

## **The Mechanics of Microeconomic Choice: A School Option Perspective**

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### Abstract

The development of this paper describes uniquely the mechanics of choice in the delivery of education services relative to the public school system and school options. Three components, which magnify choice, are consumer (parents), market (pupils), and producer (government). Macbeth (1989) notes that there are four groups of people who benefit from the education system, namely: (1) the pupil (children) (2) the parent (3) the owners of a school (government) and (4) society at large. The first three beneficiaries of the education system are appropriately linked to the three components of choice as illustrated in the model and discussed in the paper. The fourth is deliberately eliminated for the purposes of the model but at the discretion of the reader, can be described as the external environment where the process of microeconomic choice is manifested. In addition, several lessons and constraints of choice are presented.

### Introduction: Explaining the Components of Microeconomic Choice

The development of this paper describes uniquely the mechanics of choice in the delivery of education services relative to the public school system and school options. As a foreword, Nelson (2002) hints that choices are no longer limited to our shops and homes but are now extended to telecommunication, energy, and schools. In light of this, is choice a factor in the evolution of alternate school options to the public school system and if so how has choice come to play a role in this phenomenon?

Publications available accurately mention or make reference to choice relative to school options, typically from a public policy, political, or social perspective. In any case, such references are agreeable. However, a microeconomic perspective would not diminish, but add to the breadth of knowledge already available as it relates to choice and its influence on the delivery of education services. By definition and as a refresher, “economics deals with the allocation of scarce resources among alternative uses to satisfy human wants” (Salvatore, 2003, p. 4). Brickley, et al. (2001) further encourages our microeconomic approach by maintaining, “economics provides a theory to explain the way individuals make choices” (p. 6).

Involved in this study are three components, which aptly magnify the concept of microeconomic choice. They are; consumers (parents), market (pupils), and producers (government). Education, as noted by Harvey (1996), is the service for delivery and

Macbeth (1989) asserts that four groups of people benefit from the education system, namely: (1) the pupil (children) (2) the parent (3) the owners of a school (government) and (4) society at large. The first three beneficiaries of the education system are appropriately linked to the three components of choice as illustrated in the model and discussed in the paper. The fourth is deliberately eliminated for the purposes of the model but at the discretion of the reader, can be described as the external environment where the process of microeconomic choice is manifested.

Consumers express choice driven by four microeconomic factors, namely: (1) scarcity (2) wants (3) alternatives (4) preferences, which exert themselves on the market from one direction. These assertions are supported by Maloney, et al. (1996) in their quest for the decision-making style of elderly folks in long-term care as they note that many decisions consumers make are variations on a fairly typical pattern. Such pattern recognizes that (1) consumers must determine that a product or service is needed or wanted—consumer wants (2) consumers search for and identify options for obtaining the product or service—consumer alternatives (3) finally, a selection is made from among the option—consumer preferences (Maloney et al., 1996). Though Maloney, et al does not mention scarce resources directly, it is implied in their assertions.

From an opposing direction, producers respond to the consumer's inputs driven by issues of (1) how to produce (2) for whom to produce (3) how to provide for the growth of the system (4) and rationing a given quantity of the system (Salvatore, 2003). Forces exerted by consumers and producers on the market place are countervailing and tend toward equilibrium.

A consequence of these countervailing forces of choice by the consumer and producer, on the market place, is the generation of market performance measures. Salvatore (2003) goes on to define markets as “institutional arrangements under which buyers and sellers exchange some quantity of a good or service at a mutually agreeable price” (p. 25). In this case, the service for exchange by the buyer (consumer) and the seller (government) is education. Efficiency and effectiveness of such exchange are appropriately articulated and evaluated through the market's performance—hence performance measurement tools.

In addition, Rushton and Carson (1985) elaborate on the intangibility of education as a service, which makes it difficult to assess, except by looking at its tangible elements associated with it, inclusive of examination results. Examination results are a consequence of administered tests to pupils, general, for the purpose of assessment and evaluation, making pupils a primary and significant input source towards test scores or other school performance measures—hence, the label of pupils as the market. Secondly, the collective impact of microeconomic choice, emanating from the consumer and producer, influences education services, by impinging on the market (pupils) generally through test scores or other related performance measures.

Furthermore, forces of microeconomic choice from the consumer and producer must ultimately act on a medium or entity. Choices are unlikely to exist or act in a

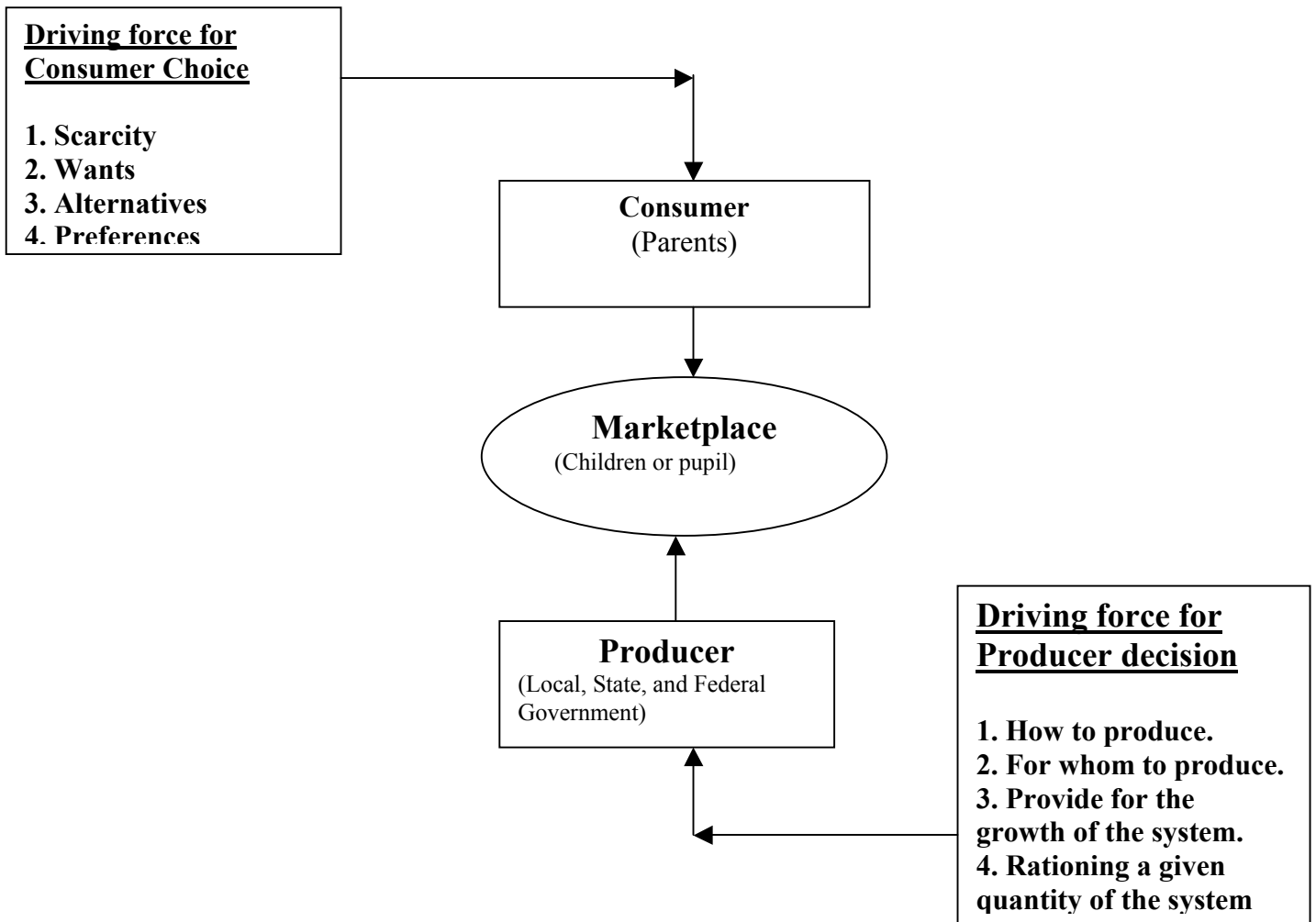
vacuum. This is so because choice is directional and possesses the propensity to impact a known entity or medium on which it is directed. In this case, education services is the object that microeconomic choice is directed and the medium or entity on which it impacts is the market place (pupils), a necessity in a free enterprise system.

In a free enterprise system, microeconomic choice as noted by Salvatore (2003) suggests that individuals and firms must make private decisions. In making such decisions, it is noteworthy to distinguish choice into its rational and irrational forms. For the purpose of this paper, it is assumed that the influence of microeconomic choice on the school option perspective, and any other option for that matter, is based on its rational form. In microeconomics, rationality is often thought of as bounded rationality, which serves to convey a deliberate and collective sense of purpose by consumers who aim to satisfy their needs and producers who, in turn, respond to those needs (Simon, 1957).

Throughout the paper, focus was accorded to K-12 education, with occasional spillover effect into higher institutions. This spillover effect purposefully demonstrates greater emphasis on assertions made. By this, it is assumed that the pupils are not beyond age 18, in which their parents are legally obligated to make major education decisions on their behalf—hence the labeling of parents as consumers. Beyond the 12th grade or post secondary level or above the age of 18, the model naturally collapses into two components—producer and consumer, because the pupil may make their education decisions independently or in connivance with their parent or guardian.

Furthermore, the producer is acknowledged as any level of government entity involved in the administration of scarce resources required as inputs in the public school system. Beilick and Chapman (2003) support this as they note that local and state governments are primarily responsible for implementing education legislation and funding their public schools. This definition assumes that the resources required to foster school options are derived primarily from scarce resources diverted from the public school system. Private firms participating in school options are the “competition” and not “producers” because they derive some of their funding from diverted resources from the public school system. The model presented below is not all encompassing. However, it illuminates and describes the mechanics of choice as an imperative in a free enterprise system, and for that matter, the public school system and school option perspective.

Figure 1.  
Proposed Consumer-Producer Choice Impact Diagram



Importance and Explanation of Microeconomic Choice Theory

Why are choice and its components important relative to the public school system and school options, and for that matter, any other option-oriented decisions to be made? Simply, resources in the public school system are inevitably limited or finite, which leads to scarcity. In fact, Salvatore (2003) notes that “scarcity is a fundamental factor of every society” (p.5). Human wants, especially those of the consumers, are insatiable and remain infinite or unlimited. Salvatore (2003) refers to wants as “goods, services, and conditions of life that individuals desire” (p.4). Consequently, difficulties arise in satisfying such consumer wants considering the limitations of available public school system resources.

The collusion of consumer's insatiable wants and scarce resources encourages consumers to "seek" a variety of alternatives, "supplied" by the producer, in satisfying their needs. However, it must be distinctly noted that in the school option perspective, consumers "seek" alternatives, "indulge" in preferences, while the producer "supplies" the alternatives. This further illuminates the complex symbiotic relationship between the consumer and producer in the school option perspective as illustrated in the proposed model.

Salvatore (2003) further notes that resources typically have alternative uses. Dhar (1997) highlights that consumers will always encounter scenarios which will require choosing among several alternatives. As alternatives to public schools are sought, critical evaluation of these alternatives spur consumers to discriminate among available options, encouraging the indulgence in the activity called preferences. Brickley, et al (2001) supports this by noting that "individuals assign priorities to their wants and choose their most preferred options from among the available alternatives" (p. 15). They further add that a change in preferences can also alter the choices we make (Brickley, et al, 2001).

Choice further impacts the market by creating an explosion in the array of competing goods, fragmentation of the products and markets, and increases in consumer spending (Nelson, 2002). For example, Nelson (2002), using retail stores in the United Kingdom, exemplifies the impact of choice in the explosive array of consumer goods in supermarket chains. This author suggests that the growth of the average number of lines of goods in supermarket chains had progressively increased from 5,000 in 1983 to over 40,000 in 2002. On a cultural note, Nelson (2002) adds that choice is an integral part of western societies and serves as a fundamental difference between developed and less developed societies.

### School Options

In relating the microeconomic concept of choice more directly to school options, the proposed model presented above is helpful. Consumers at the elementary and secondary school level are the parents, the market are the pupils for which such choice must have an impact, and producers are the school system or local, state, or national government. As Harvey (1996) notes, education is the product or service for delivery to customers.

Prior to the 1980s, school options were primarily a private and public school agenda (Choy, 1997). Generally, choices available today now include Public school-assigned, public school chosen (charter schools), private schools non-church-related, and private schools church-related (parochial schools) (Beilick and Chapman, 2003). However, it is recognized that other options such as Edison schools and Home schools currently exist. Limiting the study to the four stated options, serves the purpose of this paper.

These stated school options are products of the effects of microeconomic choice. As consumers (parents) experience scarcity of resources in collusion with their insatiable wants, their rational inclinations are to “seek” a variety of alternatives to the public school system—school options, and consequently “indulge” their preferences. Simultaneously, it is encouraged by the producer (government), as they “supply” a variety of alternatives to the consumer. Both entities maintain this equilibrium tooled with information on the market’s performance.

Furthermore, drawing from Nelson’s (2002) comments above, the effect of choice relative to the school options today, has also effectively reinforced the concept of competition, which fosters potential market and service fragmentation. This has partly led to the redistribution and diversion of scarce public school system resources. This assertion is well supported as school choices, emanating primarily from alternatives and preferences to regular public schools, recognized by the producer (government), is funded from what is now known as the “School voucher” system—a scarce resource (Columbia, 2000). This pilot program was set up in 1995 in 26 American cities, born from a need to deliver a wider array of choices on educational institutions and approaches. The first of this voucher system was propagated in Milwaukee, Wisconsin, in 1990. A brief explanation of these schools is presented below (Columbia, 2000).

Charter Schools. A product of school choices paid for by taxpayers but independent of the school system. They have a greater degree of autonomy and freedom than traditional public schools. The concept was primarily spurred by the need to improve learning delivery in public schools. Its history dates back to 1991 in the state of Minnesota where laws were passed legitimizing its existence. The state of California became the second state to follow suit. This school choice typically serves minority and economically disadvantaged students. Critics are apprehensive of this option because of its lack of supervision. Their charter are renewable every three to five years (Columbia, 2002).

Parochial Schools. These are simply private schools operated by religious organizations to include the Roman Catholic Church, Lutheran, Orthodox Jews, Muslims, Seventh-Day Adventists, and so on. They were designed to pursue education from the perspective of the sponsoring religious body dimunitively from a secular standpoint. Most notably, the Roman Catholic Church, in the 1960’s, began to encounter difficulties in funding, leading them to seek help from public sources. Hence the voucher system, which has raised so many debates about the use of public funds to fund private religious activities. Though initially resisted by the U.S. Supreme Court, a recent ruling by the US Supreme Court in June of 2002 in Cleveland, Ohio, upheld the constitutionality of the school voucher program (Columbia, 2000).

### Proof of the Proposed Microeconomic Choice Paradigm: Methods and Analysis

Generally, in the illustrative data linking choice to the school option perspective, associations were mainly made between public and private schools. Private schools are the earliest known by-products of consumer-perceived inefficiencies of public school systems. For this, history has endowed private schools with significant levels of

quantitative data, which were compared to those of the public school system. Furthermore, private schools were assumed to be generally representative of other school options and considered a relevant tool in the analysis of trends currently occurring in the school option perspective. Nonetheless, quantitative data on other school options were also available but not significant or elaborate enough in establishing a compelling structure for the proposed model.

All the data was based on national information from the U.S. Department of Education. In addition and generally, as data for public school systems decline, that for the private school rise, and vice versa. In some instances, especially in the “market” section, the data may not be statistically significant. Focus on statistical significance was not central to the thesis of the paper, which was primarily designed to describe the mechanics of choice on school options from a microeconomic perspective. Hence, the use of the term “proposed” in the description of the model. Finally, preferences were rarely mentioned since there is insufficient data to predict what consumer’s preferences will be. Nonetheless and predictively, preferences are likely to be “indulged” by consumers as the theory suggests. In addition, studies on consumer preferences may be worthy of future research.

### The Consumer

In theory, the proposed model suggests that consumers are driven by four microeconomic factors, namely; scarcity, wants, alternatives, and preferences. However, in practice or application, these factors translate into several well established parameters to include; (1) the number of physical public and private schools (limited or scarce resource) (2) Population size and enrollment at public and private schools (unlimited resource or wants) (3) parents education (encourage alternatives) (4) parent’s income (encourage alternatives) (5) information and technology (encourage preferences). This is not an exhaustive list of practical parameters that affect school choices. Other parameters such as race/ethnicity, school district, and disability status exists. However, from a microeconomic perspective and for the purpose of this paper, these stated parameters will suffice.

First, the number of physical public schools (limited or scarce resource) from 1980 to 2000 mushroomed from 85,982 to 92,012, which was a mere 6.5 percent increase in 20 years. For private schools, within the same time frame, their numbers rose from 20,764 to 27,223, a 23.7 percent increase (Snyder and Hoffman, 2002). In perspective, the population of the United States (unlimited resource or wants) relative to the physical structure increases, from 1979 to 1999, grew from 224,567,000 to 270,248,000, a 16.9 percent rise (Snyder and Hoffman, 2002). This illustration serves to illuminate how resources in the public school system, which are limited, lag behind the insatiable wants of the consumer (growing population needing more schools), which are inherently unlimited, explaining why consumers (parents) “seek” a variety of alternatives. Conversely, the private school data shows that their physical structures grew at a rate faster than the population of the United States, thus, tentatively confirming the pressure exerted by the consumer (parent) on the producer through the market. By this, consumers

have rationally signaled the producer that a variety of alternatives to the public school system are required. In this case, examples of such alternatives include Private, Charter, and Parochial Schools.

Secondly, it is less illusory at this juncture to imagine why consumers are migrating to private schools or other school options, which is further supported by the enrollment numbers (unlimited resource or wants). The enrollment numbers as a percentage of the population in public schools, from 1979 to 1999, dropped from 18.5 to 17.2 percent (Snyder and Hoffman, 2002). For private schools, from 1979 to 2000, a relative time frame, their numbers burgeoned from 5,000,000 to 5,994,000, a 15.8 percent increase (Snyder and Hoffman, 2002). Beilick and Chapman (2003), very recently, noted similar increases in charter schools, which had elevated enrollment numbers of 11 to 14 percent between 1993 to 1996. These numbers further demonstrates how consumer's insatiable wants (induced by population and enrollment increases) in public schools, in combination with limited or scarce resources (induced by declining physical structures), compel them to "seek" a variety of alternatives to the public school system—school options. Thus, confirming another reason why consumers rationally create the input, to which the producer must react.

Thirdly, the education level of parents, which induces alternatives, may also have some stake in the consumers rational decision to "seek" other school options. It was determined that 82 percent of students, in 1999, whose parents held a bachelor's degree or higher enrolled in college immediately after finishing high school. The rates were 54 percent for those whose parents had completed high school but not college and 36 percent for those whose parents had less than a high school diploma (Special Analysis, 2001). Because of the difference in enrollment rates, students whose parents did not go to college are one of the most frequently targeted groups (along with minorities and low-income students) for outreach programs designed to raise the level of student preparation and readiness for postsecondary work (Swail and Perna 2000). In this example, higher education is used for the purposes of emphasis. Nord, Brimhall and West (1997) supports assertions made as they note that parents of children with higher education were more likely to "seek" out different educational choices for their children. They also note that parents with bachelors or graduate degrees had a higher enrollment in private and parochial schools (Nord, Brimhall, and west, 1997). Clearly, the educational level has an impact on consumers "seeking" a variety of alternatives, thus, adding another strata of pressure which the producer must countervail.

Fourthly, there is evidence to suggest that as incomes rise there are subsequent increases or decreases in demand for certain goods or services (Brickley, et al, 2001). When this occurs in favor of increases in demand, in microeconomics, such goods or services are considered normal goods or in layman terms, necessities. According to the Bureau of Labor and Statistics, from 1964 to 2002, the average hourly earnings of the American household had increased from \$2.36 to \$14.77 while the average work hours, in the same period, had declined from 38.7 hours to 34.2 hours. Wages have risen as hours worked have fallen, a symptomatic evidence of an affluent society and a by-product of sustained increases in productivity

In this case, education, considered a normal good, is the service of interest. This is so because as incomes have grown, demand for education has also followed suit, justifying consumers (parents) push towards greater choices at the elementary and secondary school levels with the hope of achieving the higher education needs of their children (market). Sweetland (2002) supports this by suggesting that education have long been established as a necessity and not a luxury. Since education is a normal good, it is comprehensible to appreciate why consumers “seek” various school alternatives at the K1 to 12th grade levels. As an example and used emphatically, the number of students in public undergraduate granting institutions, from 1990 to 1999, rose from 9,710,000 to 10,110,000, a 3.9 percent increase in 10 years. For the same period in private undergraduate granting institutions, their numbers rose from 2,250,000 to 2,571,000, a 12.4 percent increase (Snyder and Hoffman, 2002). Demand has been greater at private institutions than at public institutions even as incomes and tuition have been on the rise, strongly supporting the normality of education. As an example, at public bachelors granting institutions, the average annual tuition increases from 1988-89 to 1998-99 was 4.3 percent or 43 percent in 10 years. At private bachelors granting institutions, the average tuition increases, over the same period, grew at an annual rate of 3.7 percent or 37 percent in 10-years (Snyder and Hoffman, 2002). In both cases, for the 10-year period, these tuition increases averaged out to 40 percent. These average tuition increase, for both cases, are approximately justified by the Consumer Price Indexes (CPI) in figure 2 on education supplied by the Bureau of Labor and Statistics from January 1993 to January 2003, a 10-year period, showing average tuition increases of 41.42 percent.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1993	76.5	76.6	76.6	76.7	76.8	77.0	77.3	78.6	80.8	81.1	81.2	81.2	78.4
1994	81.5	81.6	81.7	81.7	81.8	82.0	82.3	83.5	85.6	85.8	85.9	85.9	83.3
1995	86.2	86.5	86.5	86.5	86.5	86.6	86.9	88.4	90.4	90.5	90.6	90.7	88.0
1996	91.0	91.1	91.2	91.3	91.3	91.4	91.6	93.1	94.9	95.0	95.1	95.1	92.7
1997	95.5	95.6	95.6	95.6	95.8	95.9	96.2	97.8	99.6	99.9	99.9	100.0	97.3
1998	100.3	100.4	100.5	100.7	100.9	100.8	101.0	102.6	104.3	104.5	104.6	104.7	102.1
1999	105.0	105.3	105.4	105.5	105.6	105.7	106.0	107.5	109.4	109.6	109.3	109.3	107.0
2000	110.2	110.6	110.6	110.7	110.9	111.5	111.8	113.0	114.9	115.3	115.4	115.5	112.5
2001	115.8	116.0	116.1	116.1	116.4	116.9	117.2	119.5	121.7	122.2	122.3	122.0	118.5
2002	122.6	123.2	123.3	123.3	123.5	124.3	124.8	127.1	129.6	129.9	130.0	130.0	126.0
2003	130.6	131.0	131.1	131.2	131.4								

Figure 2. Consumer Price Index-All Urban Consumers, Series Catalog, Series ID : UUR0000SAE1, not seasonally adjusted, Area : U.S. city average, Item : Education, Base Period : DECEMBER 1997=100. Source: Bureau of Labour and Statistics Data extracted on: June 17, 2003 (09:23 AM)

More recently, data from the National Center for Education Statistics also show that for private elementary and secondary schools, with parents incomes ranging from \$10,000 to over \$75, 000, enrollment in 1993 rose from 0 to 6 percent, in 1996—1 to 6 percent, and 1999—1 to 5 percent. For Parochial schools it grew in 1993—from 3 to 14 percent, 1996—3 to 15 percent, and 1999—3 to 14 percent. This income and enrollment data not only adds further support for the normality of education but illustrates consumers' rational drive towards a trend of establishing and espousing greater school choices, adding to the pressure exerted on the producer through the market to respond.

Finally, accessibility to information and technology, especially the internet, has led to progressive economic transformations which have in no small measure enhanced the proliferation of required information. As an example, e-commerce world-wide, from 1997 to 2000, increased from less than \$ 20 billion to \$300 billion (Salvatore, 2003). The importance of this proliferation is that it tends to diminish significantly the effects of assymetric information, which according to Salvatore (2003), is “when one party to a transaction has more information than the other party regarding the quality of the product or service” (p.641). This most often results, as shall be discussed in a later section, in adverse selection—a constraint in the school option perspective. In addition, consumers' (parents') acquisition and evaluation of information has become as significant and argueably, equivalent to that of the producer, on the state and performance of the marketplace (children). By this, we mean the consumer now possesses as much information as the producer would. There is little doubt that its impact in pressuring the producer (local, state and federal systems) to establish other school options, has been positively and progressively far-reaching. Hence the explosion of several school options in the early to late 90's.

### The Marketplace

As our proposed model notes, the forces of the consumer and producer act on the market place. It is a consequence of effects of the countervailing forces of microeconomic choice by the consumer and producer. It further articulates and evaluates the efficiency and effectiveness of education exchange.

An effective assessment of the market place would be data showing its performance or quality relative to the forces of choice exerted on it by the consumer and producer. Murray and Wallace (1997) in their quest for the implications of school choices, note that the quality of education is important on schooling choices. They indicate that consumers pay close attention to education quality when making their schooling choices (Murray and Wallace, 1997). Generally, the data presented on the charts below depicts a culmination of the effects of microeconomic choice by the consumer and the producer on the market, which appears to have yielded more progressive than retrogressive results, albeit on a diminutive scale. Nonetheless, the data is not conclusive but serves as a tool in constructing the mechanics of microeconomic choice as it affects school choices.

As an example, figure 3 below show the average national mathematics score for 4th, 8th, and 12th graders from 1990 to 2000, the period of most prevalent school choices sponsored by the school voucher system. For 12th graders, their average national mathematics assessment score between 1990 to 2000 had a 2.32 percent improvement, 8th graders—4.56 percent improvement, and 4th graders—6.57 percent improvement. However, numerically, even though 4th and 8th graders had showed consistent improvements, 12th graders had a slight drop in their scores for the year 2000.

For science assessment, from figure 4 below, between 1996 to 2000, 4th graders had a 0 percent improvement, 8th graders—0.6 percent improvement, and 12th graders—2 percent decline in performance. Though this data showed either small, insignificant, or declining percentages, it further illustrates why consumers will ultimately “seek” a variety of alternatives through school options in addressing unsatisfactory performances.

For history assessment in figure 5, between 1994 and 2001, 12th graders had a 0.34 percent improvement, 8th graders—1.1 percent improvement, 4th graders—1.95 percent improvement. In this case, each grade showed some small improvement, percentage and numeric wise.

Generally, the data presented appears more progressive than they are retrogressive. It is important to reiterate that these results were achieved during a period of growing migration towards public school alternatives—school choices, as supported by other data noted in the “consumer” section above.

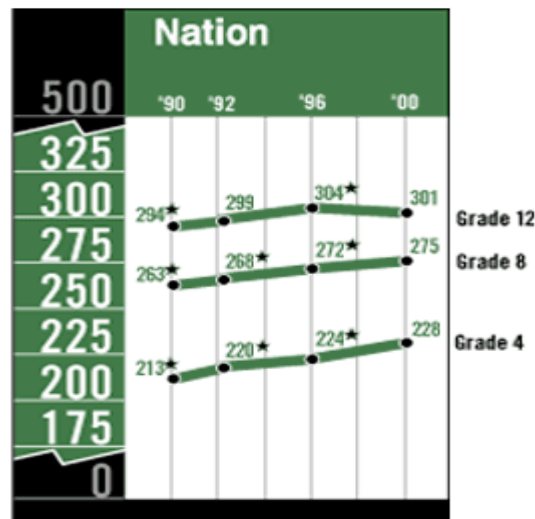


Figure 3. National Assessment of Educational Progress (NAEP), 1990, 1992, 1996, and 2000 Mathematics Assessments. .SOURCE: National Center for Education Statistics.

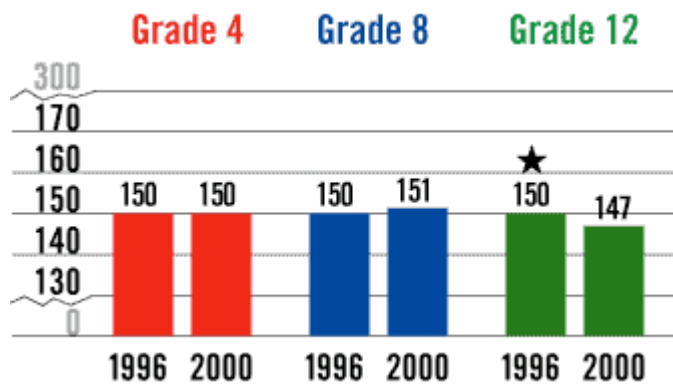


Figure 4. National Assessment of Educational Progress (NAEP), 1996 and 2000 Science Assessments. .SOURCE: National Center for Education Statistics

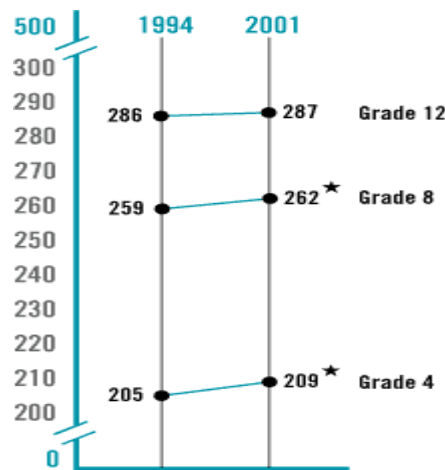


Figure 5. National Assessment of Educational Progress (NAEP), 1994 and 2001 U.S. History Assessments. SOURCE: U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics,

### The Producer

Theoretically, the producer will ultimately reckon with the issues of (1) how to produce (2) for whom to produce (3) how to provide for the growth of the system (4) and rationing a given quantity of the system. In practice or application, the producer has addressed these concerns by encouraging the establishment of (1) various school options

(2) increasing the number of teachers in the classroom (reducing teacher-pupil ratio or class-size) (3) increasing education funding. These three parameters form the upward countervailing force the producer impinges on the market to counter consumer's downward pressure, by quintessentially "supplying" a variety of alternatives sought by consumers.

First, various school options have been implemented so far which are derivatives of the public school system. They include; private schools, parochial schools, and charter schools. The last two are explained in a preceding section of this paper and also happen to be products pushed steadily on the education system since 1990 till date (2003).

Second, the teacher-pupil ratio, according to Snyder and Hoffman (2002) has shown steady decline from 1990 to 1999 in public schools from 17.2 to 16.1, a 6.8 percent decline over 10 years suggesting an interest by the producer to respond to alternatives sought by the consumer. In the same time frame, the private school system had an increase in their teacher-pupil ratio from a value of 14.7 to 15.2, a 3.28 percent increase. This suggests once more that consumers will rationally migrate or "seek" a variety of alternatives to the public school system when the producer does not respond appropriately.

Finally, between 1990 and 1999, according to Snyder and Hoffman (2002), expenditures from the Federal government budget for elementary and secondary school education rose from \$21,984.4 billion to \$39,937.9 billion, a 44.95 percent increase. This is indicative of a producer that is keenly aware of the need to countervail consumer's pressure by "supplying" a variety of alternatives to the public school system. However, it is noteworthy to mention that these budgetary increases in public education can be partly attributed to the consistent rise in the cost of education as supported by the data on CPI presented in "consumer" section of this paper. Unfortunately, data is unavailable illustrating exact magnitudes of expenditures for other school options, which would have been appreciated in this analysis.

### Lessons of Choice with Respect to the School Option Perspective

The lessons of choice in the school option perspective is likely to resemble similar lessons learned on choice relative to other facets of human society. This is to say,

- ⌚ Choice is likely to encourage the reduction of waste. Public funds destined for public schools, as implied in the paper, are gradually and progressively being diverted to other alternate school options such as charter and parochial schools (school vouchers) through competitive equilibrium. Salvatore (2003) argues that under public-choice theory, one way to improve public-sector performance is to subject government bureaus or agencies to competition whenever possible. This ensures the optimal use and utility of scarce resources as each vested entity extracts optimum value from it.

- ⌚ Choice in the school perspective is likely to enhance the efficient distribution of resources, consequently leading to improvements in production efficiencies. Salvatore (2003) illustrates under public choice theory that to promote efficiency in public choices, government agencies should be allowed to compete with private firms in the provision of services that are not entirely public in nature. He further supports the efficiency concept by noting that, giving vouchers to parents for private over public schools could stimulate better education and increase efficiency (Salvatore, 2003). Baffes and Shah (1998) add to this, by quoting, “the merits of leaving economic decisions to the private sector are well recognized. The decentralized nature of these decisions and the competitive setting in which they are taken both contribute to efficiency in resource allocation” (p.291).
- ⌚ Choice ensures the failure of the weak and the success of the strong in a “relative sense rather than an absolute sense; that is the best among the competition—not necessarily the best possible” (Brickley, et al, 2001, p.10). Adam Smith’s concept of the “invisible hand” elaborates on this premise. According to Brickley, et al (2001), they cite, “Adam Smith argued that through the invisible hand of market competition driven by self-interested traders, resources are directed to their most productive use and societal wealth is maximized” (p. 551). What is thought and understood today about public schools appears to be instances of cultural bias than they are social and economic realities.
- ⌚ Most obvious of the impact of microeconomic choice, is the gift of innovation, which are product or process innovation (Salvatore, 2003). As the effect of consumer choices impinges on the market, the producer must inevitably respond to the consumer’s inputs by deciding on how and what to produce. This process has led to the incremental development of a variety of innovative alternatives such as varieties in school choices and reductions in class sizes, as noted in the “producer” sub-section of this paper . Then, Salvatore (2003) asserts that innovation is the single most important determinant of a firm’s long-term competitiveness at home and abroad.

However, Salvatore (2003) also sends a message of caution about the high risk or constraints to innovation. Herbig and Kramer (1994) clarify such risks as information and innovation overload. In addition to these constraints, is a third—adverse selection. Nonetheless, Brickley, et al (2001) suggests that “an action should be taken whenever the incremental benefits of that action exceed its incremental costs” (p. 119).

Information overload, they note, is a phenomena where consumers are bombarded with excessive information, leading to adverse judgemental decision making and inhibited consumer decision making abilities (Herbig and Kramer, 1994). They attribute this phenomena in the United Kingdom to the progressive growth of mass communication supply, between 1960 to 1980, to an annual average rate of 6.7 percent (Herbig and Kramer, 1994).

Both authors further suggest that innovation overload as a consequence of users responding to increasing pace of information, knowledge, and innovations (Herbig and Kramer, 1994). They attribute this phenomenon to the rapid evolution and multiplication of alternatives, which makes it difficult for consumers to make direct comparisons with available choices. Secondly, they blame this phenomena on all the innovations beyond the available innovation set occurring at that time (Hirschman, 1987).

Finally, adverse selection, according to Brickley, et al (2001) “refers to the tendency of an individual with private information about something that affects a potential trading partner’s costs or benefits to extend an offer that would be detrimental to the trading partner” (p. 252). By this we mean, the potential for “competing” private firms for government resources—school vouchers, in selecting the best and advantaged pupils from the public school system and leaving the worst and disadvantaged pupils to the public school system, is a very real and dangerous possibility and precedence. In essence, they will be selecting the best markets (pupil) and leaving the worst for the public school system. If and when this occurs, information asymmetry between “competing” firms and consumers/producers will likely be the chief culprit.

### Conclusion

Ignoring the mechanics of choice could very well be a grave mistake as the data on school option has clearly depicted. Cowell (1984) suggests that a major problem any service industry would face is ignorance of the consumer’s environment. Choice is a phenomenon that clearly acts on a market (pupils) with inputs from the consumer (parents) and producer (government) alike. Consumers are influenced by the microeconomic forces; scarcity, wants, alternatives, and preferences. The market place reflects the impact of microeconomic choice, from the producer and consumer, through performance measures. The producer responds, in turn, by deciding on what to produce, how to produce, providing for the growth of the system, and how to ration a given quantity of the system.

Choice is directional and impacts a medium or entity. It fosters competition and encourages market and service fragmentation within its environment. However, it is constrained by three noteworthy factors: (1) Information overload (2) Innovation overload (3) Adverse selection.

Nonetheless, Sweetland (2002) in his work on free markets and public schooling acknowledges several public policy responses to increased demand on education. These include; (1) increasing the number of family choices on the public school system (2) improving the quality of public schooling.

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