the targeted efforts of a few of the nonmarket-oriented charter schools. Indeed, we repeatedly see a pattern where nonmarket-oriented charter schools seem more targeted toward special needs and disadvantaged students than DCPS schools, and with market-oriented charters the least so.

Given the highly politicized environment in which charter schools and school choice more generally, are debated it is important not to jump the gun or overstate our conclusions. The charter movement can take on very different configurations in different states, where laws, needs, institutions, and political culture all may play important roles. Moreover, in Washington, DC, as in other jurisdictions, the charter phenomenon is fluid and evolving. As more schools enter and exit the charter arena, differences between market and nonmarket-oriented organizations may either sharpen or fade. What does stand out is that even where we believe that there are relative differences between the two types of schools it is clear that no charter schools in the District of Columbia are serving an elite population. If market-oriented schools are differentially pursuing relatively less-disadvantaged populations, it is not by cream skimming the top of the students but by cropping off service to students whose language or special education needs make them more costly to educate.

To the extent that charter school proponents frame their arguments as a market-based solution to a social problem, however, the suggestion that the most market-oriented charter schools are also the least likely to serve high-need populations may be reason enough to pause and take stock. This is especially true in light of evidence that the proportion of charter schools operated by for-profit educational management organizations has been increasing and is projected to increase further still. This analysis suggests how different school orientations can potentially lead to serving different student groups. Because the balance of the charter school population is regulated, in part, by chartering authorities, it is worthwhile to understand the distinctions that exist in the universe of charter schools and how they might affect the composition of the student body. Knowledge of these distinctions is useful for chartering authorities as they review potential new entrants to the market.

Notes

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[1] The demographics of those cities largely translate that income provision into a minority-only program as well.

[2] That does not deter some choice proponents from pointing to the low-incomes of voucher recipients as proof that market-based choice promotes equity. While such families *are* poor, the central question in these formally constrained programs is whether they are advantaged or disadvantaged relative to other eligible families. In Milwaukee, where only low-income families were eligible, there was some evidence of creaming along socioeconomic lines: 56% of the mothers of participating families had at least some college education, compared with 40% of all Milwaukee public school mothers and 30% of mothers in the city's low-income neighborhoods (Witte, J. F., Jr., 2000).

[3] There are both "weak" and "strong" versions of their response. The weak version holds that choice will not make things worse, or at least not much worse, and that any incremental increase in segregation will be more than compensated for by the anticipated gains in school performance. The stronger claim is that government—not markets—is responsible for school segregation and that unleashing school choice and market forces will provide the racial, ethnic, and economic integration that governmental mandates have failed to deliver.

[4] According to Nelson, Muir, and Drown (2000), about one-half of all states provide the same funding for elementary schools as high schools and provide funding advantages for charter schools with low special education populations and about 40 % provide funding advantages to charter schools with few low-income or at-risk children. Michigan and Indiana are two states where low-cost cream skimming is possible because weights are not provided for funding secondary schools, which are typically more costly to operate (Theobald, 2001; Arsen, Plank, & Sykes, 1999). A study of Michigan charter schools concludes that the existence of a disproportionate number of elementary charter schools is due to the lack of additional funding to operate secondary schools (Arsen, Plank, & Sykes, 1999).

[5] Weisbrod's treatment of bonoficing does not rely exclusively on motivation; indeed, he places considerable emphasis on the way that institutions constrain and enable bonoficing behavior.

[6] In place of price, bonoficing nonprofits are more likely to rely on waiting lists (Weisbrod, 1998).

[7] On October 7, 1999, the District of Columbia Public School System (DCPS) recorded that 85.22% of its students were Black, 1.56% Asian, 8.75% Hispanic, and 4.43% White. See http://www.k12.dc.us/dcps/data/enrollment/99-00_enroll.html.

[8] We count these multicampus schools as separate observations because each campus exhibits a high degree of autonomy. Each has its own principal, administrative structure and budget.

[9] These are not the only dimensions along which one might reasonably seek to distinguish more market-orientated from less market-oriented organizations. Nor is it inconceivable that applying this index might lead one to inaccurately characterize as market-oriented a school whose nonmarket based mission impels it to seek to serve many students over a wide geographical area. This operationalization had two distinct advantages: (a) it offered basic face validity (both in relation to economic theory and as applied to the specific cases with which we were familiar), and (b) we had the data to put it into effect.

[10] For each *t* test, we first conducted a variance ratio test to determine whether or not we should conduct an equal variance or unequal variance *t*-test.

[11] The results of the difference in means tests for all variables are presented in Table 2. Regression results are all presented in Table 3.

[12] This is true whether or not the three DCPS special education schools are included.

[13] There are reasonable arguments in favor of both including or excluding these three schools. The schools serve students with extreme disabilities that are believed to preclude mainstreaming into conventional schooling environments, and Washington, DC regulatory guidelines absolve charter schools of the legal responsibility to admit such students. If we regard these students as extraordinary cases, it is reasonable to exclude the schools they attend from a comparison between charter and noncharter schools. On the other hand, charter schools are not prohibited from servicing these children and some do so. Moreover, critics' concerns that charter schools will steer away from high cost children, essentially "dumping" them on the traditional public school systems, cannot be fairly tested without including these especially significant cases. We ran the model both ways, finding the difference between market-oriented charters and DCPS schools was slightly larger and statistically significant, with a coefficient of −7.06 on the market-oriented variable, when the special education schools were included.

[14] We take seriously some substantively large differences despite the fact that they fail to meet standard tests of statistical significance. Because we are dealing with the universe of charter schools operating in Washington, DC at the time, our data are not dependent upon a sampling procedure, so observed differences can be considered genuine. That said, it is reasonable to regard these findings as provocative but tentative, pending further studies that can include larger numbers of charter schools.

[15] Alternatively, it is possible that these nonmarket-oriented charter schools are simply more aggressive than the public system in formally identifying students with special needs. Schools receive supplemental funds

to provide services for each student officially classified as special education, but this financial incentive is the same for nonmarket-oriented charter schools as it is for market-oriented charters and DCPS. Because they are smaller, it is conceivable that nonmarket-oriented charter schools can be more effective in the identification process. But traditional DCPS schools have had their labeling systems in place for much longer, and that could result in a bias in the other direction. It is also conceivable that some market-oriented charters might deliberately under-identify special education students, in the belief that their known presence would deter other students from enrolling, although there is no evidence that that is the case.

[16] Racial and ethnic composition variables were excluded as control variables because of high multicollinearity. For example, there is almost perfect collinearity between the percent of Hispanic students with the dependent variable percent LEP-NEP. The correlation coefficient between the two is 0.95.

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