



Some economic guidelines for design of a charter school district

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ABSTRACT

As the number of charter schools has grown nationally, there is increasing discussion of the consolidation of such schools into charter districts in which all schools would be charter schools from which parents would have the freedom to choose the school that they wished their student to attend. A major question is how such a charter school district would be organized to support its schools and who would perform the different functions required. It is argued that three economic guidelines need to be an important determinant of the solution to this question: the presence of economies of scale; transaction costs; and externalities. The article describes the application of these guidelines to the formation of a charter school district and suggests the different possibilities for addressing a range of important roles by schools, their districts and intermediate organizations and markets.

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1. Introduction

In the last two decades, large school districts in the U.S. have endeavored to decentralize governance and operations by increasing autonomy of individual schools and expanding choice of schools for families and students (Levin, 2004). In many cases they have adopted what is called a portfolio approach by sponsoring a mix of schools including those operated directly by the school district, but also schools operated by private, non-profit or for-profit entities through district contracts or charter schools (Bulkley, Henig, & Levin, 2010). This approach is referred to as a portfolio approach in that the school district controls the composition of different types of schools in order to enhance choice and balance school strengths with student needs in seeking higher levels of school performance.

Some suggest that in the future many school districts will convert all schools to charter schools that will comprise

a “charter district”. Charter schools typically have considerable autonomy from state and local regulation so that they function much more autonomously than the non-charter schools of a portfolio district. Normally, their operation is authorized by the state with a state body or local school district monitoring their performance, but each state has different provisions for their authorization, establishment, and monitoring (National Association of Charter School Authorizers, 2011). Although there are no school districts that are comprised only of charter schools, there is a clear trend in this direction as more and more charter schools are formed, particularly in urban areas. This article is devoted to considering the issues that might arise in designing and operating a charter school district, one composed completely of charter schools. However, its perspectives are also applicable to any school district that is considering expanding school choice.

1.1. Decentralization as a trend

Traditionally school districts were established by states to operate their schools by setting attendance boundaries

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for most students according to their neighborhoods of residence. Some larger school districts provided a few schools that focused on specialized subjects such as the sciences or performing arts or academic giftedness, allowing students to compete for places. And students with moderate or severe disabilities were typically assigned to schools with at least some specialized capacities to address their needs. Towards the latter part of the twentieth century, some urban school districts enlisted choice among a limited number of “magnet schools”, mainly to reduce racial segregation associated with enrollments in racially-isolated neighborhood schools (Smrekar, 1999). Charter schools refer to schools operated independently of the local school district under state laws that waive most state and local regulations in exchange for a commitment to meet certain standards of service and performance based upon an agreement or charter. State legislation on charter schools varies considerably in terms of the specific requirements and provisions. But, generally such schools are established by application to an authorizing agency or local school districts that are designated by the state (National Association of Charter School Authorizers, 2011). If approved they are supported by public education funding and receive a “charter” for a specific term which can be renewed on the basis of successful performance (Finn & Manno, 2001).

According to charter advocates, the overall quality of education can be improved through a closer matching of schools to parental preferences, student talents, student interests and learning styles (Finn & Manno, 2001). Since schools receive their funding according to their enrolments, competition for students among the different schools is expected to create incentives leading to higher school effectiveness and performance than with a district monopoly over educational provision. Choice systems are also argued to increase equity because they allow students in racially and economically segregated neighborhoods which are often characterized by poorly functioning schools to choose better schools in other neighborhoods. The evidence on how well charter schools have met these expectations is mixed according to rigorous studies of student achievement (CREDO, 2009; Bettinger, 2005; Zimmer et al., 2009) or syntheses of large numbers of comparative studies of charter and conventional public schools (Betts & Tang, 2008).

Many urban school districts are on a path to expand substantially the numbers of charter schools within their borders. In 2010 there were four districts with one-third or more of their schools with charter status: New Orleans, Washington, DC, Detroit, and Kansas City with almost two-thirds of New Orleans schools having charter status (National Alliance for Public Charter Schools, 2010). Charter schools comprised more than 20 percent of schools in 16 other districts, and the proportions of charter schools in all of these districts are growing rapidly. But, more recently there has been discussion of establishing full systems of school choice based upon charters.

It is important to note that the term charter district is confusing because it has a different meaning in another context. In a number of states a district can seek charter status, a method of changing its relation to the state while still maintaining control of its district schools (Lockwood,

2001). By making a district charter commitment, the district would be granted relief from many state rules and regulations that may limit reform efforts such as mandates on resource allocation and instructional methods and materials. However, in this sense, charter district status would not mean that individual schools become charter schools, but only that the district would change its relation with the state.

In contrast, this article refers to charter districts as ones in which all or most of its schools are charter schools that are semi-autonomous, from which students and families can choose. Of course, this raises the question of how such a district should be redesigned for school autonomy and what the role the school district should play in terms of organization and governance. In the earliest proposals in this direction, Hill, Pierce, and Guthrie (1997) suggested that each school should be operated by an independent for-profit or not-for-profit contractor. The district's role would be primarily to solicit, select, and establish contracts with providers and evaluate the subsequent performance of the schools for prospective contract renewal or replacement.

1.2. A charter school district

At the time that Hill et al. (1997) had prepared their provocative work, they did not refer to a charter district, but a “contract” district. In contrast, this article refers to charter school districts as ones that consist of autonomous or semi-autonomous charter schools, focused on providing meaningful school choice for families. In the 1990s, charter schools were just a fledgling enterprise with the first state legislation having passed in 1991. Towards the end of the decade the charter school movement had exploded, and by 2008–2009 the number of schools had increased to about 4700 schools in 40 states, the District of Columbia and Puerto Rico with more than 1.4 million students, the numbers of students quadrupling between 1999 and 2007.¹ Although charter schools represent about three percent of public elementary and secondary schools, they comprise a much higher density of schools in major, urban school districts.

Presumably, a charter district would be responsible for converting its existing schools to charter schools as well as to encourage the establishment of new charter schools following state procedures for doing this. Once having done this, the charter schools would operate under the authority of the chartering school agency, usually an office of the state government, in conjunction with the school district. One district that seems to be moving in this direction is New Orleans (Pastorek & Vallas, 2010). Although no official plan has been preferred for complete conversion to a choice district, both the former superintendent of the Recovery School District, Paul Vallas, and the State Superintendent of Instruction, Paul Pastorek, have referred to converting most of the existing schools to charter schools (e.g. Simon, 2008)

¹ These data are from the National Center for Education Statistics of the U.S. Department of Education (<http://nces.ed.gov/fastfacts/display.asp?id=30>) and are drawn from separate tables in U.S. Department of Education, National Center for Education Statistics (2010).

a perspective supported by other groups contemplating the future of New Orleans schools (Newmark & De Rugg, 2006). There have been few attempts to address the overall governance and operations of such a choice district and its schools. At present, discussions in New Orleans are at a high level of abstraction rather than addressing what specific functions need to be performed and by whom and how the choice district would be governed (Vanacore, 2011).

To create a choice district, what principles should be used to design it? The purpose of this paper is to begin to address the outlines of an overall design and governance framework by drawing upon specific purposes of education, roles that are designed to satisfy these purposes, and the assignment of specific dimensions of educational operations to individual schools, intermediate institutions and the marketplace or a more central authority. The analysis will be guided by the economic concepts of economies of scale, externalities, and transaction costs. It is argued that all three of these principles must be considered in the creation of an efficient quasi-market or choice system for a school district.

2. Purposes of education

Before addressing the ramifications of a dramatically different approach to organizing education and school operation, one must ask a larger question: “to what end?” That is, what are the benefits that we wish the educational system to produce, and how can they be maximized relative to costs? In specifying benefits, we must be aware that they encompass both private and public dimensions (Levin, 1987). Private benefits include those that are conferred upon and limited to the individuals being educated and their families. Families usually favor specific approaches to the rearing of their offspring, and they prefer schools that promote similar perspectives in the schooling process. Further the students who receive more and better schooling benefit from greater understanding of themselves and their society and are able to convert their skills into private gains of higher income, better occupations, favorable personal contacts, enhanced health, and greater political efficacy (Cutler & Lleras-Muney, 2008; Haveman & Wolfe, 1984). These benefits can be substantial for both educated individuals and their families.

But, mass education is also the major mechanism for mounting a society that is educated to understand, accept, and function within a universally-accepted set of institutional premises. A smoothly functioning society means that all or most of its members accept a shared understanding of the values and premises that underlie the legal, political, social, and economic foundations that constitute the society. Much of the educational process is premised on creating a common experience for all of the young that enables them to understand these institutions and prepare them for effective participation. This goal is the rationale for the repeatedly-heard aim of “education for democracy” (Dewey, 1916; Guttman, 1987).

In addition, schools are charged in democratic societies with being the major social intervention for conferring upon the young a fair chance of obtaining life’s rewards or equality of opportunity. This mission entails attention

to creating equity in the allocation of resources and educational outcomes to compensate for initial differences among children in family resources at birth and in early childhood (Philosophical and Normative Issues in Educational Finance, 2008; Rawls, 1971; Rothstein, 2004).

Much of the tension over the organization of schools and the purposes of schooling can be understood by realizing that individual educational goals and aspirations of students and their families may be in conflict with societal goals of equity and the integration of all of the young into societies’ most fundamental institutions. For the individual and the family, the solution is for schools to provide a diversity of educational choices encouraging schools to match as closely as possible their private aspirations and capabilities. For society the solution is to provide a common educational experience that will introduce the young to the fundamental institutions that comprise society and develop the personal capacity for full participation in those institutions (Barber, 2000; Dewey, 1916; Goodlad, 1997; Gutmann, 1987).

These tensions can be seen more clearly if we evaluate the functions of schools according to four criteria that are commonly asserted as central to a good school system. (1) Freedom to choose; (2) Productive efficiency; (3) Equity; and (4) Social cohesion. These criteria can be used to assess how well any particular system of education performs.

- (1) *Freedom to choose*—This criterion places a heavy emphasis on the private benefits of education and the liberty to ensure that schools are chosen that are consistent with the child-rearing practices of families. Just as families wish to set the type of conditions that will influence their children’s growth and development overall, they wish to choose schools that reinforce their values and goals.
- (2) *Productive efficiency*—This criterion refers to obtaining maximum educational results for any given resource constraint placed upon the schools. Advocates of choice believe that both competition among schools for students and the better match of schools to student educational needs will increase productive efficiency.
- (3) *Equity*—This criterion refers to the quest for fairness in access to educational opportunities, resources, and outcomes by gender, social class, race, language origins, disability, and geographical location of students. Many advocates such as Milton Friedman (1962) have argued that choice itself provides equity in the sense that the same options are theoretically available to all. This interpretation is challenged by those who argue that families with greater resources, knowledge, access to information and experience with consumer choice are best situated to take advantage of a choice solution and obtain the most favorable options (Schneider, Teske, & Marschall, 2000). The issue under contention is whether choice tilts the playing field even more to advantaged families and outcomes than the present system based upon neighborhood of residence (Scott, 2005).
- (4) *Social cohesion*—This criterion refers to the provision of a common educational experience that will prepare students to be full participants in the cultural, social,

political, and economic institutions of our society. Its fulfillment requires common elements with regard to curriculum, values, goals, language, and political socialization. Some choice advocates argue that social cohesion requires only establishment of minimal curriculum requirement.² Others such as Barber (2000), Dewey (1916), Goodlad (1997) and Gutmann (1987) assert that social cohesion and democracy require a much fuller process and deeper content than a listing of curriculum topics.³

To judge the success of a district in meeting these criteria, it would be useful to develop measures of each that could be used to obtain comprehensive evaluations of school systems that reach beyond the narrow confines of student achievement. A start in this direction is the application to educational vouchers (Levin, 2002).

2.1. Instruments of design

How different types of school systems succeed in meeting the criteria depends heavily on their design. In particular, it is possible to design forms of school organization that balance goals of school choice by families with the public goals of a responsive school system by employing three instruments of policy design: finance, regulation, and support services.

2.1.1. Finance

The level and distribution of financial support can make a large difference in both public and private benefits. With greater financial provisions, public and private suppliers will be able to offer a richer range of alternatives. Additional resources permit a higher quality and greater range of educational strategies for both communities and individual children. This is also true for the education of students with special needs, where additional funding increases both the choices for those families as well as the educational consequences for increased equity (Duncombe & Yinger, 2005).

The presence and form of financial incentives to improve education can affect productive efficiency of schools. It is possible to provide financial bonuses to schools that demonstrate success in given educational domains. Equity can also be affected by finance. For example, if parents are permitted to pay for additional services in charter schools, equity will be undermined since such options will depend upon family income. Children in poorer households and neighborhoods are unlikely to be able to benefit as much from schools requiring parent contributions as are students from wealthier families, resulting in stratification of schools by family income. Philanthropic funding could be used to increase equity or reduce it depending upon the characteristics of communities and students that were the recipients.

² For example, this is implied by Friedman (1962) in his famous article that introduces educational vouchers, though recognizing the need for schools to provide an education imbued with democratic values.

³ Gradstein and Justman (2002) find the socialization of schools and social cohesion has a powerful impact on economic growth.

2.1.2. Regulation

Regulation is used largely to ensure the provision of public benefits. It is common for states to create requirements for curriculum, testing, personnel qualifications, and student admission that will ensure equity and social cohesion. Not all regulations have implications for public benefits, so there is no reason to believe that the present mix of state laws and local regulations are optimal for that purpose or even fully appropriate. Many regulations were established at the behest of specific constituencies such as educational professional groups and providers or specific populations with the political power to lobby for advantages for their members. These may even have negative consequences for both private and public benefits of education. Nonetheless, specific types of regulation can be forged for designing the level of and balance among public and private benefits, though this does not mean that all educational regulation has been focused on that purpose. Curriculum and testing requirements may be established in behest of both establishing public accountability for resource efficiency as well as greater equity among students and social cohesion in terms of exposing all students to at least some elements of a common educational experience.

But in the case of charter schools and charter school districts, the state has a regulatory role in determining the definition of these entities and the broad dimensions of their organization and operations. Indeed, charter school legislation is heavily devoted to setting out the definitions, permissible operations, and boundaries of charter schools and the conditions under which they can operate. A comparison of these provisions can be found in Education Commission of the States (2011).

2.1.3. Support services

Support services refer particularly to those that enhance effective decisions in choosing schools. In particular, choice does not work well unless there is a large range of accessible options, and choosers are informed about differences among them. This suggests a system of transportation to provide student access to a reasonable range of schools as well as a system for providing accurate and useful information on alternatives. Such support services contribute not only to better school choice, but also to productive efficiency in promoting competition. Moreover, they support equity because it is especially the poor, minorities, and less educated who lack access to transportation and have the least knowledge of differences among schooling alternatives (Schneider et al., 2000).

2.2. Tradeoffs and preferences

There are many ways that the policy tools of finance, regulation, and support services can be used to address the four criteria outlined above. Some detailed examples are found in an application of this framework to the design of educational vouchers (Levin, 2002: 170–171). In theory it is possible to design approaches to school choice that provide an appropriate balance among the various public and private benefits. However, there can be tensions and even contradictions between fulfilling some types of

benefits and fulfilling others. This means that intrinsically there may be tradeoffs in choosing among benefits and their specifics. Some goals cannot be fully attained without sacrificing others.

For example, freedom of choice could be expanded by allowing families to add their own financial resources to whatever the government provides and allowing schools to make supplementary charges as Milton Friedman (1962) suggests for his voucher plan.⁴ Such a plan would certainly increase the range of choices for many families, but not for poorer ones. Moreover, it would likely lead to greater income stratification and segregation in schools than the present residentially-based system. This would mean that the advantage in increasing private benefits through greater choice would be offset by greater inequality and stratification of students among schools, undermining public concerns of equity and social cohesion.

Or consider a plan to increase social cohesion by requiring a common curriculum, teacher credentialing standards, testing, and admissions that limit racial and social class segregation through the use of a lottery to choose among applicants. Such a plan will tend to make schools more uniform in their offerings, student composition, and instructional approaches, thus raising social cohesion and equity, but it will reduce freedom of choice as all schools are beset with greater uniformity. Likewise, tradeoffs will be necessary for enacting a plan to increase equity by raising the financial allocations for educating students from lower income and minority families and those with special needs. This plan might also provide transportation and a comprehensive system of information. The impact of these provisions would be to raise equity and increase freedom of choice through greater accessibility and an intensive information system that would benefit, especially, the most disadvantaged families. But the very high costs of transportation and information would reduce productive efficiency of overall resources by leaving a smaller share of the educational budget for instruction.⁵

There is no “optimal” system that provides maximal results among all benefits criteria. Ultimately, the selection of design features and their consequences will depend upon specific preferences and values as transmitted through democratic institutions. As school choice is expanded, it is necessary to consider the consequences for both private and the public benefits and how these can be balanced. And it is important to remember that there are many dimensions of finance, regulation, and support services that can be utilized to achieve this balance.

⁴ He also suggests that the basic voucher be of modest size, increasing incentives for families who can afford to pay more to do so and restricting the funding of education for those who must depend on the basic voucher.

⁵ For example, Levin and Driver (1997) found that costs in the \$1000 a pupil range for each transported student was highly likely over a decade ago. A casual check with one charter school network in New Orleans found that this amount was probably too modest for accepting students city-wide.

3. Roles and responsibilities

Obtaining balance between a system predicated on freedom of choice for both families and schools and a system that meets goals of productive efficiency, equity, and social cohesion is a formidable challenge. In the following, I will assume that it will be necessary to design a school district which will seek this balance and that roles will be assigned to both individual schools and the district, and perhaps intermediate service units, to ensure this result. In this section we will introduce many of these roles and set out criteria that might be used for allocating them to levels.

3.1. Roles

Among the roles that will need to be met in providing education in a choice system are the following:

1. Choice rules and procedures.
2. Curriculum and instruction of schools.
3. Funding and financial accounting.
4. Provision of information.
5. Student accounting.
6. Personnel requirements, screening, selection and portability of benefits
7. Adjudication of disputes.
8. Transportation.
9. Admissions decisions.
10. Purchasing.
11. Accountability for educational outcomes.
12. Treatment of special populations (ELL, special education, gifted and talented).
13. Technical assistance.

Even a cursory review of this list suggests that there are roles that must be satisfied within choice schools and those that require greater uniformity of system operation and a level and effective playing field among schools. This does not mean that there are only “two levels”. Some of the best solutions might be to let the market or intermediate institutions or cooperative arrangements address these roles and responsibilities, but even these would have to be monitored because of public funding and the public interest in outcomes.

Before addressing the issues of responsibilities it is important to set out criteria for considering which of these entities should undertake these roles and responsibilities. Three economic principles are important to use for establishing operational guidelines: (1) economies of scale; (2) transaction costs; and (3) externalities.

3.1.1. Economies of scale

The economies of scale of an activity determine the magnitude of production of a particular product or service that is compatible with efficient production, defined as the lowest average cost per unit of output. In terms of individual schools, there are fixed costs of facilities, materials, and contracts for services that are required to sponsor the activity. That is, these resources must be in place before any productive activity can take place. But, in addition to fixed costs, additional resources are needed to accommodate

an expansion in output, typically the costs of personnel, although if these are tenured teachers this can also be part of fixed costs. Average fixed costs per unit of output and average variable costs per unit of output comprise the average total cost per unit of output.

We expect the average cost per unit of output to follow a standard pattern or U-shaped curve where average costs fall as more and more units are produced and average fixed costs per unit fall. As output expands, the variable cost per unit tends to rise. This rise in the average variable cost is due to many factors and ultimately offsets the falling average fixed cost as productive output rises. At some point the two types of costs when combined reach a minimum average cost per unit of output and then start to rise as the increasing average variable costs outweigh any decline in average fixed costs. This level of output is associated with the lowest average cost per unit of output and is considered the level at which one benefits from economies of scale. Beyond this level of output, diseconomies of scale set in and average costs per unit of output rise, a very real possibility at both school and district levels (Andrews, Dunscombe, & Yinger, 2002). One wishes to take account of the level of activity that is at or close to the level where economies of scale are maximized. But, we are referring to specific educational activities or roles rather than aggregate school or district enrolments.⁶

Economies of scale may characterize many educational activities. Special education provides a good example. What if all charter schools are expected to provide special education services for any student who requires them according to federal law (Heubert, 1997)? But, disability is far from a homogeneous category with a uniform educational response. It varies from minimal to severe and is comprised of many different types, each requiring unique interventions. For example, a hearing impaired child is likely to require very different services than a child with modest learning deficiencies or one with brain injuries or emotional issues. If parents of a student with a severe disability choose a particular school, but no other students with similar disabilities enroll, the school faces a cost challenge. The minimum provision for this kind of disability is a separate classroom with appropriate learning materials and equipment and a trained teacher. These are fixed costs that would be divided by the one student to get an average cost per student for this program. Assume that these fixed costs are about \$100,000 a year for up to six students and only an additional \$4000 a year for materials for each student beyond the first one, so-called variable costs. Then the total cost per enrollee of one student with that disability at that school is \$104,000 a year rising to a total of \$124,000 for six enrollees. The average cost per student in this program shows strong economies of scale, falling from \$100,000 for the first one to about \$20,000 when six are enrolled, the limit that can be managed by a single teacher.

⁶ Some insights may be gained from a recent review of empirical studies on school size, but there are very few rigorous studies on costs, e.g. using cost functions with credible outcome measures (Leithwood & Jantzi, 2009).

This would mean that to operate such a program at the lowest cost per pupil (quality held constant) would require six students. And, there are many different severe disabilities (as well as moderate and minimum impairments) that are addressed among specific special education students, each requiring a program that benefits from economies of scale up to some maximum enrollment. Clearly, schools with modest overall enrollments like most charter schools would be unable to sponsor programs for every disability at the level that would benefit from economies of scale, so decisions need to be made about the special education roles and responsibilities for individual schools. This is further complicated by the issue of externalities, the benefits of such students receiving some or all of their education in environments with non-disabled students as required by law (PL 94–142) rather than being segregated in school environments only with other special education students. Virtually no charter school is likely to have the optimal enrollment numbers for each disability where program economies of scale will be realized. In fact for prospective students with severe disabilities or even moderate ones, a charter school may view the optimal enrolment as zero and choose non-participation in those programs, refusing to accept any students with the disability.⁷

3.1.2. *Transaction costs*

A second economic concept that underlies the appropriate establishment of roles and responsibilities is that of transaction costs.⁸ Transaction costs for a good or service require a search for providers and an evaluation of the qualities and costs of alternatives as well as dependability of different sources. Such efforts entail the expenditure of time and effort to gather and assess information. They may necessitate negotiations with providers to get the best combination of price and quality. Finally, they may require monitoring and enforcement to ensure that the services and goods meet specifications and imposition of sanctions if they do not. These transaction costs explain, in part, why purchasers often stay with traditional suppliers that seem to charge somewhat higher prices, but have been shown to be reliable. They avoid the additional costs of search, negotiation, monitoring, and sanctions in the quest for a new supplier. Transaction cost economics also explains why some government bureaucracies may be more efficient than decentralized or private entities (Williamson, 1999).

Transaction costs are pertinent not only to producers, but also consumers. Consider the perspective of parents searching for a school for their child rather than being assigned to a neighborhood school. Good decisions are

⁷ A review of the literature suggests that Charter Schools have lower percentages of students with disabilities than comparable, traditional public schools and students with less severe disabilities according to Miron, Urschel, Mathis, and Tornquist (2010: 7).

⁸ See the classic article by Ronald Coase (1937) and the fuller development of transaction cost economics and its implications in Williamson (1975). For a concise and illuminating application of transaction costs to public and private bureaucracies, see Williamson (1999). Applications to municipal services are found in Nelson (1997). For examples of the increased transaction costs of a voucher plan, see Levin and Driver (1997).

informed decisions, and the more alternatives that are available, the more information that is needed. One possibility is for the district or a contracted designee to gather a comprehensive set of general descriptions for all available schools that will be useful to parents for selecting, at least, initial prospects. The provision of such information could be provided in printed materials and electronically on the internet with the assistance of information counselors if needed. Even then, parents may need to undertake “fine-tuning” by visiting schools to seek additional information at the school site.

The main transaction costs derive from the resources devoted to centrally gathering and compiling the information, efforts required of participating schools to provide the standardized data, monitoring of the information for accuracy, dissemination of the information, and parental time required to evaluate the choices and possibly to contact schools for more information and to visit individual schools. There are many transaction costs involved in this district endeavor, but far more if left to parents to gather the data on each school individually. Consider how the total of efforts and time needed by parents would multiply and how schools might be inconvenienced by a multiplication of individual requests for information, even if each had its own website or brochure. For example, if some schools lacked readily available data on dimensions of interest to some parents, it is likely that those parents would make additional demands on school personnel. And, such a system might be inefficient from a competitive perspective because the limited resources of parents would constrain them to consider fewer schools in their quest for information than if provided by the district.⁹

A well-designed, centralized, information system providing comparable information among schools with effective dissemination through a website, printed materials, and information fairs would reduce the need dramatically for special parent and school efforts.¹⁰ By centralizing the data system reporting and access as well as guiding parents in choosing a school, parental and school transaction costs can be reduced considerably.

3.1.3. Externalities

Externalities refer to the impacts that decisions made by and in behalf of an individual entity, for example a consumer or a firm, affect others who are not involved in that transaction (Cornes & Sandler, 1996). Externalities can confer benefits or costs upon others. If a decision has a positive impact on others, it is an external benefit; if a decision has a negative impact, it has an external cost.

The justification for public funding of education is that it confers external benefits to society beyond those received by the individuals receiving the education. Milton Friedman (1962) acknowledges this impact as a “neighborhood” effect that justifies public funding and school requirements.

A stable and democratic society is impossible without widespread acceptance of some common set of values and without a minimum degree of knowledge and literacy on the part of most citizens. Education contributes to both. In consequence, the gain from the education of a child accrues not only to the child or his parents but to other members of the society; the education of my child contributes to other people’s welfare by promoting a stable and democratic society (Friedman, 1962: 86).

Clearly, Friedman (1962) is referring to the criteria of social cohesion and participation (one dimension of equity) as the major justifications for which he argued that government should fund basic education. A productive society that functions effectively requires a universal understanding and acceptance of a common set of values and knowledge that allow participation in the universal institutions that bind a society together such as language, social, economic, and political institutions, and culture. These dispositions and knowledge are largely acquired through a common exposure to an education that integrates the young into these institutions so that they can function effectively as individuals and in concert with others. Through universal participation these experiences produce external benefits at a societal level in enabling the society to function effectively in sustaining its basic social, cultural, economic, and political institutions.

In addition to these rather direct or intentional external benefits of education, there are many indirect benefits that arise from education. One of these is the impact that education has on economic productivity of a society, beyond the increased productive capacities of the individuals who receive the education (Krueger & Lindahl, 2001). Studies have shown that educated societies have greater economic productivity (Moretti, 2004), even beyond the higher productivity of the more educated individuals as well as many other societal benefits (McMahon, 1997), even after taking account of the individual gains reaped from education. More educated societies are healthier, reducing the demand for resources devoted to health as well as the transmission of disease among members (Cutler & Lleras-Muney, 2008), and they have higher levels of economic growth (Gradstein & Justman, 2002; Krueger & Lindahl, 2001). They also appear to have lower levels of corruption (Glaeser & Saks, 2006).

Any market or quasi-market approach to education such as a voucher or charter system faces a major challenge in reconciling market competition for students with a common experience to capture many of these externalities, particularly those required for participation in the shared institutions of a democratic society. The incentives for individual schools are to seek a product differentiated strategy that will attract parents and students to

⁹ Studies of parental information in school choice environments show that most parents are relatively uninformed (Schneider et al., 2000; Stein, Goldring, & Cravens, 2011).

¹⁰ However, some schools may pursue their own marketing to distinguish their pursuit of product differentiation along the dimensions beyond the capacity of the district’s information system. Others may do this to build up large waiting lists which are used by schools to document school “attractiveness” or to attract enrollees to new schools. A network of schools in New York City spent about \$1300 in 2009–2010 in marketing costs for each new enrollee (Gonzalez, 2011).

particular niches of parental interest and preference.¹¹ Such product differentiation requires an image of uniqueness and substantive differences from other producers. But the widespread acceptance of a common set of values and the minimum degree of knowledge and literacy emphasized by Friedman (1962: 86) is predicated upon similarity in educational experience. To justify these external consequences of education, states typically set out curriculum requirements, licensing requirements for teachers, and statewide examinations of students. Too much regulation towards a common experience will undermine the degree of choice among schools; too little will undermine the capacity of education to provide a common foundation for the young in a democratic society.

4. Applying the principles

The central task to designing a district predicated largely on choice among charter schools is that of specifying the operational roles and responsibilities that must be discharged by district and school entities to address the four criteria through the three policy design dimensions of finance, regulation, and support services. Since the states are constitutionally responsible for the schools, it should be expected that key policy design decisions will be made at the state level. That is, how schools are organized, financed, regulated, and supported are normally determined by the state under the aegis of its constitutional responsibilities. Even so, some of the financial support for schools is derived from the local level, usually the property tax, and it seems reasonable that just as existing school districts are given permission by the state to set their own additional regulations and support services, this would also be the case with a charter district.

It is important to emphasize the lack of precedent for designing a local system based completely on choice and schools that are quasi-independent. There is no school district in the United States that has given all of its schools the autonomy given to charter schools. Chile has a voucher plan in which all schools including municipal and for-profit ones have great autonomy within a regulated market (Parry, 1997). The Netherlands sponsors a complete system of choice among public and non-profit schools (Dronkers, 1995). But schools are bound by extensive regulations including detailed curriculum, mandatory national testing, and a uniform system of finance. In the case of the Netherlands there is also regulation of admissions, class size, and personnel qualifications. Although the Dutch system is sometimes referred to an example of freedom of choice, the detailed regulation of Dutch schools on such central matters as salaries, capital investment, curriculum and personnel exceeds that of most U.S. public school systems (Dronkers, 1995; Vandenberghe, 1999).

In what follows, we will consider specific functions of a system of school choice to consider which levels should

take responsibility for the function. The illustrative nature of this exercise should not be understated. Depending upon the history, context, state educational regulations, and specific goals of the choice system, the roles and responsibilities may differ. In each case below, we will suggest how the principles can be applied to particular functions regarding roles, governance, and decision-making for “choice districts”. However, the illustrations are meant to be guiding and instructive rather than detailed and specific for all districts.

1. *Choice rules and procedures*—These dimensions represent the overall framework of rules and regulations that choice schools must operate within. They establish the “rules of the game” and the scope within which individual schools must operate to participate. For example, they include the broad regulatory criteria regarding admissions policy, accountability, required components of the educational program, scheduling, testing, personnel qualifications, transfer policies, and other boundaries on school operations. Typically these will set out minimum criteria such as the minimum hours and days that the school must be in session or the minimum qualifications for personnel or the minimum curriculum or testing requirements within whatever regulations the state specifies on these matters. Some of these responsibilities will be determined by the state with its charter requirements, but many of the local issues must be set by the district. In addition, the rules of the game must be set at this level with respect to the requirements for establishing and operating schools and the rules of competition for students.¹² Legal requirements, economies of scale, transaction costs, and externalities join in placing these responsibilities at the level of state and district.
2. *Curriculum and instruction of schools*—The core function of an educational enterprise is curriculum and instruction. The roles and responsibilities for this function are multi-level. Within the regulations set by the state, the district must require a common experience for all students for at least part of the learning process in order to meet the external requirements of education for democracy. Beyond that, there must be some commonality in curriculum offerings so that students can transfer from one school to another if they find that the school they are attending is inappropriate. If each school creates an educational structure that is completely independent of that of other schools, it will

¹¹ Sharp and Dawes (2001) refer to producer and marketing strategies to establish and benefit from product differentiation. Andao, di Palma, and Thies (1992) view productive differentiation from the perspective of consumer choice.

¹² Consider the issues of student expulsion for charter schools. In New Orleans some charter schools are expelling students for idiosyncratic reasons that are not permitted by Louisiana law (Ferguson, 2011). For example, one school expels students for being disruptive, disrespectful or disobedient, behaviors which are judged arbitrarily and which discharge students without establishing placement in other schools. Another can expel students for failing to bring materials to class. A KIPP school can “disenroll” a student who is absent or tardy 5 times or more. There must be a system-wide rule (state or district) to provide a common policy as well as procedures for ensuring continued schooling somewhere for each student who is expelled legitimately. At present there are incentives to set standards in a particular school that will reduce the enrollment of low performers.

inhibit the dynamics of competition and limit student choice through imposing serious transaction costs on switching. Thus, some commonality in curriculum and instruction is required for both democratic participation and competition among schools.

Beyond these broad goals of curriculum and instruction, individual schools can set their own unique approaches with specializations in particular subjects, explorations through field studies and research, or traditional and highly structured approaches to traditional subjects. Further, they can implement curriculum and instruction themselves or contract with others such as other schools, private firms or community-based organizations for portions of educational activities.

Some of their responsibilities can be shared with or purchased from other organizations that have advantages in instructional specialization to obtain scale economies rather than individual schools producing all instructional services themselves. In summary, the district, individual schools, and intermediate level organizations need to each undertake appropriate roles within the different components of curriculum and instruction to satisfy goals of choice, efficiency, equity, and democracy. This can best be done through allowing some flexibility in arrangements among schools and other public and private entities in meeting instructional requirements including the use of electronic media and internet instruction.

3. *Funding and financial accounting*—Funding of schools is delegated to state legislatures by their state constitutions, and most states rely on both state and local tax sources including the local property tax. Public funding of education is based on the external benefits of education that is conferred upon the public including as well as economies of scale and the limiting of transaction costs of revenue collection by government (Heise, 1995). There is nothing intrinsic about a choice or charter school district that would modify the distribution of tax burdens between states and school districts or the amount of funding. However, as with most present charter funding, the allocation of funds among schools is most likely to be based upon a formula that weights student funding by school level and student “need” (Ladd & Fiske, 2011) with some provision also for central district responsibilities. To the degree that schools are also permitted to obtain philanthropic and private funding, that responsibility will fall heavily on individual schools or intermediate organizations, although the district can also solicit philanthropic funds to be shared among all schools.

As public entities the schools in choice districts must be publicly accountable for their financial transactions. Every state has rules with respect to such disbursements and the various protections that are required for public funds. Clearly this responsibility must be charged to the district, using a uniform set of accounting procedures and rules as well as a system that makes it easy to comport with the financial requirements. Individual schools can authorize payments that will be disbursed promptly by the district and duly approved

and recorded. By placing financial accountability with the district, the system will capitalize on economies of scale and reduction of potential duplication of activities among schools increasing transaction costs. Even philanthropic funds that are received by a public entity need to be accounted for in this manner, although many schools are likely to establish not-for-profit foundations which would be legally independent from school districts. One advantage of district monitoring is that it can provide early warning of financial problems faced by charter schools, the most important visible cause of charter school closures and non-renewals of charters.¹³

4. *Provision of information*—Good educational decisions by parents and schools are necessarily informed decisions. As discussed above, both economies of scale and reduction of transaction costs support the development of a centralized provision of information. This overall information system can be supplemented by parent and school efforts including collaboration among networks of parents with specific interests or schools that share common goals or sponsorship. The development of an information system that provides details on school characteristics and performance should be undertaken by the district or its designate. Usable information may also require the establishment of a system of dissemination through provision of materials, a consolidated website, use of the media, and information counselors.¹⁴ This endeavor might be more challenging than it appears at first glance because the information that parents claim is important on choosing a school seems to differ considerably from the actual criteria that they use to choose schools (Stein et al., 2011).
5. *Student accounting*—Both schools and the district need a record of school placements of students and student progress. For the district, all students subject to the compulsory attendance law must be in a recognized school. For schools it is necessary to have background details on students including their past educational records and details on their educational participation and accomplishments. This suggests that both the district and individual schools share those parts of the student data base that record student registration and progress. This may also be required for accountability, since the district will be responsible for the overall performance of the district’s schools in terms of student placements and performance and such outcomes as graduation rates. Schools will also expect to share information provided by the district on past

¹³ There is no reliable national report on the causes of charter school closures or non-renewals. However, financial mismanagement and financial difficulties seem to dominate the discussions. For example, see Allen (2006). A review of audits for 2007 of 145 charter schools in Minnesota found that 83% had at least one financial irregularity with identical findings in 2008 (Fitzgerald, 2009). These schools had substantial funding, \$10,500 per student.

¹⁴ The best systematic study of the development of a parent information system and its application and impact in a charter school setting is Buckley and Schneider (2007, chap. 5–8).

educational participation and performance of students in order to accommodate student needs.

Thus, student accountability will be a collaborative responsibility where the schools and district will share the information that is pertinent to their functions, but maintain confidentiality with regard to other audiences. By sharing the necessary information, transaction costs for acquiring information and constructing student records can be reduced, and economies of scale can be utilized for the overall maintenance of student records.

6. *Personnel requirements, screening, selection and portability of benefits*—Another area of collaborative endeavor is that of recruitment, screening, and selection of personnel. Schools will wish to choose their own teachers on the basis of the unique needs of the school and the fit of teacher prospects to those needs. The final decision must be that of the school. But, economies of scale and reductions of transaction costs also argue for a district role in spreading a wide net for recruitment of teacher prospects and undertaking initial screening for eligibility. The district will also be responsible for applying personnel requirements established by the state in terms of qualifications of candidates and verification of those qualifications as well as criminal checks. Candidates who meet these criteria will be available as a pool for schools to interview, and schools will make decisions on their staffs. Individual schools or networks can also seek their own candidates and refer them to the district for screening eligibility. One way would be to join with similar types of schools or existing charter networks to collaborate on recruiting teachers who are compatible with the approaches of those schools. This type of cooperation would reduce transaction costs and take advantage of scale relative to each school taking on recruitment alone.

In order to enhance competition among schools for teachers, it is important to consider the establishment of a system of portability of benefits. Although each school might set out its own pay and benefits package, some or all of the benefits should be portable in that accumulated benefits can be accessed even if a teacher moves to another school. For example, vested pension benefits should be available if a teacher decides to take a teaching position elsewhere or if a school closes. This ability to make a transition will increase competition in the teacher labor market and make employment in that labor market more attractive by increasing alternatives if a particular placement does not work out. However, it will also require the district to establish a benefits framework – particularly provisions for pension – that can be adopted for all schools. Of course, participation in a state employee pension system or a 401 K could be used to address this end.

7. *Adjudication of disputes*—Just as students switch schools in conventional school districts because of disappointing educational results or safety reasons or residential shifts, there will be cases where parents wish to switch schools under a district choice plan. Yet, the transfer from one school to another during the school year may entail conflict if the school must commit resources for

the entire year for each student, but receives reimbursement only once or twice during the year. After the reimbursement period, schools may be unwilling to transfer a portion of those funds to follow a student to another school. In this case, a dispute will arise, and the district must adjudicate it to make it possible for legitimate transfers from one school to another. One possibility is that the district might retain a small amount of overall school funding for such a purpose so that the initial school attended can retain some of the funds that to cover its fixed costs, even when it loses a few pupils. The preferred role of the district is based upon economies of scale for this function and reducing the transaction costs of both schools and parents at adjudication.

8. *Transportation*—A major contributor to freedom of choice is access to transportation. If provision of transportation is minimal, an equity problem arises because only those with sufficient resources can provide their own transportation. At the same time, restriction of access also undermines productive efficiency by reducing competition among schools. But, transportation is very costly, and particularly if each school is required to take students from throughout a large school district and provide its own transportation. It is important to note that transportation costs are likely to rise considerably under a choice district because of more students being transported, longer and irregular routes, and many smaller vehicles, each with a driver, replacing the larger school buses that are used on regularized routes at present. Further, the fact that routes may change as student patterns shift is also a source of uncertainty and higher costs.¹⁵

A compelling case for the district to provide transportation in conjunction with schools' needs is premised on all three economic guidelines as well as a typical feature of the market for transportation supply. Because of the high fixed costs of establishing a transportation network, there are economies of scale that extend considerably beyond individual schools, and even small networks of schools. Transaction costs are also reduced by a district role because individual schools need not devote resources to searching for, negotiating with, contracting with, and monitoring transportation providers. And, external benefits are achieved by reducing overlapping transportation routes resulting in less congestion, pollution, and needless waste of public resources. Avoiding congestion and pollution are particularly significant when one considers the intensive time period in which school buses operate, the commuter rush hours.

Further the high fixed costs to establish a company for school transportation have led to markets which are dominated by just a few firms with great market power over individual schools, but much less in relation to a

¹⁵ Levin and Driver (1997) found that almost two decades ago the costs of these types of busing patterns was on the order of \$1500 to \$2000 a year per student, and the costs are substantially higher today.

larger bargaining unit, which has the implicit option of setting up its own transport service.

There are at least two other reasons that the district can provide lower transportation costs and shorter travel times, leaving more educational resources that can be utilized for instruction. The first is that a district can divide its coverage into competitive sectors where there are adequate numbers of schools to establish meaningful competition, but not so much territory to be covered by transportation that time requirements for student commutes and costs are overwhelming. For example, a city like New Orleans could be divided into three sectors, still providing 30 schools per sector for choice. Alternatively, a district could establish a hub and spoke system where students are first brought to a limited number of hubs and then distributed by dedicated routes more directly to their schools. This can be carried out completely by the district, or transportation from the hubs to particular schools can be carried out by the schools. In either arrangement there would be great savings of money and student travel time and external benefits to the public.

9. *Admissions decisions*—Virtually all choice systems in the U.S. have restrictions on the degree to which individual schools can choose from among their applicants. The purpose of these restrictions is to give all families a fair chance of getting into their school of choice as well as limiting the ability of schools from stratifying enrollments by race, ability, or social class. The main approach is to require that schools that have more applicants than places are required to admit students by lottery. Clearly it is important that an independent authority implement and monitor this policy because of the temptation for schools to deliberately select their students along race, class, and ability dimensions and because a fair lottery must be associated with an independent agent. The district can contract with an independent entity to monitor applications, lotteries, and school rosters. The centralization of the lottery in the district will reduce transaction costs of individual schools as well as provide economies of scale in procedures and implementation relative to each school undertaking this task.
10. *Purchasing*—Schools should have the options to purchase goods and services directly in the market place or by establishing consortia among schools to gain market power. In special cases, the district may be able to provide certain goods and services economically. Individual schools purchasing supplies or services from a market where there are few sellers will face less competitive prices than if intermediate units or (in a few cases) the district bargains in their behalf. Transaction costs may also be reduced through this arrangement. But, most importantly, the decision should be completely discretionary on the part of the schools so that the market structure that emerges is efficient.

The only mandatory involvement of the district is in financial accountability where it needs to monitor school purchasing to avoid self-dealing (schools purchasing services inappropriately from organizations

sponsored or owned by their operators). Many charter schools in the U.S. pay management fees to external organizations to operate their schools. In some of these cases it has become clear that these are special arrangements, not subject to market competition, in which family or close associates of the charter boards or staff have created special arrangements that provide benefits, payments, or profits to school operators.¹⁶ Monitoring of these irregularities by the district should be undertaken whenever it appears that transactions appear to be unusually costly, not directly related to school purposes, or self-dealing.

11. *Accountability for educational outcomes*—To the degree that a choice district is viewed as an overall school system, responsibility must be taken for the measurement and reporting of educational results, a requirement also based upon economies of scale in test administration and reporting. There are at least two parts to this role. The first is that of measuring results all important categories of educational outcomes that are required by the state and public policy constituencies and families. This accountability information must serve not only the mandated requirements by higher levels of government, but must also contribute to the information system for assessing educational performance by parents and students in their choice of schools.

The district must assure the authenticity of the data by establishing consistent procedures for measurement, collection, and reporting of data and assuring that assessment procedures are legitimate. It should establish a common process for measuring achievement and other performance criteria, for example, by establishing testing procedures that assure common conditions in testing among students from different schools. Unfortunately, the incentives for individual schools to achieve may not induce them to always meet the strict administrative requirements by which tests are administered.

12. *Treatment of special populations*—A dilemma arises in requiring schools to accept all applicants or to abide by lotteries to determine admissions if there is an excess of applicants. Schools may not have the specific capabilities required to serve particular student populations with moderate to severe disabilities. In order to serve such populations, one must invest a substantial amount in personnel as well as, in some cases, facilities and equipment, and the investments may differ significantly among different disabilities. To justify this investment, one needs to have adequate numbers of students with similar disabilities. This is the economies of scale example that was discussed previously, but also has deep implications for equity. The rare incidences of a wide variety of such disabilities being present in adequate numbers in a typical student population means that most schools will not have the economies

¹⁶ One highly contested example of this is the arrangements of a major charter school sponsor with 71 schools in 11 states and the District of Columbia. See Strom (2010).

of scale to accommodate every request for special education. Almost all of the schools that arise under charter legislation are small schools that can accommodate students with minimal disabilities, but not moderate and severe disabilities. To a lesser degree the same challenge may occur for students who are English-language learners, and gifted and talented students, but most schools can find ways to accommodate these students.

In these cases a choice district has to determine how to address the education of special needs populations. If such children are turned-down by many individual schools for lack of capacity, it is clear that they become the responsibility of the district to find appropriate placements. The district must either arrange for specific schools to specialize in and address the needs of students with particular classes of disabilities or establish special schools to accommodate them. The placement of students in schools exclusively devoted to their disabilities would violate the requirements of the Federal Law SB 94–142. That law requires that such students be given an appropriate education in the least restrictive environment, a mandate for including such students in regular classrooms whenever possible. Whatever the solution, the district will have to decide how to handle this type of dilemma.¹⁷

The district may also have to address placements of students who apply to specific schools, but do not gain admission. Even if a student applies to more than one school, the use of admissions lotteries does not guarantee admission to any of them. In this case, the district will need to seek appropriate openings for students.

13. *Technical assistance*—Individual schools may need different types of technical assistance in the various areas of managing a school as well as curriculum, instruction, teacher evaluation, test preparation, and other topics. In these areas they can rely upon private consultants or firms in the marketplace or form their own collaboratives or networks with primary reliance on these intermediate organizations. However, to the degree that the district sets out a common set of experiences for social cohesion and democracy or that the state adopts either state or national standards, it may also be important for the district to provide materials and professional development or to assist local colleges and universities to provide both pre-service and in-service professional development. This is a discretionary category which may or may not be needed, but will be particularly salient with large turnover in teaching forces among schools and benefits from economies of scale at the district level for some types of technical assistance.¹⁸

¹⁷ See Rhim, Ahearn, Lange, and McLaughlin (2004) for the challenge to charter schools of special education provision.

¹⁸ In the national voucher program of Chile a technical assistance effort of the Ministry of Education with the lowest performing 900 schools had a significant and positive impact on achievement, an effort that improved equity in a national system of choice and was used to benefit both public and private schools (Tokman, 2000).

5. Use of this framework

The purpose of this presentation was to demonstrate the need for designing an organizational and governance framework for charter school districts. Although districts moving in the direction of universal choice or portfolio approaches may not have a complete roadmap for implementation, it is entirely appropriate to begin the process early. It appears that trial and error adjustments are often made idiosyncratically rather than considering systematically how an efficient, effective, and equitable system can be designed. We have argued that by using economic guidelines of economies of scale, transaction costs, and externalities in conjunction with the use of specific criteria such as freedom of choice, productive efficiency, equity, and social cohesion, it is possible to set guidelines that will support an effective choice system. The details here on roles and responsibilities and their disposition should not be viewed as complete, nor should the illustrative applications be considered concrete recommendations. Rather, the presentation has been designed to illuminate the issues surrounding the governance of choice districts. The specific steps that are appropriate in any context need to be addressed by a properly constituted governance body. It is hoped that this framework demonstrates how goals and economic criteria can be used to draft the design of an overall governing and organizational system for districts that move in this direction.

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