FROM A POLITICAL PERSPECTIVE that values equality and diversity, integrated schools are inherently good. Research also supports the notion that exposure to individuals from a diverse set of backgrounds has positive social and political benefits for a pluralistic society, and an expanding body of research attests to the positive consequences of school integration for academic outcomes.

Yet schools remain highly segregated by race and class, in part because of the segregation of neighborhoods, which largely determine where students enroll. Public charter schools, which have dramatically expanded their reach since they were first established in 1992, now occupy a central role in the public debate over racial isolation in school, with advocates and critics pitching the schools as either a potential cure for, or a key contributor to, segregation.

Charter advocates argue that decoupling school assignment from already intensely segregated residential neighborhoods should lead to more integrated schools. Charter critics, however, allege that these public schools of choice are instead driving resegregation. They worry that if socioeconomically advantaged families take advantage of school-choice opportunities and leave the most disadvantaged students behind in the worst schools, choice could exacerbate segregation.

Which of these camps is correct? How do charter schools affect segregation? The current empirical evidence fails to provide a definitive answer. In this study, we attempt to close that gap with the first nationally comprehensive examination of this question. We use detailed annual records on school enrollment by race spanning a period of 17 years, from 1998 to 2015, and a research design that isolates the causal effect of the charter share of enrollment on the segregation of American school systems.

We find that, on average, an increase in the percentage of students going to charter schools leads to a small increase in the segregation of black and Hispanic students within the school districts in which charters open. Our analysis suggests that an increase of 1 percentage point in the fraction of students

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attending charter schools in a district causes segregation in that district to increase by 0.11 percentage points. For the average district nationwide, this implies that eliminating charter schools would lead to a modest 5 percent decrease in the segregation of black and Hispanic students.

However, we uncover considerable variation in the size of this effect, particularly depending on how we define a school system. The presence of charter schools slightly increases segregation when it is measured at the level of the town or county, similar to the effect at the school district level. But in metropolitan areas, the net effect is not distinguishable from zero, as the increase in segregation within districts tends to be offset by a decrease in segregation between them. We also find dramatic differences in the charter effect on segregation in different states: in some it is close to zero, and in others it is much larger than the national average.

Taken together, we find compelling evidence that the rise of charter schools over the last 20 years has led to slightly higher levels of racial and ethnic segregation, on average. However, these results need to be interpreted in the context of the purpose of charter schools. A large number of charter schools were founded and specifically tailored to serve students from vulnerable backgrounds, out of which a good number have been successful at improving student outcomes. Patterns resulting from black and Hispanic families choosing schools that they feel meet their children’s needs should not be interpreted with the same lens as the government-mandated desegregation that was outlawed by the U.S. Supreme Court in Brown v. Board of Education.

A long history of separate schools

Students in U.S. schools were racially isolated for decades before the Supreme Court declared separate facilities to be constitutional in its 1896 Plessy v. Ferguson ruling, which was not successfully challenged until the court’s Brown decision in 1954. It was only in the mid-1970s that rates of school segregation began to fall substantially, as the result of court-ordered desegregation plans for districts. However, segregation between districts was difficult to address after a 1974 court decision, Miliken v. Bradley, struck down desegregation plans that sought to address segregation across district boundaries.

Fastened by so-called “white flight” and racist housing-market practices, race-based residential patterns at the municipal level continued and segregation between school districts increased. Across the United States, segregation between districts is now higher than segregation within districts, though this trend is somewhat less pronounced in the South and West, where districts tend to be larger and encompass many communities.

Research has found the effects of racial segregation on students are far-reaching, though the precise mechanisms that produce these effects are less clear. Analysis of the desegregation plans that followed the Brown ruling found black students were less likely to drop out of high school or be incarcerated, were more likely to be healthy and employed, and earned better wages. When desegregation orders were terminated, dropout and incarceration rates among students of color increased.

Researchers Sean F. Reardon and Ann Owens suggest that there are two primary ways by which integration might improve student outcomes: by ensuring educational resources are more equitably available to all students, and by increasing the total pool of available resources (because, for example, the political capital of parents in an integrated system may be more directed at acquiring higher total resources for the entire system rather than for specific schools). Thus far, studies have tended to focus on the distribution of available resources, which varies greatly as a function of segregation and seems to be a driving mechanism of the benefits of integration.

Enter public charter schools. Existing research says little about how charter schools affect the distribution of students in school systems. In 2017, for instance, the Associated Press conducted an analysis that compared charter schools to traditional public schools and found that charters were more likely to demonstrate high levels of racial isolation, which was quickly interpreted as more segregated. The reaction to the story exemplified the divisiveness of the issue and the importance of sound measurement.

The president of the American Federation of Teachers, Randi Weingarten, called the data “damning,” and argued that “America’s children deserve better.” The National Education Association announced “Racial Isolation of Charter School Students Exacerbating Resegregation.” Charter proponents pushed back, calling the Associated Press analysis “irresponsible” and asserting that charter schools merely reflect the neighborhoods in which they operate. Charter schools, they argued, were being unfairly criticized for doing exactly what they had set out to do—serve students who are most in need of better education.

What has been lacking is a large-scale study of the effects of charters on school segregation in the United States using a credible research design. Simply comparing the share of charter and traditional public schools that are racially isolated is insufficient, as charter schools are not spread evenly across the educational landscape and their introduction may affect the composition of students in traditional public schools. Rather,
what is needed is a strategy to determine how the emergence of charter schools has influenced patterns of school enrollment in the specific systems in which they operate. We provide such an overview here with a longitudinal analysis of the universe of public school systems from 1998 to 2015.

Measuring segregation
Our primary data source is the National Center for Education Statistics’ Common Core of Data, which includes school enrollment counts by grade level, race, and ethnicity, as well as each school’s type (charter or traditional public) and location. Our study period begins in 1998, the first year the charter category was available, but we obtain similar results if we exclude data from 1998 to 2002, when national data on charter schools were of lower quality.

We match school locations to different districts, counties, cities and towns, and metropolitan areas, which we treat as distinct definitions of school systems when computing school segregation. This is particularly important, as it allows us to geo-locate charter schools in the school systems that they affect. For school districts, we use the 2015 definition of school-district boundary maps from the National Center for Education Statistics’ Education Demographic and Geographic Estimates. We also use U.S. Census data to locate all schools within tracts, which provides us with residential population counts by age, race and ethnicity, adult educational attainment, and median household income.

We focus on annual school-district enrollments by grade level: for each year in 1998 through 2015, we observe the racial composition at each grade level from kindergarten to 12th grade for all schools located in U.S. mainland states. We limit our analysis to district-grade combinations with at least two schools throughout this period, so that segregation measures can be computed. Our final sample includes 4,574 school districts, observed for each grade in K–12 across 1998–2015, for a total number of observations that exceeds 500,000.

Nationally, charter schools increased their share of total enrollment from less than 1 percent to nearly 7 percent over this time span (see Figure 1). Among districts that had at least one charter school at some point during this period, the charter enrollment share grew to more than 11 percent.

Charter schools, on average, serve different populations of students from traditional public schools: they enroll higher proportions of black students than white students in elementary and middle schools, and tend to enroll higher proportions of Hispanic students in middle and high schools. These enrollment characteristics largely reflect their locations; charter elementary and middle schools are more likely to be located in census tracts with higher proportions of black residents, while charter middle and high schools are found in areas with higher proportions of Hispanic residents compared to white residents. Charter schools also tend to be located in tracts with lower median income and adult educational attainment.

Determining the effect of charter-school growth on school-system segregation has proved vexing, in part because different methods of measuring segregation can lead to different conclusions. Absolute measures, often referred to as measures of exposure or isolation, determine the extent to which students from one demographic group are exposed to or isolated from another demographic group within individual schools. For example, some researchers have adopted terms such as “hypersegregated” or “intensely segregated” to describe schools that enroll more than 90 percent of students with the same demographic characteristic,
and have employed these methods to claim charter schools are more segregated.

While descriptively useful, a drawback of these measures is that they are partly driven by the underlying racial composition of the school system. Schools in high-minority areas may be labeled as segregated simply for reflecting the underlying pool from which they draw students. Recent claims in the media that schools have been resegregating have tended to rely on absolute measures, which do not account for the fact that white students make up a shrinking share of all students in the United States. As a result, it is misleading to compare absolute measures of segregation across time or geography.

Relative measures of imbalance or unevenness adjust for the underlying composition of students, making them comparable across different locations and over time. They are also conceptually different in that they measure how evenly a given population of students is distributed across a school system. One commonly used metric in this family of relative segregation measures is the variance-ratio index, which we employ here. The variance-ratio index builds from the isolation index but includes a simple adjustment for system-wide composition that allows for accurate comparisons across time or place. It indicates how segregated a system is relative to how segregated it could be, given the demographic mix of students, and can also be interpreted as how predictive a student's own race is of the racial composition of her school peers. The variance-ratio index ranges from zero (complete integration) to 100 percent (complete segregation).

Still, to be sure that our results are not driven by our choice of segregation measure, we conduct a parallel analysis using another common metric, the index of dissimilarity. The dissimilarity index measures the proportion of a group’s population who would have to change schools to reach an even distribution across each school in the system. We obtain similar results when we use the dissimilarity index instead of the variance-ratio index.

We focus on the segregation of black and Hispanic students from other students, as prior research shows that most segregation occurs between whites and minority groups. In general, we find similar results when we separately measure the segregation of black, Hispanic, and white students from students in all other groups, and we note any exceptions.

We first employ the variance-ratio index to determine trends in average segregation nationally using four different definitions of a “school system”: school districts, cities and towns, counties, and metropolitan areas (see Figure 2). We find the segregation of black and Hispanic students relative to other groups has remained remarkably stable over the last 15 years, and has even declined modestly for metropolitan areas.

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These national trends show that the growth of charters has not been accompanied by rising levels of segregation, but they do not indicate whether the presence of charter schools has influenced segregation in specific communities. We thus employ a more localized approach, and compute charter enrollment and segregation for each grade (kindergarten through 12th) in each school system over time. Our analysis identifies the causal effect of the percentage of students attending charter schools by comparing changes in segregation across grade levels within the same system that have experienced differing intensity in charter penetration. For example, if in 2010 the share of 9th-grade charter-school enrollment in Washington, D.C., grew more than in other grades and there was a corresponding increase in 9th-grade segregation relative to other grade levels, our methodology would attribute this to charters having increased segregation. Our national estimate of the effect of charters on segregation is an weighted average of these types of comparisons across all school systems and grade levels over the period 1998–2015.

Results
Charter schools have led to small increases in school-district segregation for each of the racial groups that make up the majority of the student body in most U.S. school systems. An increase of 1 percentage point in the share of enrollment in charter schools leads to an increase of segregation of black and Hispanic students within districts of 0.11 percentage points. Put a different way, if the average district in the sample shut down all of its charter schools, we would expect its overall segregation of black and Hispanic students to decline from 15.0 to 14.2 percent, a decrease of 5 percent. Excluding districts that have never had a charter school, we would expect average segregation to fall from 19.1 to 17.8 percent, a decrease of 7 percent.

Thus, this average effect of charters, while statistically significant, is of modest magnitude—likely due both to charters’ relatively small share of total enrollment and to heterogeneity in the effect of charter schools across different types of districts.

This is important because local school districts are the governing units with the most influence over student-assignment policies. From a geographical perspective, however, charter schools are not constrained from enrolling students from multiple districts. Moreover, the bulk of school segregation in the United States occurs between different districts, not within the same district. Because charter schools can draw students from beyond the school district in which they are geographically located, how we define the geographical school systems may be an important driver of our results.

To test this theory, we group schools into four types of settings—geographic school districts, cities and towns, counties, and metropolitan areas—and examine the effects of charter schools on the segregation of black and Hispanic students in each grouping (see Figure 3). We find that charters have a statistically significant segregative effect at each level of aggregation, with the exception of metropolitan areas. At this broadest

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NOTE: Figure shows the estimated effect of a one-percentage-point increase in charter share of enrollment on segregation of black and Hispanic students within different geographic units. The measure of segregation is the variance-ratio index. Empty bar indicates that the estimated effect on metro-area segregation is not statistically significant; effects at the other levels are significant at the 95 percent confidence level.

SOURCE: Authors’ calculations from Common Core of Data
level of aggregation, the impact on segregation is positive but neither large nor precisely estimated enough to be statistically significant. When we look at each racial and ethnic group separately, the charter impact on segregation at the metropolitan area level is statistically significant for blacks but not for Hispanics or whites.

We dig deeper into segregation at the metropolitan-area level by dividing it into two components: segregation within districts and between districts (see Figure 4). Between-district segregation reflects differences in the average racial composition of school districts in the same metropolitan area, while within-district segregation is that which occurs due to differences in the composition of schools within the same district.

Critics are incorrect when they say that charters are driving a resegregation of American schools.

For black and Hispanic students combined, we find that charter schools have counteracting effects on segregation at the metropolitan-area level. As we established before, charters increase segregation inside school districts, but they tend to decrease segregation between districts in the same metropolitan area. When we examine individual racial groups, however, this pattern holds for white and Hispanic students but not for black students.

One interpretation of these results is that charter schools echo the role of magnet schools during the era of court-ordered desegregation plans. Magnet schools were hoped to counteract white flight to suburban school districts by offering programs in urban districts that would attract white families. They were thus meant to partly sacrifice the within-district integration objective in order to limit the more severe problem of growing segregation between districts. Charter schools today appear to have this type of dual effect—but while they alleviate certain demographic imbalances across district lines, this has not resulted in greater school integration overall.

We also compare how charters have affected within-district segregation across the country by looking at enrollment in all U.S. states where at least 1 percent of students attend charter schools (see Figure 5). We find substantial variation, with evidence of notable effects on segregation in Louisiana, New Mexico, North Carolina, Oklahoma, and Rhode Island. And there are several states where charters appear to have little or no effect on segregation, such as Arizona, Florida, Georgia, New Jersey, and Oregon. For a number of other states, the results are too imprecise to come to a definitive conclusion either way.

Implications

Our study shows that critics are incorrect when they say that charters are driving a resegregation of American schools. Their impact on segregation is small, and appears to be somewhat offset by improvements in racial balance across districts in the same metro area. But it also shows that charter proponents are incorrect to assume that freeing
The Effect of Charter Growth on Within-District Segregation Varies Widely Across States (Figure 5)

Charter growth has notably increased the segregation of black and Hispanic students within school districts in states such as Louisiana, New Mexico, North Carolina, Oklahoma, and Rhode Island. However, in states such as Arizona, Florida, Georgia, New Jersey, and Oregon, charters have had little or no effect on segregation.

NOTE: Figure shows the estimated effect (and 95-percent confidence interval) of a one-percentage-point increase in charter share of enrollment on within-district segregation of black and Hispanic students for each state with at least 1 percent of total enrollment in charter schools at some point during the period 1998-2015. The measure of segregation is the variance-ratio index, which averaged roughly 15 percent across all districts during the sample period.

SOURCE: Authors’ calculations from the Common Core of Data
public schools from neighborhood boundaries will necessarily enhance racial integration. The evidence in our study shows that charter schools lead to slightly higher levels of racial and ethnic segregation, on average, with wide variation across states.

Is such segregation comparable to the separate and unequal circumstances of the past? Segregation that occurs as a result of a family choosing a charter school designed to meet the particular needs of their children is fundamentally different from the type of school segregation that took place during the pre-Brown era of de jure segregation. Still, there are compelling reasons to enhance school integration, both as an ideal and as a proven path to better outcomes for minority students.

Charters may better serve this purpose through more intentional recruitment policies that are attentive to how relative advantages across families can lead to increased stratification. One promising strategy comes from policies that centralize school-choice options into common enrollment systems, which research has found reduce the burden of choosing a school and increase the proportion of disadvantaged students entering charter schools. Designing these common enrollment systems to intentionally increase diversity (such as by making school-assignment decisions in part based on students’ socioeconomic background) may also be a worthy tactic.

Other promising strategies involve so-called diverse-by-design charter schools—a small but growing trend. Because charter schools are free to target their recruitment strategies from broader geographical areas, such designs have the promise of using charters as agents for integration. While little research has evaluated the effectiveness of such policies, strategies to encourage diversity, such as weighted admission lotteries and targeted recruitment efforts, show promise. For example, San Antonio, Texas, is pursuing a holistic enrollment approach that includes district-authorized charter schools, magnet schools, and traditional public schools in common enrollment systems and weighted admission lotteries, while also strategically locating new schools of choice and increasing funding for transportation for participating students. With the right design features, the promise of school choice as an agent of integration may yet be realized.

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