THE CAMPUS LEVEL EFFECTIVENESS OF THE FOUNDATION SCHOOL PROGRAM: A POLICY ANALYSIS FOCUSING ON TEXAS CAMPUSES

A Dissertation

by

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ABSTRACT

The dissertation examines the Texas Foundation School Program (FSP) empirically to determine its effectiveness in meeting state constitutional requirements and legislative policy goals. Three research questions guided this study, two of which focused on the relationship between campus-level expenditures and standardized test performance, while the third analyzed the influence of a district's property wealth designation on its respective accountability rating. Longitudinal Texas Academic Excellence Indicator System data, consisting of selected academic performance indicators and funding components, was collected from the Texas Education Agency. Approximately 7,000 campuses and 1,050 districts per year of study comprised this data. Ordinary least squares multiple regressions and multiple logistic regression analyses were conducted to identify significant predictors of campus expenditures, campus standardized testing performance, and district academic accountability ratings.

After examining the FSP and its funding components empirically, evidence suggests that while campus-level funding components positively predict the ability of a campus to spend, they do not predict campus academic performance. Key campus funding components, such as compensatory education and special education, do not appear to be funded at appropriate levels to contribute to positive performance outcomes. If vertical equity is important, then the FSP appears to have the conceptual structure, but not the funding levels, in place to contribute to positive academic outcomes at the campus level. Data also suggests that a district's wealth designation is not a significant predictor of accountability ratings. Though property wealth plays a key role in

determining district revenue and expenditures, it does not appear to influence Texas accountability ratings to the same extent.

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CHAPTER I

STUDY INTRODUCTION

Research Problem

As a unit of analysis, school districts have been examined to develop an understanding of whether or not state resource allocation policies and procedures lead to the maintenance of a fiscally neutral system that generates positive student outcomes. For example, Rolle and Torres (2010) provided strong evidence that property wealth per pupil serves as the most statistically significant predictor of combined state and local school district revenue within the context of the Texas Foundation School Program (FSP). However, other FSP components examined in the study, designed to provide increased levels of funding based on specific student characteristics, were not found to be statistically significant predictors of combined state and local revenue. The funding component designed to increase monies for students receiving bilingual education services is an example of this finding. These results are significant in that they question levels of fiscal neutrality present in the FSP by noting the predictive nature of property wealth per pupil in determining revenue as compared to defined revenue-generating components based on pre-determined district student characteristics (e.g. percent of students receiving bilingual education services).

These types of district-level studies provide important information about how state funds are distributed to districts via state funding mechanisms. However, students are not served primarily at the district level, but rather at the campus level; therefore, how funds actually reach students in the form of educational resources is significant.

Local district resource allocation methods have been studied, particularly in large, urban school districts (Baker, 2009; Chambers, Levin, & Shambaugh, 2010; Roza, Guin, Gross, & Deburgomaster, 2007). For example, Chambers, et al., (2010) noted that basing intradistrict funding on student characteristics improved funding equity in the districts they studied; however, the need to include student performance outcomes in relation to funding policies and procedures was expressed. As such, one may consider whether or not the above-mentioned significance of property value and its classification system in Texas, which designates districts as either property-wealthy or property-poor coupled with funded student characteristics tends to generate stronger student performance outcomes.

In short, do the levels of equity found within a funding mechanism tend to be associated, either positively, negatively, or not at all, with student performance outcomes? Roza, et al., (2007) found that in the largest school districts in Texas there was evidence to suggest that greater inequity existed in resource allocation between schools than between districts, often due to factors not grounded in student needs, such as the political machinations of the Board of Trustees and the influence of community stakeholder groups.

An analysis of whether or not state school funding mechanisms influence campus funding equity along with campus and district student performance outcomes is lacking. When testing the FSP, one would expect to find that all funding components were positively associated with revenue. If this is the case, then the elements of the FSP that were developed to ensure appropriate levels of equity within the funding mechanism

function as designed. If not, then the evidence may suggest that the FSP is inherently inequitable. As noted above, studies analyzing revenue generation at the district level have suggested that this may be the case. An alternative examination of the FSP and its components could shed further light on these findings. Therefore, the purpose of this dissertation is to examine the Texas FSP by assessing which, if any, of its funding components serve as statistically significant predictors of campus- and district-level spending and student academic performance. This analysis then lends itself to a discussion of the implications related to the FSP and its alignment with state constitutional requirements and legislative policy goals. Specifically, this research asks the following questions:

1. What statistical relationships exist between the Texas FSP funding components and campus-level resources?
2. What statistical relationships exist between the Texas FSP funding components and student outcomes at the campus level?
3. What statistical relationships exist between the Texas FSP funding components and student outcomes in schools within property-wealthy (i.e., Chapter. 41) districts and those in property-poor (i.e., Chapter 42) districts?

Background

Questions addressing how to fund K-12 public schools equitably - and how to utilize those revenues effectively - in Texas are not new. In fact, the Texas Constitution states that “it shall be the duty of the Legislature of the State to establish and make suitable provision for the maintenance of an efficient system of public free schools”

(Tex. Const. art. VII, § 1). The intent of the Constitution is to develop and fund an educational system to provide a "general diffusion of knowledge" (Tex. Const. art. VII, § 1). Specifically, the components of this general diffusion of knowledge are found through curricular requirements found in the Texas Essential Knowledge and Skills (TEKS) and student performance standards across grade levels and subjects as part of the Texas state accountability system (Texas Association of School Boards, 2010). This seemingly simple statement, and the resource allocation policies and procedures needed to accomplish it, have proven to be both operationally complex and politically controversial. As a result of school district legal challenges, the Texas FSP has been debated in the Supreme Court of Texas seven times since the late 1980s (Rolle & Torres, 2010; Walsh, Kemerer, & Maniotis, 2005). Currently, an eighth challenge to the policies and procedures used to fund schools in Texas is being contested in district court. There is a strong likelihood that the Texas Supreme Court will eventually be asked to again render judgment.

These constitutional challenges were multidimensional. However, the level of fiscal neutrality provided by the FSP proved to be a significant aspect of the litigation (Legislative Budget Board, 2009). The concept of fiscal neutrality holds that "there should be no systematic relationship between per pupil revenues and per pupil property wealth" (Stiefel & Berne, 1981). Texas law requires that a "fiscally neutral system" be in place that provides for similar revenues per student at similar tax effort (Texas Association of School Boards, 2010). As a result, there should be no relationship

between the quality of the education received by students and the property wealth found in their local district (Berne & Stiefel, 1999; Coons, Clune, & Sugarman, 1970).

In order to provide a socio-historical framework for this study, three specific areas related to its content develop a conceptual basis for research. First, an examination of school finance equity as a key construct of any discussion related to school funding mechanisms is provided. Next, the legal environment in Texas, framed by key State Supreme Court cases, illustrates how the current version of the FSP developed from multiple challenges to its ability to fund schools in an equitable manner. Finally, an examination of finance studies at the campus level followed by a synthesis of these background components establishes the opportunity for further study.

Equity

Rolle and Houk (2004) succinctly analyze lenses through which policymakers and researchers tend to view education finance by labeling four paradigms. These "four pillars" of education finance include: equity, efficiency, liberty, and adequacy (p. 2). Though all four of these pillars do experience interactive effects, their differentiation is important to understanding the motivations of school funding mechanisms. Texas has sought equity as its primary pillar of school finance in looking to appropriate resources fairly. A brief discussion of equity and how it relates to the concept of fiscal neutrality is significant here.

Equity, at its essence, concerns how resources are distributed between states, districts, campuses, and students fairly (Springer, Liu, & Guthrie, 2009). Though equity can be analyzed at the input, process, or outcome stage, most discussions of school

equity are discussed from the input perspective (National Research Council, 1999). Equity is then often examined in the literature by analyzing horizontal (equal treatment of equals) and vertical (unequal treatment of unequals) equity (Berne & Stiefel, 1984). The idea of vertical equity is found in Texas through its utilization of weighted funding formulas based on student characteristics and programs as an element of the FSP (Daniels, et al., 2010; Toutkoushian & Michael, 2007).

A discussion of vertical and horizontal equity must be framed within the context of how resources are generally distributed to local school districts and to the campuses which comprise them. School revenues are generated primarily from state and local jurisdictions. Without question, local property taxation methods weigh heavily on school funding mechanisms across the United States with Texas being no exception (Berne & Stiefel, 1999; Monk, 1990; Baker & Green, 2008). If fiscal neutrality is considered to be a tenet of a funding mechanism, then there should be no relationship between the education of students and the property wealth found in their local district (Berne & Stiefel, 1999). Rolle and Torres (2010) found that in Texas, property wealth is still the key indicator of district expenditures resulting from a combination of state and local funds. However, important equity factors, such as the number of students receiving bilingual education services, do not serve as significant predictors of district expenditures.

Odden and Picus (2008) note that characteristics of children, districts, and programs should be taken into consideration when distributing resources. For example, different programs, such as those designed to provide vocational training, often have

different levels of funding needed for their effective implementation and maintenance. It then becomes acceptable for them to receive greater funding. Berne and Stiefel (1999) point out that deciding how to determine differences in these funding formulas is difficult to develop empirically based on input and output quantitative data. Therefore, determining whether or not the established levels provide the appropriate levels of funding often proves to be problematic. An empirical study at the campus level coupled with district-level property wealth designation to determine whether or not weighted student groups in Texas are significant predictors of expenditures and student performance outcomes has not been conducted.

Texas School Finance Legal Environment

The contentious legal environment surrounding school finance in Texas serves as a critical element for the development of this dissertation. The first significant legal challenge to the Texas school funding mechanism was *San Antonio I.S.D. v. Rodgriguez* (Alexander & Alexander, 1998; Walsh, et al., 2005). This case was contested in the federal court system due to the plaintiff's contention that the finance system utilized in Texas violated the Equal Protection Clause of the Fourteenth Amendment to the United States Constitution. The disparate differences between the ability of property-wealthy and property-poor school districts to generate funds in addition to the state contribution served as the basic premise of the litigation. The lower federal court system upheld this contention and felt that equal protection had been denied; however, the U.S. Supreme Court disagreed. The Court determined that education was not a fundamental right

protected by the Fourteenth Amendment; therefore, state legislatures and judiciaries had the responsibility of addressing school finance issues (Alexander & Alexander, 1998).

The 1980s saw the development of the ongoing issue in Texas in regarding the FSP and its dependence on property taxation to generate revenue. In 1984, House Bill 72 established a basic allotment of state funding per pupil in Texas (Walsh, et al., 2005). Though establishing a minimal dollar value per student, HB 72 did nothing to address disparity between districts. In 1989, *Edgewood v. Kirby I* developed out of a challenge by the Mexican-American Legal Defense (MALDEF) and the American Civil Liberties Union (ACLU), which scrutinized the FSP for its perceived funding disparities (Rolle & Torres, 2010). After being found unconstitutional in district court, and then overturned in the Texas Third Court of Appeals, the State Supreme Court found the funding system unconstitutional and directed the legislature to develop a legal system (Walsh, et al., 2005). A key element of this finding was the evidence presented during trial that the 100 wealthiest school districts held 20 times more property wealth than the 100 poorest districts (Rolle & Torres, 2010). This inequitable resource distribution was deemed to be detrimental to the State's expressed constitutional objective of an efficient educational system because it did not prevent "substantial funding inequalities" (Ryan, 2008). The legislature countered with Senate Bill 1, which established the three-tier funding format which still exists in Texas today.

Edgewood III and IV led to the development of the system of wealth equalization based on recapture that still exists in Texas today (Rolle & Torres, 2010; Walsh, et al., 2005). In essence, school districts with high property values would be required through

various avenues of their choosing to provide financial resources for redistribution to districts with poorer land values. The number of districts required to provide funds to other districts had increased nearly threefold by 2005 from its inception in 1993 (Crawford, 2004). As a result, more taxpayers and political leaders began to question the system either as being unfair to property-wealthy districts or failing to provide equitable resources for property-poor districts.

By 2003, many school districts in Texas enacted local property tax values at $1.50 per $100 assessed valuation which constituted the maximum amount allowed. As a result, in *West Orange Cove v. Alanis*, the plaintiffs argued that in order to provide an adequate education, they were forced to maximize their local tax revenue. According to this argument, they were basically forced into a state property tax, which is illegal in Texas (Walsh, et al., 2005). The Texas Supreme Court found in 2005 that the FSP was a viable method of funding Texas public schools since, according to the Court, it met the constitutional requirement of efficiency in that the resources provided are equitable in regard to developing an adequate education (Legislative Budget Board, 2009).

Campus-level Funding

Campuses are important in determining how to best allocate resources to meet student performance outcomes. Decision-makers at the campus level, working within the context of state and district regulation, utilize resources for a wide variety of purposes. Therefore, schools must be able to show that they can manage resources and put them to appropriate use, especially those with challenging student populations (Brown & Peterkin, 1999). Berne and Stiefel (1994) discussed in detail the need to look at funding

at the school and within district levels. Odden and Clune (1998) further these thoughts by noting that “almost all of the key decisions” concerning resource use are made at the school level (p. 172). Brown and Peterkin (1999) go on to create a multi-step integrated strategy model to achieve better student results through effective resource usage.

How funds are allocated within school districts is a method for analyzing school level financial data (Picus, 2000). One avenue for evaluating this has been to analyze how large districts allocate resources within their own districts (Baker, 2009; Klein, 2008; Chambers, et al., 2010). Klein notes that while much work has been done to analyze district-level resource allocation, less has been done to study intradistrict equity. An analysis of each of these studies sheds some light on the intent and process of studying school-level data within single districts. Klein bases his study of intradistrict equity on a data set developed from the Metropolitan Nashville-Davidson County School District (Metro) in Tennessee from the 2003-04 and 2004-05 academic years. In looking at 70 K-4 elementary schools, he found “little evidence for discrimination against low-status groups in school funding decisions” after analysis of specific variables and their interaction (p. 3). He points out that No Child Left Behind (NCLB) minimum standard requirements potentially provide the incentive to allocate resources to schools with larger percentages of low performing students; however, this did not appear to be the case in the sample selected after calculating the study results.

Baker (2009) utilized a similar approach in studying intradistrict equity by creating his sample from elementary-level schools; however, he used data from two states, Texas and Ohio, and selected districts (Houston, Cincinnati) that enacted

weighted student funding (WSF) methods for budgeting campuses. These were then compared to other large cities within the states of Ohio and Texas to look for differences in funding equity. He defines WSF as a funding mechanism where allocations are based on "the different needs of children across schools and decentralized (school) governance" that provides campuses more authority in how their monies are utilized (p. 2). Chambers, et al (2010) define this concept in a very similar way. This concept applies to how Texas finances districts in regard to varying levels of student funding based on their respective characteristics (Legislative Budget Board, 2009).

Chambers, et al. (2010) looked at intradistrict WSF mechanisms in the Oakland and San Francisco school districts in California to evaluate vertical equity. They concluded that per-pupil spending at the campus level increased in relation to student need in regard to children from high-poverty areas, especially at the secondary school level. However, equity in regard to school staffing, especially based on teacher experience in high-poverty areas, did not show improvement after program implementation.

Texas is an example of a state where research on funding equity at the campus level has the potential to yield significant results. Rolle and Torres (2010) examined school finance equity in Texas between districts and made an important point regarding the FSP to assist in framing their conclusions:

> It is important to remember that the function of the Texas FSP is to distribute dollars inequitably based on student-district need characteristics and fiscal capacity. In essence, the state allocation of dollars is intended to counter

> balance the effect of local spending efforts in order to improve levels of equity overall. (p. 11)

Based on their findings, the most significant predictor of district expenditures from the combination of state and local funds per student is the district's ability to generate local tax revenue. As noted above, this does not appear to create the counter-balancing phenomenon related to equity expected. This study goes on to point out that key components of the FSP regarding weighted student funding percentages, particularly for bilingual education, do not show evidence of being significant predictors of local expenditures. This raises questions about the effectiveness of the weights assessed to groups in need of additional funding.

An examination of the background surrounding school funding in general and applications found in the state of Texas provides a framework for further study concerning whether or not the Texas FSP as a means of providing equity, or inequity according to Rolle and Torres (2010), effectively serves students. The effectiveness of the Texas FSP to provide equitable funding at the campus level will be examined generally by studying all campuses then more specifically by analyzing high school campuses.

As noted, studies have been conducted between districts looking at overall district funding; however, this does not yield information concerning what is taking place at the campus level, especially in secondary schools. Of the studies examining within-district funding, either elementary-level campuses (Baker, 2009; Klein, 2008) or campuses within very large school districts (Chambers, et al., 2010; Roza, et al., 2007)

seem to be the norm. By examining campuses and districts in Texas, we will be able to assess if the FSP funding components predict school-level expenditures and seek evidence as to whether or not these funding components predict levels of student performance, especially in regard to a school's demographic characteristics.

Definition of Key Terms

Academic Excellence Indicator System (AEIS)

This system annually utilizes a wide range of data to provide performance information related to school districts and campuses. School student and staff characteristics, financial information, standardized test performance, and other data are organized and distributed for public analysis. Also, this system provides the guidelines for rating districts and campuses in Texas.

Attendance Rate

Attendance rate is a data element of the AEIS system which indicates the average daily percentage of students present over the course of a school year. This element impacts both student performance as it relates to days present for instruction and to funding since the average daily attendance serves as a revenue element of the FSP.

District/Campus Rating

Districts and campuses in Texas are rated via the AEIS primarily on the Texas Assessment of Knowledge and Skills (TAKS) performance of five student groups. These groups include: African-American, Hispanic, White, Economically Disadvantaged, and All students. Schools receive one of four ratings: Exemplary, Recognized, Academically Acceptable, and Academically Unacceptable.

Career and Technology Education (CTE)

CTE is a special program which receives additional funding weight via the FSP. The expense of operating and maintaining CTE programs necessitates the additional funding.

Compensatory Education

Compensatory education is a special program which receives additional funding weight via the FSP. Students enrolled in the free and reduced lunch program are funded at a small additional level. Also, pregnant students receive additional funding weight as part of this program.

Fiscal Neutrality

Fiscal neutrality refers to the concept and element of Texas law, which holds that districts be able to generate similar funding revenues per student at similar tax effort. In a fiscally neutral system, no relationship should exist between the quality of education received and a district's property wealth.

Foundation School Program (FSP)

The FSP is a two-tiered system designed to provide funding for instructional programs, operating needs, and enrichment for all students in Texas public schools, both traditional and charter.

Gifted and Talented Education (GT)

GT serves as a special program which receives additional funding weight via the FSP. It provides additional funding for programs designed for identified gifted and talented students.

Maintenance and Operations Tax Rate (M&O)

The M&O tax rate is the adopted property tax rate that generates revenue for local school districts.

Public Education Information Management System (PEIMS)

The PEIMS serves as the data management system for the entire state of Texas. The information is gathered from each district electronically according to prescribed standards. It is then used to provide a wide range of information including but not limited to: organizational characteristics, student characteristics, student academic performance, and financial data.

Property Wealthy

In this dissertation, the term property wealthy applies to school districts in Texas with property wealth per student above certain levels. These districts are subject to the recapture provision of the Texas Education Code (Ch. 41). They must reduce their property wealth per pupil thereby reducing revenue.

Property Poor

In this dissertation, this term applies to school districts not subject to the recapture provision of the Texas Education Code. They are referred to as Ch. 42 school districts.

Property Value per Pupil

A district's property value per pupil is calculated by dividing the district's total property value by the number of students served.

Special Education

Special Education is a special program which receives additional funding weight via the FSP. Funding weights vary for students depending on the amount of services required.

Total Campus Operating Expenditures

This expenditure data serves as a revenue equivalent at the campus level. It shows the level of funding spent per campus for their maintenance and operations, including but not limited to instruction, counseling, administration, health services, and extracurricular/cocurricular activities. These funds do not include revenue generated due to bonded indebtedness for facilities.

Weighted Funding Components

These components of the FSP generate additional revenue per student based on enrollment in programs more expensive to operate than the regular education program. Compensatory Education, Special Education, Bilingual Education, Career and Technology Education, and Gifted and Talented Education are the weighted funded components analyzed in this dissertation.

Research Methodology

Rolle and Torres (2010) suggest that a school district's property wealth serves as the primary indicator of its ability to generate and utilize funds. Their specific examination of the bilingual services funding component found that property wealth remains more indicative of district revenue than this weighted funding component designed to generate more revenue for districts with large bilingual student populations.

A district's geographic, social, and economic condition is a significant indicator of its ability to provide resources for students. Student characteristics are not as predictive of the district's ability to generate and utilize funds. The findings of Rolle and Torres showed statistically significant models per year of data analyzed; however, three concepts were omitted:

1. Funding was studied only at the district level. An analysis of how funding is utilized to educate students directly must take place at the campus level.
2. The study did not integrate student performance outcomes. Campus-level data allows one to examine the influence of the FSP funding components on student performance outcomes at particular grade levels.
3. A district's classification as either property wealthy (Ch. 41) or property poor (Ch. 42) was significant in examining school funding in Texas. Whether or not this classification influences academic performance as measured by important state indicators could shed further light on the equity of the mechanism.

As a result, the analysis of the FSP provided did not study how its components function in regard to campus-level funding characteristics. By studying the funding mechanism as it pertains to the campus level, one can seek evidence as to its role in providing students with access to educational resources.

The objective of this dissertation is to extend the work of Rolle and Torres (2010) to include an analysis of how the FSP functions to provide resources at the campus level and generate student performance outcomes at the district level through its

funding components. In this study, all traditional public school campuses and districts in Texas were studied. Though they are state financed, charter school campuses and districts are not included in this study, due to differences in the mechanism by which they are funded. Methodologically, this dissertation:

1. Examines via linear regression the FSP revenue-producing components between the school years 2002-03 and 2009-10 to determine which, if any, serve as statistically significant indicators of campus-level expenditure. Campus-level expenditure serves as the revenue proxy for analysis at the student level. FSP weighted funding components examined in relation to total campus operating expenditures include, but are not limited to: attendance, bilingual education, career and technology, compensatory, gifted and talented, special education, and average beginning teacher salary.
2. Uses multiple linear and multinomial logistic regressions to determine whether or not specified FSP funding components influence student performance outcomes related to the campus and district levels. District and campus rating (Exemplary, Recognized, Academically Acceptable, Academically Unacceptable) as determined primarily through Texas Assessment of Knowledge and Skills (TAKS) scores and campus passing rates on all TAKS assessments given across subjects serve as the academic indicators for study. Passing standards for TAKS assessments vary across grade levels and subjects; however, they are consistent for all students tested at a given grade level, subject, and school year. TAKS scores were first

included in determining student performance outcomes in the 2002-03 school year.

3. Utilizes the same funding components to determine whether or not a school's membership in a property-wealthy or property-poor district is significant.

The primary goal of this research is two-fold: to create a level of understanding of how the FSP funding components impact student resource utilization at the campus level and to determine whether or not evidence exists which suggests that student performance outcomes are influenced by FSP funding components. Does the state's objective to fund schools based on the concept of fiscal neutrality (Legislative Budget Board, 2009) manifest itself in how the funding components influence campus level resource usage? Also, do the funding components used to generate funds and provide resources influence student academic performance? The current contentious school finance climate in Texas provides a backdrop for conducting a study such as this one.

Data Sources

The data obtained and analyzed in this dissertation encompass eight years in Texas beginning with 2002-03 and ending with 2009-10. The *West Orange Cove v. Alanis* decision in 2005 led to legislation creating a funding plan which compressed state property tax rates from $1.50 to $1.00 with avenues to generate additional pennies (Texas Association of School Boards, 2010). The data studied allows for an analysis of four years of campus-level funding both before (2002-03 to 2005-06) and after (2006-07 to 2009-10) tax rate compression. The data is generated from Texas public schools through the Public Education Information Management System (PEIMS). Then, it is

organized by the Texas Education Agency (TEA) as part of the state Academic Excellence Indicator System (AEIS). For this study, the data was obtained directly from the TEA.

Analytical Techniques

Univariate and multivariate statistical analyses were conducted to examine school funding components which comprise the Texas FSP. These statistics were generated using the *IBM Statistical Processing for Social Sciences* (SPSS) software package. The output generated from the data sets created by year as mentioned above provided the avenue for analysis. The methods listed below apply to both the initial models to look directly at the FSP and its relation to campus expenditures and the final models which incorporate the additional academic outcome variables listed in the previous section.

After extracting the variables from data sets created from the data obtained, syntax was developed to conduct univariate analyses. First, descriptive statistics such as frequency, mean, median, mode, and standard deviation were calculated for all mentioned variables.

Next, a multivariate correlation was administered to study the potential impact of collinearity among the independent variables. In this study, it was important that the carefully chosen predictor variables, which served as individual funding components in the FSP, be analyzed independently to determine whether or not they had a significant predictive effect. Collinearity and its influence on the analysis of the data was considered and is discussed in detail in Chapter III.

After these analyses, multinomial regression models were conducted. A strong predictive model was generally considered to be one with an adjusted R^2 value of .30 or higher, an f-score greater than or equal to 2, and a p-value set at .05 (Agresti, 2002; Gay, 1996). Then, pairwise regressions were produced. The pairwise method allowed for all data to be included in the analysis, thereby optimizing sample size.

Finally, the models were analyzed in stages based on district property wealth per pupil to determine whether or not student academic outcomes were influenced by a district's property wealth designation. To accomplish this analysis, the datasets for each year of data was segmented based on a district's accountability rating. Logistic regression techniques were then used to determine the predictive effect of the FSP funding components on the two groups, determined by their respective accountability ratings.

Limitations

By testing the effectiveness of the FSP structure at the school campus level, one would anticipate that revenue-generating components deemed important by the state would serve as statistically significant predictors of revenue at both the district and campus levels. The findings indicated that certain funding components were statistically significant, positive predictors at the district level, but not at the campus level. As a result, the need for further study of intradistrict resource allocation policies as an avenue for additional research became apparent. A second limitation concerned the omission of data related to teaching staff characteristics other than beginning teacher salary. Classroom teacher characteristics influence instructional quality, which leads to positive

educational outcomes. Finally, results may only be generalized to the years of data studied. The FSP may be modified during future legislative sessions to fundamentally change its current form.

Significance of the Study

The significance of this study is grounded in the review of literature as it pertains to school finance in Texas, an understanding of pertinent goals related to law and policy, and the implications of the results derived from the data examined. The implications of the findings are dependent on the results of the data analysis. This study empirically examined the FSP and its alignment with state legislative policy goals. If the findings indicated statistically significant, positive results, then evidence exists which suggests that the FSP aligns itself with expressed state legislative policy goals, legal requirements, and generates student performance outcomes as stated in policy and procedure. Alternatively, if statistically significant results were not evident, then evidence exists which suggests that the FSP does not fund schools in a manner that distributes resources to students at either the district or campus level that meets professed state legislative policy goals. The findings indicated that while the FSP functioned in a manner that provided resources in relation to the selected weighted funding components, the levels of funding generated did not appear to be effective in regard to positive student academic performance.

A study of the literature surrounding school finance illustrates the importance of vertical equity as it relates to the structure of the FSP. The FSP is designed in part to generate funds dependent upon student characteristics requiring higher levels of funding

per pupil. If these characteristics do serve as statistically significant predictors of campus expenditure, then one could claim that evidence exists which suggests that weighted student funding components function as designed within the FSP. If not, then the need for an examination of methods for improving the mechanism related to student characteristics and their respective weights would have merit.

The significance of this study, regardless of the nature of the results, relates to the legal environment surrounding public school finance in Texas. As noted in the background section of this dissertation, the legal history of school funding in the state has unquestionably shaped the policies created by the legislature to provide school-level resources. In 2005, *West Orange Cove v. Alanis* litigation led the Texas Supreme Court to rule that the FSP did in fact provide students with an appropriate education; however, it was ruled unconstitutional because of the number of school districts with property tax rates set at maximum legal levels. Since that time, school funding has become even more contentious. Currently, another significant legal challenge centered on the FSP is taking place. As a result, questions related to property taxation, student characteristics as they relate to funding, student performance outcomes, and other considerations relevant to the educational process will be discussed in the courts.

Summary

The purpose of this dissertation is to study the funding components found within the Texas FSP empirically to determine which, if any, serve as key indicators to guide spending at the campus level. Rolle and Torres (2010) found that a school district's local property wealth was the most statistically significant predictor of revenue generation at

the district level, even in districts with large numbers of students receiving increased weighted funding per pupil. An examination of the funding components and how they relate to student characteristics and outcomes at the campus level then becomes relevant in order to further analyze the effectiveness of the Texas FSP and its ability to provide resources.

Chapter II provides a review of school finance literature by examining the legal environment as it pertains to school finance in Texas and the development of the FSP. This legal basis then allows for a look at key elements of school funding policy and procedures as well as an analysis of equity as a key school finance construct. A look at studies conducted to analyze campus-level funding considerations provided further background for developing this study. Chapter III establishes the methodology used to collect, organize, and evaluate the data. Chapter IV analyzes the data by examining pertinent findings related to the statistical analyses conducted. Chapter V generates discussion, considers policy implications, and discusses further avenues for study.

CHAPTER II

REVIEW OF LITERATURE

Introduction

School Finance is an area of study that generates a great deal of interest in today's educational environment. Stakeholders in the educational process are affected in some respect by the choices made at the national, state, and local levels regarding school finance policy. As a result, it has proven to be fertile ground for researchers in the hope of shedding light on what is best practice and how to educate students within the context of available resources. Texas has a long history of wrestling with the question of how best to fund public schools given the social, political, and economic considerations of the time (Hansen, Marsh, Ikemoto, & Barney, 2007). This is certainly still the case today.

This review of the literature will be divided into four sections. First, key school finance litigation, related to Texas and other select states, assists in framing the current legislative trends related to public education fund allocation. Next, the funding mechanism in Texas, the FSP, will be discussed as a policy. Then, a key school finance philosophical construct, equity, will be defined and developed in regard to its importance for school funding research and the school finance climate in Texas. Finally, a look at research on school level finance binds these concepts together to develop a basis for study.

Analysis of School Finance Litigation with a Focus on Texas

School finance is an area that has proven to be ripe for litigation over the course of the past 35 years. Throughout the United States, numerous challenges to the legality of state school funding mechanisms have served to shape how schools are financed. In fact, prior to 2007, only five states (Delaware, Hawaii, Mississippi, Nevada, and Utah) had not experienced significant legal proceedings concerning their methods of educational funding (Podgursky, Smith, & Springer, 2008). Plaintiffs in the other 45 states have challenged funding structures and experienced a variety of state-specific results (Martin, 2006; Springer, Liu, & Guthrie, 2009). As a result, no study examining the FSP in Texas would be complete without an examination of the primary objectives and outcomes of pertinent school finance litigation as found in the literature and in the rulings and written opinions of the Texas Supreme Court. A look at core statutory principles, a study of the most important cases in Texas since the late 1960s and a look at comparable legal challenges in other states will shed light on this litigious environment.

The legal basis for public school funding in Texas is found in the state constitution and the Texas Education Code (Legislative Budget Board, 2009; Texas Association of School Boards, 2010). The language of these documents provides the basis for many of the court cases to follow. Article VII, Section I, of the Texas Constitution calls for the legislature to develop and maintain an "efficient" system of funding public schools which provides for a "general diffusion of knowledge (Tex. Const. art. VII, § 1). As seen later in this review, the definitions of these terms,

especially regarding efficiency, tend to conflict with accepted school finance research definitions. The state legislature has attempted to ensure and measure this general diffusion through the development of the Texas Essential Knowledge and Skills (TEKS), which provide curricular elements for each subject and grade level, and an accountability system primarily based on standardized test score performance (Texas Association of School Boards, 2010). Interestingly, a firm, accepted conceptualization of whether or not this diffusion takes place, or, if Texas students are receiving an adequate education, has yet to be realized (Ryan, 2008; Texas Association of School Boards 2010).

The Texas Legislature has created statutory language to codify the Constitution's requirement of an efficient school funding system. By statute, an efficient system in Texas is one which, according to Section 42.001(a) of the Education Code, provides funds to ensure "that each student enrolled in the public school system shall have access to programs and services that are appropriate to the student's educational needs and that are substantially equal to those available to any similar student, notwithstanding varying local economic factors (1995)." As we will see, these terms consistently appear when studying the history of significant school finance legal challenges in Texas.

One could argue that the recent wave of school finance litigation began in Texas in the late 1960s with the circumstances surrounding the *San Antonio v. Rodriguez* (1973) case and its challenge to school funding based on the Equal Protection Clause of the 14th Amendment of the United States Constitution (Crawford, 2004; Podgursky, et al., 2008; Ryan, 2008; Walsh, et al., 2005). Ryan (2008) discussed how plaintiffs in this case argued for an equalization of resources. They contended that the funding

mechanism allowed property-wealthy districts to have access to greater funding capabilities than those districts with less property wealth. In a 5-4 decision, the United States Supreme Court determined that education was not considered a right under the Equal Protection Clause. Specifically, the Court found that no children were experiencing an "absolute deprivation of public education," or a denial of educational opportunity due to an inadequate education (*San Antonio v. Rodriguez, 1973).* Also, the Court sought to adhere to the "principles of federalism" allowing state and local authorities to craft educational policy, especially since education "furthered a legitimate state purpose (*San Antonio v. Rodriguez,* 1973)." In short, the mechanisms for school funding were a state issue to best be decided by the state in question and its courts (Baker & Green, 2008; Books, 1999). This idea of how to best equalize funding opportunity for property-poor districts developed in the *Rodriguez* case and served as a key element in later school finance legal challenges in Texas as well as other states, such as Missouri, Pennsylvania, and Kentucky.

The 1980s saw the development of what has proven to be an ongoing issue in Texas regarding the FSP and its use of property taxation as a key revenue generating component. In 1984, House Bill 72 established a basic allotment of state funding per pupil in Texas (Walsh, et al., 2005). Though establishing a minimal dollar value per student, the outcome of this litigation did nothing to address funding disparities between districts. In 1989, *Edgewood v. Kirby I* developed out of a challenge by the Mexican-American Legal Defense (MALDEF) and the American Civil Liberties Union (ACLU) which brought the FSP under fire for its perceived funding disparities (Rolle & Torres,

2010). After being found unconstitutional in district court, and then overturned in the Texas Third Court of Appeals, the State Supreme Court found the funding system unconstitutional and directed the legislature to develop a legal system (Walsh, et al., 2005). A key element of this finding was the evidence presented during trial that the 100 wealthiest school districts held 20 times more property wealth than the 100 poorest districts (Rolle & Torres, 2010). The Court reasoned that "the Legislature must make suitable provision for an efficient system for the essential purpose of a general diffusion of knowledge (*Edgewood v. Kirby,* 1989)." Furthermore, the Court believed that the framers of the Texas Constitution "never contemplated the possibility that such gross inequalities could exist within an efficient system (*Edgewood v. Kirby,* 1989)."

As a result, the legislature countered with Senate Bill I, which established a tiered funding format that still exists in Texas today. However, the Court did not believe that it substantially addressed the concerns noted above from *Edgewood I* (*Edgewood v. Kirby,* 1991). The tiered system, which consisted of a basic allotment per student and a guaranteed yield designed to allow districts to generate funds above the basic allotment, still did not address the inequities found due to variations in local property wealth (*Edgewood v. Kirby,* 1991). These rulings by the Court were significant because they held that Senate Bill I, the legislation crafted to address the issues from *Edgewood I*, did not alleviate the disparities between property-wealthy and property-poor school districts.

After failing to satisfy the Court with Senate Bill I, the Texas Legislature went back to work to develop a constitutional school funding mechanism. Senate Bill 351 was the result. This legislation was immediately challenged in the courts which led to

Carrollton-Farmers Branch ISD v. Edgewood). This case centered primarily on the premise that Senate Bill 351 created a state *ad valorem* tax and levied it without voter approval via the creation of county education districts (CEDs; *Carrolton-Farmer's Branch v. Edgewood,* 1992*).* Specifically, the Court noted that the legislation "created CEDs to levy a uniform tax statewide and the distribution of the proceeds were set by the bill (*Carrolton-Farmer's Branch v. Edgewood,* 1992*).*" The Court found Senate Bill 351 to be unconstitutional since CEDs could not "tax at a higher rate or a lower rate under any circumstances," then "a uniform tax statewide" was created, which violated the Texas Constitution (*Carrolton-Farmer's Branch v. Edgewood,* 1992, Tex. Const. art. VIII, § 1-e)."

After Senate Bill 351 was found to be unconstitutional, the Legislature crafted Senate Bill 7. Senate Bill 7 was challenged in the courts and became the first of the *Edgewood* (*Edgewood* IV) cases where the funding mechanism was found to be constitutional *(Edgewood v. Meno,* 1995*). Edgewood IV* provided the legal justification for the development of the recapture or "Robin Hood" system of wealth equalization that still exists in Texas today (Rolle & Torres, 2010; Walsh, et al., 2005). In essence, school districts with high land values are required through various avenues of their choosing to provide financial resources for redistribution to districts with poorer land values. Property-wealthy districts argued that the recapture provision mandated the education of nonresident students; however, the Court stated that since property-wealthy districts had options for the recapture of their locally generated funds, Senate Bill 7 did not "compel any district to pay for the education of nonresident students (*Edgewood v. Meno,* 1995)."

A second key development of *Edgewood IV* was the creation of a school accountability structure which, with some modification, is still in practice today. In their reasoning, the Court felt that the "State's duty to provide districts with substantially equal access to revenue applies only to the provision of funding necessary for a general diffusion of knowledge (*Edgewood v. Meno,* 1995)." The new accountability system would provide an avenue to measure whether or not this knowledge diffusion was taking place. Interestingly, as we will see in the *West Orange Cove* litigation, this accountability structure provided the basis for a discussion of whether or not the funding mechanism provided the resources for an adequate education, or general diffusion of knowledge.

By 2003, many school districts in Texas enacted local property tax rates at $1.50 per $100 assessed valuation. This tax rate constituted the maximum amount allowed by state law. As a result, legal challenges to the funding mechanism led to the next State Supreme Court litigation, *West Orange Cove v. Alanis* (*West Orange Cove I).* The plaintiffs argued that in order to provide an adequate education, they were forced to maximize their local tax revenue. According to this argument, they were forced into a state property tax, which is unconstitutional in Texas (Walsh, et al., 2005). The Court ruled in favor of the plaintiffs by determining that though the local districts managed their respective tax rate, the state controlled it by establishing the $1.50 cap as both a floor and a ceiling for districts taxing at that rate (*West Orange Cove v. Alanis,* 2003). Also, the Court clarified that the use of the tax cap does not have to apply to all districts for it to be considered an unconstitutional state property tax. Specifically, the Court felt

that “a single district states a claim under Article VIII, section 1-e if it alleges that it is constrained by the state to tax at a particular rate (*West Orange Cove v. Alanis*, 2003).”

Neeley v. West Orange Cove (West Orange Cove II) quickly developed from *West Orange Cove I* and was heard by the Court in 2005 (*Neeley v. West Orange Cove,* 2005). By 2005, the number of districts required to provide funds to other districts had increased nearly threefold from its inception in 1993 (Crawford, 2004). As a result, more taxpayers and political leaders began to question the system either as being unfair to property-wealthy districts or failing to provide equitable resources for property-poor districts. Interestingly, an important area of consideration concerning whether or not the resources available provided for an adequate education for Texas public school students arose with this litigation. As a result, two studies were conducted that centered on the cost function approach to adequacy in Texas. The studies, developed during *West Orange Cove II* litigation, came to opposite conclusions (Gronberg, Jansen, Taylor, & Booker, 2005; Imazeki & Reschovsky, 2005).

Educational adequacy as a consideration was presented as an argument by plaintiffs in *West Orange Cove II*. Imazeki and Reschovsky (2005) found that Texas was almost $2 billion short in providing adequate funds to meet state outcome objectives as well as NCLB standards. In contrast, Gronberg, et al. found that the state was providing adequate resources to meet state-mandated outcomes at a 55% passing rate in mathematics (Gronberg, et al., 2005). These outcomes were calculated based on data from the TAKS tests taken by Texas public school students. Imazeki and Reschovsky (2005) also based their study on the ability to meet a 55% passing standard in

mathematics based on TAKS results. This dissonance, along with previously mentioned property tax considerations, led to limited change in the FSP and served to assist in creating still unresolved finance issues in Texas. Certainly, this differentiation in results exemplifies the challenges mentioned in developing accurate adequacy studies.

As a result, three primary challenges to *West Orange Cove I* developed from this litigation, known as *West Orange Cove II*. First, the West Orange Cove group claimed that property taxes had become an unconstitutional state property tax. The Edgewood group contended that the FSP was unconstitutional in that children from property-poor districts did not have "substantially equal access to educational revenue (*Neeley v. West Orange Cove*, 2005)." All parties involved claimed that the FSP did not provide for a "general diffusion of knowledge" as required by Article VII, Section I of the Texas Constitution (*Neeley v. West Orange Cove*, 2005)."

The Court found that the FSP was a viable method of funding Texas public schools since it met the constitutional requirement of efficiency in that the resources provided were equitable in regard to developing an adequate education (Legislative Budget Board, 2009; *Neeley v. West Orange Cove*, 2005). However, the Court did rule that the property taxation component of the FSP was unconstitutional since 48% of districts were taxing at the maximum level and the State's control of the "levy, assessment, and disbursement of revenue" in the form of the property tax was so complete (*Neeley v. West Orange Cove*, 2005)." In short, the Court was not especially concerned with "the pervasiveness of the tax, but the State's control of it (*Neeley v. West Orange Cove*, 2005)."

West Orange Cove II was the most recent legal challenge to the Texas FSP heard and adjudicated by the Texas Supreme Court. It led to the development of a compressed tax rate designed to reduce local tax burdens by requiring the State to shoulder a greater percentage of local school funding by utilizing a hold harmless feature to prevent revenue loss (Texas Association of School Boards, 2010). However, the inequities found in the system have again come under legal challenge from local school districts, especially in regard to property-wealthy districts having the ability to supplement their funds via local revenue. This idea is articulated by Ryan (2008) as he notes that "local add-ons will create intolerable disparities in opportunities, which will require the state to achieve greater comparability between wealthy and poor districts (p. 1,237)." Texas appears to be at this point again. This, along with state educational funding being significantly reduced during the 2011 legislative session, caused local school districts, in the Fall of 2011, to file suit against the State again. The loss of revenue coupled with the State's move to a new, more rigorous, school testing structure and accountability system without commensurate funding have proven to be key elements of this new litigation (Rangel, 2012; Whittaker, 2012). Kling (2012) noted that Scott McCown, a district judge with experience related to four previous school finance cases, provided a succinct view of the impending litigation:

> In the past, there were always districts aligned with the state. . . Now, there are no districts aligned with the state. Every single district is unhappy, maybe for slightly different reasons, but all are making a strong case that the

> system is not fair, not adequately funded, and they don't have discretion over their local taxes.

As mentioned, Texas is not the only state to have experienced significant school funding litigation. In fact, over 125 court cases have been filed across the United States since *Rodriguez* which have called into question the legality of the state funding mechanisms (Guthrie & Springer, 2007). Murray, Evans, and Scwab (1998) found that there has been a reduction in intrastate funding disparities between districts, but little or no reduction in interstate differences at the national level. Certainly, this points back to the concept of education as a state responsibility as opposed to a federal one.

Missouri is one example of a state with significant school finance litigation. Its finance system was challenged in 1993 and found unconstitutional due to an inequitable means of allocating resources. The remedy was to create a system whereby the state would compensate property-poor districts for deficiencies as compared to property-wealthy districts (Podgursky, et al., 2008). Much like Texas, property values proved to be a driving force of the Missouri school funding mechanism. Ko (2006) believed that school finance equity improved over the course of the 1990s; however, this did not prevent further litigation beginning in 2004. The 2004 case turned more in the direction of adequacy as compared to equity. This was especially the case when three private citizens with the resources joined the case on the side of the defense, in this case, the state, and helped secure a victory for the defense (Podgursky, et al., 2008). Podgursky (2008) goes on to disagree with the court's ruling by discussing problems with using school outcome data, such as standardized test scores, to measure educational adequacy.

Another state with an eventful history of school finance litigation is Pennsylvania. Here, as in Texas, property tax reform is a key component to any litigation pertaining to school finance. Martin (2006) claimed that property-tax relief is the leading goal for state legislative sessions, much more important than school reform or funding measures. Martin pointed out that plaintiffs have never won a funding case in Pennsylvania and that in this state, as in Illinois and Rhode Island, education finance cases have been labeled non-justiciable, or not subject to legal challenge. However, there has been a shift in thinking as of late. In 2008, Pennsylvania passed its first significant funding formula designed to reach prescribed adequacy standards. These formulas were based on a district's student enrollment numbers and needs based on student populations. As a result, Pennsylvania serves as an example of a state that has recently moved toward adequacy as compared to equity measures in providing school funding.

Finally, Kentucky experienced a significant wave of school finance litigation beginning in the late 1980s. In contrast to Texas, the litigation issues in Kentucky were centered on adequacy instead of equity issues. Many school finance cases across the United States focused on adequacy during this time period (Clune, 1994; Dishman & Redish, 2010). Kramer (2002) used Kentucky as the model for all other school finance litigation by describing its basis in adequacy considerations. From this litigation, Kentucky developed a list of seven objectives for schools to meet in order to provide an adequate education for all students and create a consistent system for all students (Ryan, 2008). A key element of this change concerned how little Kentucky was spending for education and how poorly its students were performing in comparison to neighboring

states (Minorini & Sugarman, 1999). Kentucky also reevaluated its taxing mechanism with the objective of creating equity between schools districts (Kramer, 2002).

Certainly, this look at the literature in regard to school finance litigation shows that the complexity of funding schools is a challenge not only in Texas, but in other states as well. In fact, 36 states have had their funding mechanisms challenged on equity grounds and 37 have been challenged on adequacy grounds since 1971 (Springer, Liu, & Guthrie, 2009). As noted above, Texas is about to be embroiled again in a legal battle over the constitutionality of its funding mechanism. Crampton and Thompson (2011) discussed how recent budget shortfalls and cuts to education funding "will either create or exacerbate inequities in resources available to those students most at risk of academic failure (196)." As a result, the courts will be called upon to adjudicate more school finance litigation. In fact, there are "no examples of states where plaintiffs have won a school finance case and legislatures have responded adequately without any further court involvement (Ryan, 2008, p. 1,260). As noted above, this process started in Texas. Certainly, the outcomes of these legal challenges affect the policies and procedures used to transfer funds from the state to the local level. In the next section, we examine how these elements relate to the FSP as a policy.

The FSP as Policy: Philosophy, Structure, and Function

School funding is one of the most contentious, political, and challenging aspects of policymaking at the state level. Its complexity tends to create a great deal of anxiety for all involved (Walsh, et al., 2005). Texas, with one of the largest public education systems in the United States, provides a program for the creation of policies and

procedures for managing funds (Texas Taxpayers and Research Association 2012). This foundation program determines the amount of state and local funding due to school districts and delineates how the state share will be allocated (Daniels, et al., 2010). For the 2011-12 school year, the combined state and local funds managed in this system totaled approximately $41.8 billion. These funds, along with a limited amount of federal funding, served 1,280 school districts and 8,619 campuses which employed 651,829 people and educated 4.8 million students (Texas Taxpayers and Research Association, 2012). In this section, general philosophical works related to policy applications is examined. Then, a detailed look at the key concepts related to the development and implementation of the FSP is presented.

School districts and the campuses which comprise them are where policies, such as those related to school finance, are utilized. McDonnell and Elmore's (1987) work on the development of policy instruments serves as a basis to begin a review of the literature related to how policy impacts those responsible for its implementation. McDonnell and Elmore classified policies as mandates, inducements, capacity builders, and/or system changers. State funding mechanisms, including the FSP, show elements of the first three classes in their usual operations. McDonnell and Elmore noted that mandates typically do not involve an exchange of money; however, the large number of rules associated with utilizing public funds, either state or locally generated, requires compliance and accountability from local districts. Using this framework, the FSP serves a procurement (inducement) policy function, such as in weighting some categories of students more heavily than others in regard to funding. Ideally, this allows these groups

to be educated in a way that generates a greater production value. The state's desire to have an efficient educational system capable of providing a diffusion of knowledge for its population lends itself to the capacity-building element of McDonnell and Elmore's framework. Long-term investment in the education of students with the objective of making them successful over their lifespan is important here.

A second key philosophical concept from a policy standpoint relates to the ability (capacity) of the implementing agency to actually utilize the policy as it was intended. Do local districts and, specifically, the campuses which comprise them, have the capacity to provide a general diffusion of knowledge based on the funding they receive through the FSP? Cohen, Moffitt, and Golding (2007) provide an important policy consideration by framing this idea in the title of their work, *Policy and Practice: The Dilemma.* One of the interesting elements of this work is that it points out that if policymakers do not plan their policies with the practitioners in mind, then the policies will struggle to be successful. Malen and Rice (2004) look at this concept at the campus level and point out that one of the elements of a failed educational policy is a lack of resources coupled with a failure in productivity. Alexander and Salmon (2007) also note that school characteristics, such as the percentage of economically disadvantaged students, must be taken into consideration when considering resource allocation.

Political influences certainly impact policymaking at all levels of the educational process. State legislators, key players in the state executive branch, state Board of Education members, local Board of Trustee members, and the like are elected officials who answer to voters. Hess (1999) discusses how policy selection is often framed within

a political context. In his work, he points out that policymakers are often motivated to develop policies which have the highest visibility coupled with the lowest controversy. In developing the most recent school finance modification, the state legislature in 2006 restructured the property tax mechanism to lower taxpayer property taxes while still providing an equitable system of school funding (Legislative Budget Board, 2009). The FSP, with this modification, professes to provide schools with appropriate resources regardless of local property tax wealth (Texas Education Agency, 2010).

A detailed discussion of the basic components of the FSP is in order to provide a frame for how local school districts are funded in Texas. According to the Texas Education Code (1995), the purpose of school Texas public school funding is to provide substantially equal access to revenue per student at a similar tax effort The Legislative Budget Board (2009) refers to this conceptualization of equity as fiscal neutrality. A more detailed examination of fiscal neutrality and its connection to the concept of equity follows later in this literature review. To assist local districts and interested individual in understanding the process, the Texas Education Agency's (TEA) school finance office produced a handbook which articulates how dollars are generated (Daniels, et al., 2010). To understand how the FSP attempts to provide the fiscal neutrality mentioned above, one must analyze the available information regarding the basics of the policy. Please note that this review's intent is just that, to analyze the basics of the policy regarding revenue generation, which is important to this study.

The FSP consists of two primary components, operations and facilities funding. The focus of this study was on operations funding. The operations funding component is

divided into two tiers, Tier I and Tier II. Tier I funding provides the basic allotment as determined by weighted student values for regular education, special education, compensatory education, career/technical education, bilingual/ESL, gifted/talented, and public education grants. Tier II supplements Tier I through the use of weighted average daily attendance (WADA) formulas (p. 7). Funds for both Tiers I and II are based on a district's compressed tax rate (DCR), which guarantees districts a set amount of funding per WADA. More specifically, the DCR, established by House Bill 3646 in 2009, is its 2005 M&O tax rate multiplied by the compression percentage (0.6667; Daniels, et al., 2010, p. 8). The intent of the design, known as the target revenue system, is to provide similar funding levels for districts even though they were required to lower their maintenance and operations (M&O) tax rates per state legislation passed in 2005 as part of House Bill I (Daniels, et al., 2010; Legislative Budget Board, 2009; Texas Taxpayers and Research Association, 2012).

The basic allotment mentioned above is dependent on the DCR. The minimum provided by Tier I is $4,765 per student with upward adjustments made for average daily attendance and weighted student values (Daniels, et al., 2010). In calculating the district's share, local property tax value becomes significant. The district's local fund assignment (LFA) is determined by multiplying the DCR by the previous year's property tax value. If this amount exceeds the Tier I entitlement, then the district is considered to be "budget balanced" and becomes subject to the provisions of the Texas Education Code, Chapter 41 recapture legislation (Daniels, et al., 2010; Texas Education Agency, 2010). In short, the school district's share of the FSP is based on its ability to generate

property tax revenue (Texas Education Agency, 2008). Chapter 41 is discussed in greater detail later in this review.

Tier II funds provide two levels of guaranteed yield funding. In this case, districts receive what are often referred to as enrichment funds based on weighted average daily attendance for each penny of additional tax revenue a district is able to generate. One of the stated objectives here is to provide a level of guaranteed revenue per WADA for property poor districts (Texas Education Agency, 2008). A district may generate up to six "golden pennies" in Level I of Tier II and up to two additional "copper pennies" in Level II of Tier II (Daniels, et al., 2010, p. 21). These pennies are in addition to the DCR and provide additional money per WADA. With property value being a part of these formulas, the higher the values, the more the DCR plus the additional pennies are worth.

A mechanism developed by the state legislature to seek greater equity centers on the concept of recapture. As noted in the previous legal section of this review, school finance litigation over time has been driven by the question of how to balance the disbursement of resources available to schools dependent upon their local property tax values. Districts that are considered to be budget-balanced as mentioned above fall into the category of Chapter 41 schools. Established via legislation in the mid-1990s as a result of the *Edgewood v. Kirby* funding challenges, the equalization tenets of Chapter 41 serve to move wealth from property-wealthy districts to property-poor ones (known as "Chapter 42" schools) in hope of equalizing funding (Rolle & Torres, 2010; Texas Taxpayers and Research Association, 2012; Walsh, et al., 2005). A key figure here concerns a district's property wealth per WADA and whether or not it is greater than

$319,500. If so, Chapter 41 status is accorded (Lopez, 2009). Districts meeting this provision may choose to share their wealth by one of five options. These options include: consolidating with another district, detaching property, purchasing state attendance credits, contracting to educate nonresident students from a partner district, or consolidating tax bases with another district (Texas Education Agency, 2010). In most cases, districts choose to purchase attendance credits from the state or contract to educate nonresident students with a partner district (Daniels, et al., 2010).

A basic understanding of resources related to the FSP and its components is important to understanding of the challenges public school districts in Texas face in regard to funding. Federal funds are also available for allocation through the state to local districts; however, these were not analyzed as any part of this study. This brief review of these resources also serves as a precursor to a discussion of a key philosophical construct regarding school funding: equity.

Equity and its Role as a Key School Finance Construct

Rolle and Houk (2004) succinctly analyzed lenses through which policymakers and researchers tend to view education finance by labeling four key constructs. These "four pillars" of education finance include: equity, efficiency, liberty, and adequacy (p. 2). The two most commonly found in regard to state-level education funding are equity and adequacy; however, the term "efficiency" is written into law in Texas regarding school funding. This concept has a rather unique interpretation in Texas. Though all four of these pillars do experience interactive effects, their differentiation is important to understanding the motivations of state funding mechanisms.

Texas has sought equity as its primary pillar of school finance in looking to appropriate resources fairly. The court cases discussed above each "addressed equity problems associated with the uneven distribution of property wealth (Texas Association of School Business Officials, 2010, p. 1)." As seen in this literature review, litigation has been a primary driver in the movement for educational equity in Texas, most recently found in the *Edgewood* and *West Orange Cove* school finance cases. Rolle and Houck (2004) define equity in relation to school finance as a paradigm concerned with "fairness in the exchange, generation, and distribution of human and financial resources, educational services, and educational outcomes (p. 2)." Efficiency, then, focuses on levels of financial input compared to educational outcomes. In Texas, the legislative, judicial, and executive branches of government tend to view equity and efficiency as similar terms. For example, the Legislative Budget Board (2009), in an analysis of the Texas FSP, defined an efficient system as one in which "limited resources must be distributed across school districts in such a way as to achieve a general diffusion of knowledge (p. 1)." This report also views the terms "equity" and "fiscal neutrality" to be synonymous, as they pertain to the ability of school districts to generate similar revenues at similar local tax efforts (Legislative Budget Board, 2009). On these grounds, the Texas Supreme Court found in 2005 that the FSP was not unconstitutional on efficiency grounds as it felt that resources were distributed equitably to allow for positive educational outcomes (*Neeley v. West Orange Cove*, 2005). Again, this combining of these two terms is common in regard to school funding discussions in

Texas and can create a degree of cognitive dissonance for school finance researchers accustomed to differing definitions and applications of their concepts.

Equity, at its essence, concerns fairness and how resources are distributed between states, districts, campuses, and students (Springer, Liu, & Guthrie, 2009). Though equity can be analyzed at the input or outcome stage, most discussions of school equity are discussed from the input perspective (National Research Council, 1999). Equity is then examined most commonly in the literature by analyzing horizontal and vertical equity. An understanding of these principles will assist in understanding the development of funding mechanisms as well as their relative inputs and outputs.

The principle of horizontal equity is most often referred to as the equal treatment of equals (Berne & Stiefel, 1984; Monk, 1990; Odden & Picus, 2008; Toutkoushian & Michael, 2007). Though easy to apply, this standard can be difficult to conceptualize because of the difficulty in deciding how to label groups, individuals or both and then determining their inherent equality (Monk, 1990). Crampton and Thompson (2011) noted that horizontal equity often proves to be lacking when discussing school funding given the needs of diverse groups of students and the potential for providing school districts and campuses with "equal amounts of inadequate funds (p. 186)." Interestingly, though controversial in considering school funding, school accountability measures, such as No Child Left Behind and many state structures, exhibit this concept of horizontal equity clearly because of their focus on all groups and abilities of students being evaluated as equals (Odden & Picus, 2008). Texas is not an exception. An interesting dialectic emerges when one considers that the accountability system in Texas

is based on horizontal equity while the funding mechanism is primarily based on vertical equity.

Vertical equity is the second equity principle that impacts school funding. The concept of vertical equity is centered on the premise that calls for the unequal treatment of unequals (Berne & Stiefel, 1984; Monk, 1990; Odden & Picus, 2008; Toutkoushian & Michael, 2007). Toutkoushian and Michael further clarify this concept by stating that a belief in vertical equity allows for an understanding that some districts and schools have higher costs to educate their specific student populations than others. Books (1999) furthers this cost concept to advocate for funding mechanisms which seek to improve the situations of poor, often racially isolated, children.

Once this equitable inequality is established, then it must be determined what magnitude of difference in funding is acceptable (Monk, 1990). To do this, Odden & Picus (2000) believe that characteristics of children, districts, and programs must be taken into consideration when establishing vertical equity. For example, different programs, such as those designed to provide vocational training, often have different levels of funding needed for their effective implementation and maintenance. It then becomes acceptable for them to receive greater funding. Berne and Stiefel (1999) point out that deciding how to determine differences in these funding formulas is difficult to develop empirically based on input and output quantitative data. Therefore, it is difficult to determine whether or not the established levels provide the appropriate levels of funding. Texas, like many other states, utilizes weighted funding formulas based on student characteristics and programs for Tier I funding as previously discussed (Daniels,

et.al., 2010; Toutkoushian & Michael, 2007). An empirical study at the campus level to determine whether or not weighted student groups in Texas are significant predictors of expenditures has not been completed.

A discussion of vertical and horizontal equity must be framed within the context of how resources are generally distributed to local school districts and to the campuses which comprise them. Across the United States, school finance mechanisms are developed by state legislatures with funds derived primarily from state and local jurisdictions. The federal government provides funds for schools through various programs, but these funds account for a small percentage of total school expenditures and are typically targeted to specific need groups and campuses, such as those with significant percentages of economically disadvantaged students (Berne & Stiefel, 1999; Ryan, 2008). Without question, local property taxation methods weigh heavily on school funding mechanisms across the United States with Texas being no exception (Berne & Stiefel, 1999; Monk, 1990; Baker & Green, 2008). If fiscal, or wealth, neutrality is considered to be a tenet of a funding mechanism, then there should be no relationship between the education of students and the property wealth found in their local district (Berne & Stiefel, 1999). Rolle and Torres (2010) found that in Texas, property wealth is still the key indicator of district expenditures from a combination of state and local funds. However, important equity factors, such as the number of students receiving bilingual education services, do not serve as significant district expenditures.

Campus Level School Finance Studies and their Implications

As mentioned in the previous sections, school funding has been heavily influenced by the policies which govern its framework, a long history of litigation in almost all states, and the inherent concepts equity and adequacy in determining how best to analyze and interpret finance structures. Throughout this process, Texas has been the focus. Now, an analysis of the literature surrounding student-level school finance considerations will follow.

Many studies have examined school funding at the national, state, and district level; however, fewer have been conducted with the intent of analyzing school finance at the campus/student level (Picus, 2000). The district level has been utilized many times as a source of funding data, especially in wrangling with the question of whether or not school resource allocation had an impact on student performance. In other words, does money matter at the district level and how equitably is it distributed (Picus, 2000; Rolle & Houck, 2007; Rolle & Torres, 2010)? The National Research Council (1999) pointed out that the district level, with local boards of trustees, plays a pivotal role in the resource allocation process. Duncombe and Yinger (1999) claim it is important to consider elements outside the local district's control, such as the nature of its student population, when examining resource allocation and eventual student outcomes. The vertical equity considerations this entails would lead one to believe that school-level data and resource allocation patterns lead to a clear picture of campus needs (Rodriguez, 2004).

Interestingly, two separate meta-analyses were conducted in the mid 1990s which synthesized the literature to that point seeking to determine consensus on the basic question concerning money and school outputs. Greenwald, Hedges, and Laine (1996) determined that school resource allocation was indeed a significant indicator of positive school performance. Though they point out that funding is not the complete picture, they believed that its effective use is important to student achievement. Rolle and Houck (2007) supported this contention by asserting that most academics agree that a relationship between efficient use of resources (inputs) and student performance (outputs) exists.

In contrast, Hanushek (1997) determined through his own meta-analysis of the literature that there did not appear to be a significant relationship between resource allocation and performance at the student level. Basically, Hanushek's assertion centered on what he perceived to be the inefficient operation of schools leading to inconsistent student performance. He pointed out that this leads to added complexity in policymaking because if resources showed a "consistent and predictable effect on student performance," then those crafting school finance policy could simply allocate resources to local districts with the trust that usage would be productive (p. 153). Picus (2000) adopted this view by pointing out the lack of a clear link between student inputs and outputs. This idea lends itself to the previously mentioned dilemma in the policy section based on policymaker intent and the ability of those charged with implementation to do so effectively (Cohen, et al., 2007).

Nevertheless, schools are the front line in determining how best to allocate resources to meet student performance outcomes. Therefore, schools must be able to show that they can manage resources and put them to use appropriately, especially those with challenging student populations (Brown & Peterkin, 1999). Berne and Stiefel (1994) discussed in detail the need to look at funding at the school, intradistrict and district levels. Odden and Clune (1998) furthered these thoughts by noting that "almost all of the key decisions" concerning resource use are made at the school level (p. 172). Brown and Peterkin went on to create a multi-step, integrated strategy model to achieve better student results through effective resource usage.

Examining how funds are allocated within school districts is a method for analyzing school-level financial data (Picus, 2000). One avenue for evaluating this has been to analyze how large districts allocate resources within their own districts (Baker, 2009; Klein, 2008; Chambers, et al., 2010). Klein (2008) noted that while much work has been done to analyze district-level resource allocation, little has been done to study intradistrict equity. An analysis of each of these studies sheds some light on the intent and process of studying school-level data within single districts. Klein bases his study of intradistrict equity on a data set developed from the Metropolitan Nashville-Davidson County School District (Metro) in Tennessee from the 2003-04 and 2004-05 academic years. In looking at 70 K-4 elementary schools, he found "little evidence for discrimination against low-status groups in school funding decisions" after analysis of specific variables and their interaction (p. 3). He pointed out that No Child Left Behind (NCLB) minimum standard requirements potentially provided the incentive to allocate

resources to schools with larger percentages of low performing students; however, this did not appear to be the case in the sample selected after calculating the study results.

Baker (2009) utilized a similar approach in studying intradistrict equity by creating his sample from elementary level schools; however, he used data from two states, Texas and Ohio, and selected districts (Houston, Cincinnati) that had enacted weighted student funding (WSF) methods for budgeting campuses. These were then compared to other large cities within the states of Ohio and Texas to look for differences in funding equity. He defined WSF as a funding mechanism where allocations are based on "the different needs of children across schools and decentralized (school) governance" that provides campuses more authority in how their monies are utilized (p. 2). Chambers, et al. (2010) define this concept in a very similar way. Baker's (2009) results were mixed in that districts using non-WSF measures tended to be "more predictable and positively associated with poverty and at-risk measures" while the WSF districts performed better with cost-adjusted variations in resources (p. 21).

Chambers, et al. (2010) looked at intradistrict WSF mechanisms in the Oakland and San Francisco school districts in California to evaluate vertical equity. Using a mixed-methods approach consisting of qualitative techniques such as interviewing combined with regression analyses, they concluded that per-pupil spending at the campus level increased in relation to student need in regard to children from high-poverty areas, especially at the secondary school level. However, equity in regard to school staffing, especially based on teacher experience in high-poverty areas, did not show improvement after program implementation.

Texas is an example of a state where research on funding equity has the potential to yield significant results. In 1999, the Texas Educational Excellence Project, a policy analyst group from Texas A&M University led by political scientist Kenneth J. Meier, examined the effects of school finance equalization policies and their impact on student performance. Their research focused on data from the period between 1994 and 1997 to determine if finance reform policies created in response to the *Edgewood* series of court cases led to an increase in student academic performance at the district level.The findings indicated that finance equalization policies played a role in "dampening the effects" of local property wealth on all student groups (p.13). In other words, local revenue and local property wealth did not prove to be significant predictors of positive student performance on the Texas Assessment of Academic Skills (TAAS) examinations used at the time to gauge the performance of districts, campuses, and students. The authors used district combined passing rates on reading and math TAAS tests as a barometer of positive academic achievement.

Roza, et al., (2007), conducted a longitudinal study analyzing data from the 1993 to the 2002 academic years to determine if disparities in funding existed both between and within districts. They concluded that funding decisions made within a district have a greater influence on equity at the student level than do decisions made at the state level and implemented between districts. Non-categorical funds, those not earmarked for specified usage, were distributed less equally within districts than between them. This provides an example of the influence of the local decision-making process in fund

allocation. Also, district characteristics, such as, size and performance, did not appear to have the significant impact on equity the authors expected (Roza, et al., 2007).

Rolle and Torres (2010) longitudinally examined school finance equity in Texas between districts and made an important point regarding the FSP in framing their conclusions:

> It is important to remember that the function of the Texas FSP is to distribute dollars inequitably based on student-district need characteristics and fiscal capacity. In essence, the state allocation of dollars is intended to counter-balance the effect of local spending efforts in order to improve levels of equity overall. (p. 11)

Based on their findings, the most significant predictor of district expenditures from the combination of state and local funds per student is the district's ability to generate local tax revenue. As noted above, this does not appear to create the counter-balancing phenomenon related to equity expected. Rolle and Torres go on to point out that key components of the FSP regarding weighted student funding percentages, particularly for bilingual education, did not show evidence of being significant predictors of local expenditures. This raises questions as to the appropriateness of the weights assessed to groups in need of additional funding. A final point raised here was that the concept of community complexity, the characteristics of the community from which students come to a particular district, does not appear to improve a district's fiscal capacity (Rolle & Torres, 2010). In discussing adequacy in school finance, Alexander and Salmon (2007) pointed out that funding mechanisms should be receptive to the

varying needs of schools as influenced by their characteristics in order to achieve an appropriate level of social justice.

An examination of the literature surrounding school funding policies and procedures, especially as they relate to the state of Texas, begins to provide a framework for further study centered on whether or not the Texas FSP as a means of providing equity, or inequity according to Rolle and Torres (2010), effectively serves students. In this review, key school finance litigation outcomes both nationally and in Texas have been examined along with a review of policy considerations related to the FSP as well as how the concept of equity has been interpreted and implemented. Then, a look at student-level school finance research has shown varying degrees of funding equity dependent upon the state and local districts in question. Chapter III presents a detailed discussion of the methodological techniques utilized to address the stated research questions.

CHAPTER III

METHODOLOGY

Introduction

As noted in Chapter II, the evidence suggests that the Texas Foundation School Program (FSP) funds public schools inequitably. This inequitable condition manifests itself even though the FSP consists of various funding components designed to improve the vertical equity of funding by providing additional monies to schools with students considered to need more resources, such as special education and bilingual students. Rolle and Torres (2010) provided evidence that the FSP provides greater funding opportunities for districts with higher property values per pupil but not necessarily for those with large percentages of students receiving higher funding weights, particularly bilingual students. The aim of this study is to analyze this phenomenon further by examining campus-level spending in the context of the FSP funding components and then to consider both Chapter 41 and Chapter 42 districts individually to ascertain the influence of property wealth in regard to educational outcomes.

Research Questions

The purpose of this dissertation is to examine the Texas FSP by assessing which, if any, funding components, school characteristics, and performance indicators serve as statistically significant predictors of campus-level spending and district-level academic performance in relation to property wealth classification. Specifically, this research asks the following questions:

1. What statistical relationships exist between the Texas FSP funding components and campus-level resources?
2. What statistical relationships exist between the Texas FSP funding components and student outcomes at the campus level?
3. What statistical relationships exist between the Texas FSP funding components and student outcomes in schools within property-wealthy (i.e., Chapter. 41) districts and those in property-poor (i.e. Chapter 42) districts?

Data Collection and Data Sources

The data obtained and analyzed in this dissertation was longitudinal in nature, as it encompassed eight school years, beginning with 2002-03 and ending with 2009-10. It is important that data be analyzed longitudinally in this context for three primary reasons. First, doing so provides an opportunity to determine whether or not significant trends develop over time. Educational trends are often influenced by time and the political climate of the state in question. The policies and procedures reflected by the data studied here were influenced by five biennial meetings of the Texas State Legislature as well as a key ruling of the Texas Supreme Court in 2005. Secondly, the *West Orange Cove v. Alanis* decision in 2005 led to legislation creating a funding plan that compressed state property tax rates from $1.50 to $1.00, with avenues to generate additional pennies (Texas Association of School Boards, 2010). The longitudinal data studied here allows for an analysis of four years of funding both before (2002-03 to 2005-06) and after (2006-07 to 2009-10) the tax rate compression. Thirdly, the span of

this data allows for an analysis of student outcome components (i.e. campus and district rating, standardized test results) based primarily on the Texas Assessment of Knowledge and Skills (TAKS) testing performance. TAKS results were first used as the primary student assessment tool in the 2002-03 school year. The final year that the TAKS assessments served this purpose for grades 3-9 was 2010-11. The student-outcome assessments used for analysis over these years of data remained consistent.

The funding, outcome, and other data analyzed in this study were generated by Texas public schools via the Public Education Information Management System (PEIMS). Then, it is organized and reported by the Texas Education Agency (TEA) on a regular basis as part of the state Academic Excellence Indicator System (AEIS). AEIS data is available for every public school campus, district, and region of Texas (Texas Education Agency, 2012a). The data was obtained directly from the TEA via download. Specifically, funding, performance, and other pertinent variables were selected and downloaded from the TEA into an Excel spreadsheet. Then, these databases were transformed into working datasets for analysis using the *IBM Statistical Package for the Social Science (SPSS)* software. No personally identifying data attached to specific students was collected for inclusion and analysis as part of this study. All data related to TAKS test results were based on campus and district-level performance percentages, not individual student results.

Treatment of Data

Sampling

The data used in this study allowed for analyses to be made for the years studied at the population level. Targeted, accessible samples based in a specified geographical area, such as the state of Texas, may be considered populations (Gay, 1996). No sampling techniques were utilized since all Texas school districts and campuses were included in the datasets where applicable. This research was designed to examine empirically the FSP at the state level, not in specified regions, counties, municipalities, districts, or campuses. In order to do this, one must take into account each local education agency and the data it provides. As a result, the number of districts and campuses studied vary across the eight years' worth of data; however, one can determine a frame of reference for the scope of the data by noting that there were over 1,000 districts and 8,000 campuses comprising the non-charter, K-12 public education system in Texas at the time. These districts and campuses served almost 5 million students (Texas Taxpayers and Research Association, 2012).

Charter Schools

Open-enrollment charter schools in Texas, like traditional K-12 public schools, receive their funding from the FSP; however, revenue is not generated in the same manner. For example, a key difference between charter and traditional schools concerns local property taxation. Charter schools do not receive revenue based on local property taxes (Texas Education Agency, 2012b). A key component of this study, the influence of local property wealth on school funding, does not apply to charter districts and

campuses. Due to this important funding difference, charter districts and campuses are not included in this study.

Outliers

In many quantitative research designs, the researcher must consider carefully whether or not to include observations for analysis which fall outside ± 3 standard deviations from the mean. These observations, which are markedly different from the others, may have an impact on the ability of a study to make generalizations about a given dataset (Ritchey, 2008). However, since this study analyzed the FSP and its role in providing educational resources across the entire state, it was important that all observations be considered. For example, to get an accurate picture of the role of property wealth in providing school funds, one must include those schools with very high property values and those schools with very low property values. Also, when looking at educational outcomes in the context of the Texas school accountability system, it is important to note that no consideration is given for variation in school funding, student demographics, and other indicators. Therefore, the use of school ratings in evaluating outcome data requires that all observations be included, even those with very different characteristics.

Operationalization of Data

The nature of this study required that the data undergo an operationalization process. The datasets included a collection of variables downloaded using the above-mentioned procedures. This combination of numeric and string variables required further processing. Other appropriate variables were created to address the research questions

as thoroughly as possible. Table 1 details the district-level financial variables included in the study and how they were calculated. The examples provided are based on the 2009-10 year of data. This year of data serves as a template for the other years studied. For each year of data, the variables were coded using the same calculations and formatting. These variables were coded using the "Compute" function available in the *IBM SPSS* statistical package.

Table 1.
Financial Variables of Interest (District)

Variable	Origin
District Tax Property Value Per Pupil	Downloaded in dataset
District Attendance Rate	Downloaded in dataset
Adopted Maintenance and Operations Tax Rate	Downloaded in dataset
District Percent Bilingual Students	Downloaded in dataset
District Percent Gifted and Talented Students	Downloaded in dataset
District Percent Special Education Students	Downloaded in dataset
District Percent Vocational Education Students	Downloaded in dataset
District Percent Economically Disadvantaged Students	Downloaded in dataset
District Beginning Teacher Average Salary	Downloaded in dataset
District Transportation Per Pupil	Downloaded in dataset
Small- and Mid-Size School Designation	Constructed
Sparsity Index	Constructed
Chapter 41 District	Constructed
Chapter 42 District	Constructed

The district percent economically disadvantaged student variable refers to a weighted funding category commonly referred to as Compensatory Education. Compensatory funds are those designed to provide higher levels of funding for students classified as economically disadvantaged based primarily on eligibility for free or reduced lunch meals (Daniels, et al., 2010).

Table 2 details the development of the campus-level financial variables used in this study. All variables existed in the downloaded dataset. As noted in Chapter I, campus-level expenditure is utilized as the revenue proxy, since campuses are not able to generate revenue via the FSP in the same manner as districts. The essence of this study is based on whether or not it is possible to determine the influence of the FSP on campus-level resource usage via expenditure levels. As with Table 1, the 2009-10 school year serves as a template for the other years of data.

Table 2.
Financial Variables of Interest (Campus Level)

Campus Total Expenditure by Function Per Pupil
Campus Attendance Rate
Campus Percent Bilingual Students
Campus Percent Gifted and Talented Students
Campus Percent Special Education Students
Campus Percent Vocational Education Students
Campus Percent Economically Disadvantaged Students

Another key element of this study concerned student academic outcomes. The state provides a myriad of academic data related to student outcomes; however, two constructs allow for an opportunity for consistent analysis of academic performance across grade levels. The first performance variable studied related to campus performance on all TAKS tests given for all subjects. Specifically, this refers to the percentage of students who achieved the passing standard for all tests taken at a given grade level. For example, an eighth grade student who passed his or her reading,

mathematics, and social studies TAKS tests, but failed the science assessment would not be counted as a passing student in this calculation. As the Texas Educational Excellence Project (1999) noted, standardized test results do not evaluate the student's overall educational experience; however, they do provide an avenue for determining whether or not basic skills are acquired from year to year.

The second outcome construct analyzed here concerned the district and campus accountability rating assigned by the TEA. This rating is comprised primarily of the following two criteria: a) TAKS test results in grades 3-11 and b) high school completion rates for students in grades 9-12. For middle school students, dropout rates are used rather than high school completion rates. The concept behind completion rates as compared to dropout rates is the same; however, the calculation of each respective measure is different. The accountability rating also includes not only passing rates for all students, but subgroup performance based on student demographic characteristics, such as ethnicity and socioeconomic status. For example, a campus may have a high percentage of its students passing all TAKS tests in all subjects; however, if students labeled economically disadvantaged did not perform to a certain standard on any given test, then the campus could be rated as academically unacceptable. The use of accountability ratings in this study provides a mechanism for taking into account not only the performance of all students, but also for students grouped by ethnicity and socioeconomic status.

Tables 3 and 4 delineate the variables computed to analyze student academic performance outcomes at the campus and district levels. For each, data related to

accountability rating appears as string variables with "L" meaning "Low Performing," "A" meaning "Academically Acceptable," "R" meaning "Recognized," and "E" meaning "Exemplary" as part of the AEIS system (Texas Education Agency, 2012a). Therefore, to convert a string to numeric variables for detailed statistical analysis, rating variables were recoded in the following manner: an "L" rating converted to 0, an "A" rating converted to a 1, an "R" rating converted to a 2, and an "E" rating converted to a 3. Though the term "Low Performing" is used here to explain a data element processed for analysis, the term "Academically Unacceptable" is the traditional terminology used by TEA to define this rating category. Academically unacceptable is used interchangeably with "Low Performing" in this study to discuss the lowest campus and district accountability labels. The percentage of all students passing all portions of their TAKS examinations is a numeric variable available for both the campus and district level that was downloaded directly into the appropriate datasets.

Table 3.
Academic Variables of Interest (Campus Level)

State Accountability Rating		Assigned District Rating
Low Performing	0	
Academically Acceptable	1	
Recognized	2	
Exemplary	3	

Table 4.
Academic Variables of Interest (District Level)

State Accountability Rating	Assigned District Rating
Low Performing	0
Academically Acceptable	1
Recognized	2
Exemplary	3

Data Analysis and Procedures

Levels of Measurement

The variables used for analysis in this study may be categorized as either ordinal or interval/ratio. Both dependent and independent variables related to school funding proved to be interval or ratio in nature. According to Thompson (2006), interval data allow for measurements to be made to determine how far data scores are from each other. The interval and ratio data may be differentiated further by noting that ratio data may exhibit an absolute zero point. In this study, most of the funding variables used do not exhibit an actual zero point; however, there are instances where some districts, campuses or both, especially those with small student enrollments, have no students comprising some of the weighted-student categories discussed. For example, there are districts and campuses that do not have any students classified as bilingual.

Campus and district accountability ratings provide an avenue for the analysis of ordinal data. As noted above, campuses and districts receive ratings based on numerous factors which categorically rank them from "Low Performing" to "Exemplary." Ritchey (2008) describes how data with the ability to be both classified and ranked is ordinal in nature. As noted previously, these ordinal variables are then converted with numerical values to allow for more rigorous statistical analyses. Tables 5 and 6 below classify the dependent and independent variables utilized in this study across all three research questions. All variables listed are interval-ratio variables.

Table 5.
Dependent Variables

Variable Name	Type of Measurement
Campus Total Expenditure by Function Per Pupil	Interval-Ratio
Campus Rating (4 Levels)	Ordinal
Campus Percent all students passing all TAKS assessments	Interval-Ratio
District Rating (4 Levels)	Ordinal

Table 6.
Independent Variables

Variable Name	Research Question Addressed
District Percent Students Passing All TAKS Examinations	Research Question #3
District Accountability Rating	Research Question #3
District Percent Bilingual Students	Research Question #3
District Percent Gifted and Talented Students	Research Question #3
District Percent Special Education Students	Research Question #3
District Percent Economically Disadvantaged Students	Research Question #3
District Percent Vocational Education Students	Research Question #3
Adopted Maintenance and Operations Tax Rate	Research Question #3
District Attendance Rate	Research Question #3
Sparsity	Research Question #3
Small-Mid Sized Adjustment	Research Question #3
Transportation	Research Question #3
Ch. 42 Property Wealth Classification	Research Question #3
Beginning Teacher Average Salary(Campus and District)	Research Questions #1, 2, 3
Campus Percent Bilingual Students	Research Questions #1, 2
Campus Percent Gifted and Talented Students	Research Questions #1, 2
Campus Percent Special Education Students	Research Questions #1, 2
Campus Percent Economically Disadvantaged Students	Research Questions #1, 2
Campus Percent Vocational Education Students	Research Questions #1, 2
Campus Attendance Rate	Research Questions #1, 2

Analytical Procedures

Statistical Techniques

This research utilizes inferential statistics to examine relationships between variables representing campus-level expenditures, along with campus and district academic outcomes, with variables representing key Texas FSP funding components. As mentioned previously, the FSP has clear objectives written into statute that outline the core educational objectives of both Texas state legislators and the framers of the Texas Constitution. The analysis of this data sheds light on these objectives and gauges whether or not they are effective.

Multivariate statistical analyses serve to allow for the examination of operationalized variables and the statistically significant relationships which may exist between them. Specifically, multiple linear regression (MLR) served as the primary statistical analysis technique of this study. MLR provided an avenue for studying the influence of two or more independent variables on a single dependent variable. The pairwise method was utilized via *SPSS* to allow all data to be included in the analysis, thereby optimizing the already large sample sizes. The standardized beta coefficients produced from these ordinary least squares (OLS) analyses allowed for inferences to be made regarding campus-level expenditures and performance outcomes and the influence, or lack thereof, on the FSP (Rolle & Torres, 2010). This statistical analysis evaluates whether or not the independent variables have the capacity to predict the response of the

dependent variable in a statistically significant manner (Agretsi, 2002; Gay, 1996). The MLR equation utilized is designed such that:

$$Y=\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots \beta_k X_k + \in$$

The β serves as the regression coefficient and ∈ is the error term. Y is the dependent variable with each variation of X serving as an independent variable.

The second multivariate statistical analysis utilized in this study to examine selected operationalized variables was logistic regression. This technique allowed the separation of districts into two groups based on accountability ratings to determine whether or not evidence exists to suggest that being classified into a lower or higher academic performance group relates to key FSP funding components. The logistic regression equation is stated as:

$$\text{Logit (p)} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots \beta_p X_p$$

In this equation, the logit (p) equals the intercept (β_0) and the slope (β_X) with each x serving as a separate independent variable (Ritchey, 2008). The dependent variable (logit [p]) studied using this technique was district accountability rating.

Research Question #1

What statistical relationships exist between the Texas FSP funding components and campus level resources? This question examines whether or not key FSP funding components are significant predictors of campus expenditures. The equation is stated as:

$$Y=\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots \beta_k X_k + \in$$

$$\text{Y (campus expenditure)} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots \beta_k X_k + \in$$

Independent Variables (X): campus percents bilingual, gifted/talented, special education, economically disadvantaged, and vocational students. Beginning teacher base salary and campus attendance rate are also included as independent variables.

Research Question #2

What statistical relationships exist between the Texas FSP funding components and student outcomes at the campus level? Specifically, do the FSP funding components predict high campus accountability ratings and high percentages of students passing all required TAKS examinations?

$$Y=\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots \beta_k X_k + \in$$

$$Y \text{ (campus accountability rating)} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots \beta_k X_k + \in$$

$$Y \text{ (campus percentage of students passing all TAKS)} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots \beta_k X_k + \in$$

Independent Variables (X): campus percents bilingual, gifted/talented, special education, economically disadvantaged, and vocational students. Beginning teacher base salary and campus attendance rate are also included as independent variables.

Research Question #3

What statistical relationships exist between the Texas FSP funding components and student outcomes in schools within property-wealthy (i.e., Chapter 41) districts and those in property-poor (i.e. Chapter 42) districts? Do positive academic outcomes significantly predict a district's property wealth designation?

$$\text{Logit (p)} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots \beta_p X_p$$

$$\text{Logit (District Rating)} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots \beta_p X_p$$

Independent Variables (X): district percents bilingual, gifted/talented, special education, economically disadvantaged, and vocational students. Beginning teacher base salary, district, attendance rate, transportation, small-mid sized adjustment, sparsity, ch. 42 classification, property value per pupil, and district maintenance and operations tax rate are also included as independent variables.

Descriptive Statistics

After operationalizing all variables and establishing the methodological process used to examine the data, it was important to analyze the pertinent descriptive statistics related to the study. An analysis of the descriptive statistics allows for an understanding of: a) the scope of the study as it relates to the number of population-level observations of Texas school districts and campuses; b) the wide variation in funding levels for Texas districts; c) discrepancies between Texas school districts related to student socioeconomic characteristics; and d) a unique problem related to the vocational funding component when including all campuses for study. These four key elements of an analysis of the descriptive statistics allows one to begin to grasp the complexities of equitably funding schools with such wide variability based on student characteristics and the ability to generate local revenue. Descriptive statistics also provide an avenue to check for inputting errors within the data. This ensures the quality of the data being analyzed. Tables 7a (campus) and 7b (district) provide these descriptive statistics related to the quantitative explanatory variables utilized in this study. The 2009-10 year is used as an example. This process was applied to each of the eight years of data examined. The discussion which follows the tables also applies to each year of data.

Table 7a.
Campus Descriptive Statistics—All Grade Spans—2009-10

Variable	N	Mean	Median	Std. Dev.
Cpbil	7083	15.58	7.10	18.83
Cpgif	7083	7.27	6.00	7.02
Cpecd	7083	60.53	62.60	25.92
Cpvoc	7083	16.38	.00	28.25
Cpsped	7083	9.16	8.70	3.76
Cattend	6965	96.13	96.40	1.75
Cbteach	6763	41023.83	41463.09	2628.89
Crating	7083	2.14	2.00	.76
Callstd10	7083	77.76	79.00	13.02
Ctotexp10pp	6961	6913.79	6569.00	1790.08

Table 7b.
District Descriptive Statistics 2009-10

Variable	N	Mean	Median	Std. Dev.
Dpbil	1030	7.63	4.70	9.06
Dpgif	1030	6.34	5.90	3.31
Dpecd	1030	57.08	57.75	18.28
Dpvoc	1030	25.82	25.80	10.12
Dpsped	1030	9.98	9.80	2.64
Dattend	1030	95.95	96.00	.85
Drating	1030	1.91	2.00	.69
Taxrate	1030	1.05	1.04	.10
Propvalpp10	1030	524694.54	304490.00	834265.46
Smallmid	1030	.84	1.00	.37
Sparse	1030	.06	.00	.23
Dbteach	901	35625.58	34818.60	6379.76
Trans	1030	293.09	265.00	182.38

As noted above, an analysis of the campus-descriptive statistics revealed that the median figure which divided campuses into two groups related to the percentage of

students enrolled in vocational courses was zero. The reason for this result proved to be relatively simple in that elementary campuses do not offer vocational courses. A discussion of how this problem is addressed is found prior to the data analysis in Chapter IV.

When examining the descriptive statistics it was necessary to consider instances where no data was present for a given variable. There are observations included in the analyzed datasets which indicate that no data was provided by the local school district via the PEIMS system. This can be attributed to a variety of reasons, including data processing errors that occurred at either the state or local level. Similarly, there are instances where a certain data element for a given campus and district may be incompatible with the intent of this study. For example, there are some instances where non-traditional, non-charter local education agencies found within districts function as separate campuses, but do not receive a separate accountability rating or simply lack the necessary number of students to be considered for accountability purposes. As a result, there are differences in the number of observations for certain variables in Table 6; however, this does not diminish the scope of the study, because of the large number of observations per variable.

Data Assumptions and Limitations

The data utilized in this study required the following methodological limitations:

1. There are instances where data are missing for a given variable either at the campus or district level. In many cases, local education agencies lacked the capacity to input and process district- and school-level data correctly. Errors

may have occurred also at the state level in processing the amount of data related to a state as large and diverse as Texas. Nevertheless, the large number of observations found for each pertinent variable over the eight years studied allows for strong generalizations to be made concerning the population analyzed.

2. The scope of the research questions explored in this study led to the discovery of data-management problems. Specifically, the nature of the differences between districts and campuses and how data related to both are obtained from the TEA provided a series of challenges. Initially, the methodological approach to this study centered on developing datasets which combined district and campus elements. As such, an examination of the relationship or lack thereof between district-level expenditures, such as property value and the maintenance and operations (M&O) tax rate, and campus-level expenditures provided a logical research avenue. However, combining these elements into functional datasets for use in *IBM SPSS* required data management, computer programming, and syntax development beyond the scope of this study. A potential solution for this issue centered on selecting a sample of large school districts and their campuses; however, this would not have provided an accurate picture of the findings related to the research questions centered on a large, diverse state like Texas. Fortunately, the existence of previous research on the influence of property values allowed for a clear segue between its findings and this research. In Chapter V,

avenues for further research surrounding this data-management issue is explored.

3. Studies which involve the utilization of MLR and logistic regression in their methodology must consider the impact of multicollinearity among the independent variables selected for inclusion. If two variables prove to be collinear after completing a correlation analysis of the independent variables, then an interaction term would be created for inclusion in the model. Prior to conducting the MLR analyses for this dissertation, analyses to determine multicollinearity were conducted. However, since this study analyzes the influence of specific FSP funding components on the designated dependent variables, it was important not to combine them via interaction terms, even if there appears to be instances of multicollinearity. For example, a district's percentage of students receiving special education services and a district's percentage of students taking vocational courses may prove to be collinear; however, the FSP does not recognize these similarities for further funding consideration. The modeling of interaction terms could prove to be a means of further research beyond the scope of this study. Inclusion of interaction terms often strengthens the predictability of the statistical models.
4. The methodological process outlined here only applies to the years of data included in this study. Furthermore, the results may only be applied to the eight years of longitudinal data selected for inclusion. As noted in the review of literature, the judicial and legislative environment surrounding school

funding in Texas results in constant change in school financing. Sometimes this change is incremental; sometimes it is drastic, but it is always present. The funding and outcome variables selected in this study are consistent across the years of data studied; however, this may not be exactly true of variables studied before or after the span utilized in this analysis of the FSP.

5. The data analyzed in this study related to local campus expenditures did not take into account the unique methods that each local campus and district developed for determining spending priorities. While this is important to note, one must keep in mind that the intent of this study was to examine the FSP, not to analyze and make generalizations concerning local resource allocation policies. The TEA provided districts and campuses with spending guidelines via a complex system of policies and procedures designed to ensure appropriate financial usage and accountability; however, it did not specifically establish how local education agencies should prioritize resource usage (Texas Education Agency, 2008; Texas Association of School Boards, 2010; Texas Taxpayers and Research Association, 2012).
6. The academic outcome variables (district and campus accountability ratings and percentage of students passing all TAKS taken) studied here provided the opportunity to make generalizations based on campus performance on a series of examinations (TAKS) which sought to determine proficiency in basic academic skills. Additional academic areas which indicate higher levels of academic achievement, such as SAT/ACT performance at the high school

level and TAKS Commended percentages across grade levels were not included. Also, students identified as requiring special education services, other than in the 2009-10 campus rating data, were not included in these performance variables. These students were often assessed with alternative instruments. Certainly, these omissions provide opportunities for further research.

Summary

The expressed intent of the Texas FSP is to allocate educational resources in an equitable manner to ensure that the "general diffusion of knowledge" is realized (Tex. Const. art. VII, § 1). The methodological approach outlined above allowed for an analysis of FSP funding components at the campus-level to determine whether or not they served as statistically significant predictors of resource usage and academic performance. Then, a deeper examination of the FSP and its funding components at the district level provided an avenue to study whether or not the property wealth of a district influenced student academic performance. The size and scope of this study presented a series of challenges related to data acquisition and organization; however, the methodological approach taken allowed for data analysis based on the stated research questions. Chapter IV provides an analysis of this data in the context of the study's parameters outlined above and established in the review of literature.

CHAPTER IV

DATA ANALYSIS

Chapter II explored key topics related to this study and school finance in general by noting the key theoretical constructs related to equity in resource allocation, the basic functioning of the Texas FSP, key legal challenges and their outcomes related to Texas school finance, and previous studies of campus level school resource allocation methods. The methodology outlined in Chapter III established an approach to exploring three primary research questions designed to further analyze the FSP and provide evidence of its effectiveness. An analysis of this accumulated, operationalized, and processed data follows.

As noted, this research sought to extend the work done by Rolle and Torres (2010), which found that the per-pupil property value of a school district was the primary predictor of its ability to provide educational resources. Their work indicated that the percentage of students receiving bilingual services, a revenue-generating component of the FSP, did not prove to be a significant predictor of the ability of a school district to provide resources. The Appendix supplies a more detailed analysis of the data related to this previous research.

The analysis of the research questions immediately illuminated the need to further disaggregate the data owing to a problem related to the vocational funding component of the FSP. Students enrolled in courses of this type are most often found in high schools and sometimes in junior high or middle schools; however, these programs are not available to elementary students. It is necessary to analyze the two campus-

related research questions using three separate techniques to avoid statistical analysis problems. These techniques include: a) analyzing all elementary campuses (grades PK-5) with the vocational component removed, b) analyzing all secondary campuses (grades 6-12) with the vocational component included, and c) analyzing all campus grade spans with the vocational component removed. Small districts with one designated campus for all grades (PK-12) are included in the analysis of secondary campuses since they do have the grade spans necessary to administer vocational programs.

Research Question #1

What statistical relationships exist between the Texas FSP funding components and campus-level resources?

Rolle and Torres (2010) found that a district's property value served as the key predictor of its ability to utilize resources. The importance of property value is accepted and removed from this campus examination. As noted in Chapter III, this study moves the analysis to the campus level; therefore, if the Texas FSP is functioning as designed, the funding components included here should be statistically significant predictors of campus resource utilization. If not, the included funding components will not serve as statistically significant predictors of campus resource utilization.

Table 8 lists the findings related to campus-level expenditures for elementary grade spans only. The vocational funding component is not included in this portion of the analysis. For five of the seven years included in the analysis, over 10% of variation in total expenditures per student can be explained by variations among the six funding

elements included. However, in 2007 and 2009, less than 10% of the variation in total expenditures per student may be explained by variations in the funding elements. The standardized regression coefficient results related to the six components included here indicated that the gifted and talented, economically disadvantaged and special education funding elements were statistically significant, positive predictors of campus expenditures for each year of data studied.

Beginning teacher salary yielded statistically significant, positive standardized regression coefficients for six of the seven years studied, with 2007 being the only year without statistically significant results. The bilingual funding and campus attendance rate components provided few significant results, with attendance rate being significant for two of the seven years and bilingual education being significant for one year.

Table 8.
All Fund Expenditures – Standardized Regression Coefficients
Elementary Campus Level

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach
2010	.118	85.133	.067	.176	.233	.206	---	.083
2009	.092	63.313	---	.151	.231	.173	---	.063
2008	.102	70.297	---	.152	.271	.189	---	.049
2007	.076	49.944	---	.072	.249	.181	---	---
2006	.107	71.774	---	.111	.305	.191	---	.086
2004	.128	93.914	---	.076	.247	.317	.032	.100

Table 8. Continued.

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach
2003	.138	101.502	---	.081	.099	.275	-.206	.153

$p<.05$

where:

Year	=	current years total campus expenditures per student, elementary campuses
Adj R^2	=	amount of variation per year, explained by variations in six funding components
F	=	ratio of explained variance to unexplained variance between campus total expenditures and one or more of the included funding components
Bil	=	bilingual funding component, based on campus percent students coded bilingual
Gif	=	gifted and talented funding component, base on campus percent students coded gifted and talented
ECD	=	compensatory education funding component, based on campus percent students coded economically disadvantaged
Sped	=	special education funding component, based on campus percent students coded special education
Att	=	attendance rate, based on average percent students in attendance on a daily basis
Teach	=	average beginning teacher salary, based on campus beginning teachers
---	=	lack of statistically significant results (sig based on a p. value < .05)

Table 9 lists the findings related to campus level expenditures for secondary grade spans and those campuses with both elementary and secondary grade levels considered to be a single campus. The vocational funding component is included in this portion of the analysis. For five of the seven years included in the analysis, over 15% of variation in total expenditures per student can be explained by variations among the seven funding elements included. However, in 2003 and 2004, less than 10% of the variation in total expenditures per student may be explained by variations in the funding elements. The standardized regression coefficient results related to the seven components included here indicated that the special education funding element was a statistically significant, positive predictor of campus expenditures for each year of data studied. Beginning teacher salary yielded statistically significant, negative standardized regression coefficients for the seven years studied. The vocational component yielded

significant results in six of the seven years; interestingly, two of these years exhibited standardized regression coefficients that were negative (2004, 2009) while the other four were positive. Analysis of the attendance and economically disadvantaged components indicated that five of the seven years studied produced statistically significant standardized regression coefficients, each with three positive and two negative outcomes. Gifted and talented education was found to yield four significant, positive results while the bilingual component generated two significant, positive results.

Table 9.
All Fund Expenditures – Standardized Regression Coefficients
Secondary Campus Level—Vocational Included

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach	Voc
2010	.211	110.512	---	.036	.174	.248	.043	-.144	.285
2009	.542	475.699	.036	.077	-.071	.051	-.749	-.202	-.068
2008	.206	104.292	---	---	.152	.294	.062	-.154	.238
2007	.172	82.368	---	---	.116	.209	---	-.214	.203
2006	.376	234.076	.047	.099	---	.145	-.521	-.311	.114
2004	.088	38.263	---	.041	---	.080	.202	-.209	-.112
2003	.035	14.964	---	---	-.061	.125	---	-.134	---

$p<.05$

where:

Year	=	current year total campus expenditures per student, secondary campuses
Adj R^2	=	amount of variation per year, explained by variations in six funding components
F	=	ratio of explained variance to unexplained variance between campus expenditures and one or more of the included funding components
Bil	=	bilingual funding component, based on campus percent students coded bilingual
Gif	=	gifted and talented funding component, base on campus percent students coded gifted and talented
ECD	=	compensatory education funding component, based on campus percent students coded economically disadvantaged
Sped	=	special education funding component, based on campus percent students coded special education
Att	=	attendance rate, based on average percent students in attendance on a daily basis
Teach	=	average beginning teacher salary, based on campus beginning teachers
Voc	=	vocational education funding component, based on campus percent students enrolled in vocational courses
---	=	lack of statistically significant results (sig based on a p. value < .05)

The findings related to campus-level expenditures for all grade spans are included in Table 10. The vocational funding component was removed in this portion of the analysis. For five of the seven years included in the analysis, over 10% of variation in total expenditures per student can be explained by variations among the six funding elements included. However, in 2003 and 2004, less than 10% of the variation in total expenditures per student may be explained by variations in the funding elements. The standardized regression coefficient results related to the six components included here indicated that the special education funding element was a statistically significant, positive predictor of campus expenditures for each year of data studied. Beginning teacher salary yielded statistically significant, negative standardized regression coefficients for six of the seven years studied. The gifted and talented education component also generated statistically significant results for six of the seven years; however, each of these significant results was shown to have positive standardized regression coefficients. The analysis of attendance, economically disadvantaged, and bilingual components indicated that five of the seven years showed statistically significant standardized regression coefficients. The attendance component produced statistically significant, negative coefficients for five of the seven years. The economically disadvantaged component results showed significant, positive coefficients for four years of data while producing a significant, negative coefficient for one. Five of the seven years studied yielded significant, positive results related to the bilingual education funding component, with two failing to produce statistically significant results.

Table 10.
Campus Expenditures – Standardized Regression Coefficients
All Grade Span Campuses Included

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach
2010	.166	222.161	.041	.150	.139	.328	-.066	-.114
2009	.302	468.774	.138	.071	---	.082	-.531	-.108
2008	.165	212.842	---	.116	.147	.339	---	-.126
2007	.130	157.106	---	.071	.136	.253	-.060	---
2006	.194	250.576	.079	.089	.077	.178	-.340	-.126
2004	.092	110.318	.052	.053	---	.222	-.209	-.029
2003	.028	31.594	.036	---	-.042	.119	---	-.098

$p<.05$

where:

Year	=	current year total campus expenditures per student, all campuses
Adj R^2	=	amount of variation per year, explained by variations in six funding components
F	=	ratio of explained variance to unexplained variance between campus expenditures and one or more of the included funding components
Bil	=	bilingual funding component, based on campus percent students coded bilingual
Gif	=	gifted and talented funding component, base on campus percent students coded gifted and talented
ECD	=	compensatory education funding component, based on campus percent students coded economically disadvantaged
Sped	=	special education funding component, based on campus percent students coded special education
Att	=	attendance rate, based on average percent students in attendance on a daily basis
Teach	=	average beginning teacher salary, based on campus beginning teachers
---	=	lack of statistically significant results (sig based on a p. value < .05)

Research Question #2

<u>What statistical relationships exist between the Texas FSP funding components and student outcomes at the campus level?</u>

This question shifts the focus of the data analysis from an examination of the FSP funding components and campus level expenditures to a study of those same funding components and their influence, or lack thereof, on student academic

performance outcomes. This approach examined whether or not the funding components served as statistically significant predictors of the percentage of students passing all portions of their required Texas Assessment of Knowledge and Skills (TAKS) examinations at the campus level

The initial assessment of the data related to TAKS passing rates for elementary campuses without vocational programs indicated that the predictive models built for each year of data were stronger than those related to campus resource expenditures. Table 11 shows that over 20% of the variation related to campus percentages of students passing all portions of their TAKS assessments may be explained by variations within the funding components included in the analysis for each year of data studied. This variation, based on adjusted R^2 figures per year, ranges from 22% in 2008 to 49% in 2003. Standardized regression coefficients for both the attendance and economically disadvantaged funding components indicated statistically significant results for each of the years studied; however, the direction of the beta weights was very different for each. The attendance component exhibited a statistically significant, positive relationship for each year studied. For the economically disadvantaged component, the relationships were statistically significant, but negative for each year with strong beta weights ranging between 49% and 59%.

Standardized regression coefficients for the bilingual component yielded statistically significant results for six of the seven years studied. Of these significant results, four of the years (2007-2010) were shown to be positive while two of the years (2003-2004) were negative. Standardized regression coefficients related to the special

education component indicated statistically significant, positive result for five of the seven years studied, while the beginning teacher salary element exhibited statistically significant, but negative outcomes for four of the seven years. The gifted and talented education component displayed statistically significant, positive standardized regression coefficients for two of the years of data included in the analysis.

Table 11.
TAKS Passing Rates – Standardized Regression Coefficients
Elementary Campus Level

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach
2010	.238	197.782	.078	---	-.502	.057	.089	---
2009	.267	224.760	.112	---	-.539	.084	.092	-.051
2008	.226	178.594	.054	---	-.491	.059	.045	---
2007	.356	328.314	.043	---	-.599	.081	.053	---
2006	.339	302.651	---	---	-.562	---	.049	-.048
2004	.433	482.171	-.100	.028	-.574	---	.101	-.049
2003	.494	586.679	-.086	.031	-.585	.102	.189	-.032

$p<.05$

where:

Year	=	current year campus percent all students passing all portions of TAKS assessment, elementary campuses
Adj R^2	=	amount of variation per year, explained by variations in six fundingcomponents
F	=	ratio of explained variance to unexplained variance between campus percent students passing all TAKS and one or more of the included funding components
Bil	=	bilingual funding component, based on campus percent students coded bilingual
Gif	=	gifted and talented funding component, base on campus percent students coded gifted and talented
ECD	=	compensatory education funding component, based on campus percent students coded economically disadvantaged
Sped	=	special education funding component, based on campus percent students coded special education
Att	=	attendance rate, based on average percent students in attendance on a daily basis
Teach	=	average beginning teacher salary, based on campus beginning teachers
---	=	lack of statistically significant results (sig based on a p. value < .05)

As with the analysis of elementary campuses above, TAKS passing rates for secondary campuses with vocational programs indicate that the predictive models built

for each year of data are stronger than those related to campus resource expenditures. Table 12 shows that over 50% of the variation related to campus percentages of students passing all portions of their TAKS assessments may be explained by variations within the funding components included in the analysis for each year of data studied. This variation, based on adjusted R^2 figures per year, ranges from 50% in 2010 to 59% in 2003 and 2004. Standardized regression coefficients for both the attendance and economically disadvantaged funding components indicate statistically significant results for each of the years studied; however, the direction of the beta weights is very different for each. The attendance component exhibits strong, statistically significant, positive relationships for each studied year. For the economically disadvantaged component, the relationships are statistically significant, but with strong, negative coefficients for each year with beta weights ranging between 29% and 59%.

The inclusion of the vocational funding component exhibited statistically significant, negative coefficients for six of the seven years studied. Standardized regression coefficients related to the gifted and talented education component indicated statistically significant, positive results for five of the seven years studied while the special education element exhibited statistically significant, but negative outcomes for five of the seven years. The gifted and talented education component displayed statistically significant, positive standardized regression coefficients for two of the years of data included in the analysis. Standardized regression coefficients for the bilingual component yielded statistically significant, negative results for three of the seven years

studied while beginning teacher salary was also found to be statistically significant for three of the seven years, two years with negative beta weights and one positive.

Table 12.
TAKS Passing Rates – Standardized Regression Coefficients
Secondary Campus Level—Vocational Included

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach	Voc
2010	.498	407.810	---	---	-.498	-.128	.319	.037	---
2009	.518	431.039	---	.063	-.515	-.113	.291	---	-.206
2008	.579	549.136	---	.032	-.460	-.054	.402	---	-.211
2007	.583	547.791	-.050	---	-.420	---	.423	---	-.229
2006	.545	465.720	---	.132	-.590	---	.174	-.069	-.299
2004	.588	549.928	-.061	.188	-.451	-.068	.388	-.077	-.171
2003	.585	548.379	-.074	.261	-.287	-.040	.437	---	-.321

$p<.05$

where:

Year	=	current year campus percent all students passing all portions of TAKS assessment, secondary campuses
Adj R^2	=	amount of variation per year, explained by variations in seven funding components
F	=	ratio of explained variance to unexplained variance between campus percent students passing all TAKS and one or more of the included funding components
Bil	=	bilingual funding component, based on campus percent students coded bilingual
Gif	=	gifted and talented funding component, base on campus percent students coded gifted and talented
ECD	=	compensatory education funding component, based on campus percent students coded economically disadvantaged
Sped	=	special education funding component, based on campus percent students coded special education
Att	=	attendance rate, based on average percent students in attendance on a daily basis
Teach	=	average beginning teacher salary, based on campus beginning teachers
Voc	=	vocational education funding component, based on campus percent students enrolled in vocational courses
---	=	lack of statistically significant results (sig based on a p. value < .05)

The trend we saw with the data related to TAKS passing rates for elementary and secondary campuses indicated that the predictive models built for each year of data are stronger than those built for campus resource expenditures. This remained true when analyzing all campuses in one group regardless of grade span. Table 13 shows that over 25% of the variation related to campus percentages of students passing all portions of their TAKS assessments may be explained by variations within the funding components

included in the analysis for each year of data studied. This variation, based on adjusted R^2 figures per year, ranged from 27% in 2008 to 44% in 2003. Standardized regression coefficients for the attendance, economically disadvantaged, and special education funding components indicated statistically significant results for each of the years studied; however, the direction of the beta weights was not the same. The attendance component exhibited a statistically significant, positive relationship for each studied year. For the economically disadvantaged and special education components, the relationships were statistically significant, but negative for each year.

Standardized regression coefficients for the gifted and talented education component yielded statistically significant results for six of the seven years studied. Of these significant results, all were found to be directionally negative. Standardized regression coefficients related to the bilingual education component indicated statistically significant, positive results for five of the seven years studied while the beginning teacher salary element exhibited statistically significant, positive outcomes for three of the seven years.

Table 13.
TAKS Passing Rates – Standardized Regression Coefficients
All Campus Grade Spans

Year	*Adj. R^2*	*F*	*Bil*	*Gif*	*ECD*	*Sped*	*Att*	*Teach*
2010	.323	530.388	.094	-.049	-.508	-.118	.248	.029
2009	.333	541.009	.119	-.054	-.515	-.134	.283	---
2008	.272	403.340	.108	-.065	-.481	-.148	.216	.027
2007	.360	591.210	.050	-.084	-.500	-.059	.331	.044
2006	.313	474.692	.069	-.062	-.513	-.119	.257	---
2004	.435	832.712	---	-.038	-.437	-.130	.486	---
2003	.444	856.096	---	---	-.344	-.055	.535	.068

$p<.05$

where:

Year	=	current year campus percent all students passing all portions of TAKS assessment, all campus grade spans
Adj R^2	=	amount of variation per year, explained by variations in six funding components
F	=	ratio of explained variance to unexplained variance between campus percent students passing all TAKS and one or more of the included funding components
Bil	=	bilingual funding component, based on campus percent students coded bilingual
Gif	=	gifted and talented funding component, base on campus percent students coded gifted and talented
ECD	=	compensatory education funding component, based on campus percent students coded economically disadvantaged
Sped	=	special education funding component, based on campus percent students coded special education
Att	=	attendance rate, based on average percent students in attendance on a daily basis
Teach	=	average beginning teacher salary, based on campus beginning teachers
---	=	lack of statistically significant results (sig based on a p. value < .05)

So far, the section on Research Question #2 of this chapter focused on student performance outcomes via campus percentages of students passing all portions of the TAKS assessments. Next, campus accountability ratings are used to determine the extent of the statistical relationships between those ratings and selected FSP funding components. As noted in Chapter III, campus accountability ratings take into account TAKS results across all grade levels and subjects found on a given campus at not only the all-student passing rate, but also passing rates by student groups based on ethnicity

and socioeconomic status. Secondary campus accountability ratings also include measures related to student drop-out and student completion rates. Table 14 reports whether or not the funding components served as statistically significant predictors of the campus accountability rating.

As with the analysis of campus TAKS passing rates, the initial assessment of the data related to campus accountability ratings for elementary campuses without vocational programs indicated that the predictive models built for each year of data were stronger than those related to campus resource expenditures. Table 14 shows that over 15% of the variation related to campus accountability ratings may be explained by variations within the funding components included in the analysis for each year of data studied. This variation, based on adjusted R^2 figures per year, ranges from 17% in 2008 to 26% in 2006 and 2007. Standardized regression coefficients for both the attendance and economically disadvantaged funding components indicated statistically significant results for each of the years studied; however, the direction of the beta weights was very different for each. The attendance component exhibited a statistically significant, positive relationship for each year studied. For the economically disadvantaged component, the relationships were statistically significant, but negative for each year with strong beta weights, ranging between 41% and 50%.

Standardized regression coefficients for the bilingual component yielded statistically significant results for five of the six years studied. Of these significant results, four of the years were positive and one of the years was negative. Standardized regression coefficients related to special education and gifted and talented education

components indicated statistically significant, positive results for four of the six years studied. The beginning teacher salary component displayed a statistically significant, negative standardized regression coefficient for one of the years (2010) included in the analysis.

Table 14.
Accountability Rating – Standardized Regression Coefficients
Elementary Campus Level

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach
2010	.187	145.581	.095	.042	-.437	.071	.105	-.032
2009	.191	146.085	.043	---	-.435	.067	.065	---
2008	.172	1270178	.089	.059	-.435	.036	.052	---
2007	.257	205.541	.056	.070	-.501	.035	.076	---
2006	.256	203.277	---	.039	-.499	---	.046	---
2004	.226	185.458	-.094	---	-.409	---	.074	---
2003	*	*	*	*	*	*	*	*

p<.05
*TEA did not issue accountability ratings for the 2002-03 school year.

where:

Year	=	current year campus accountability rating, elementary campuses
Adj R^2	=	amount of variation per year, explained by variations in six funding components
F	=	ratio of explained variance to unexplained variance between the campus accountability rating and one or more of the included funding components
Bil	=	bilingual funding component, based on campus percent students coded bilingual
Gif	=	gifted and talented funding component, base on campus percent students coded gifted and talented
ECD	=	compensatory education funding component, based on campus percent students coded economically disadvantaged
Sped	=	special education funding component, based on campus percent students coded special education
Att	=	attendance rate, based on average percent students in attendance on a daily basis
Teach	=	average beginning teacher salary, based on campus beginning teachers
---	=	lack of statistically significant results (sig based on a p. value < .05)

As with the analysis of elementary campuses above, accountability ratings for secondary campuses with vocational programs indicated that the predictive models built

for each year of data were stronger than those related to campus resource expenditures. Table 15 shows that over 20% of the variation related to campus accountability ratings may be explained by variations within the funding components included in the analysis for each year of data studied. This variation, based on adjusted R^2 figures per year, ranges from 21% in 2008 to 32% in 2004. Standardized regression coefficients for both the attendance and economically disadvantaged funding components indicated statistically significant results for each of the years studied; however, the direction of the beta weights was different for each. The attendance component exhibited statistically significant, positive relationships for each studied year. For the economically disadvantaged component, the relationships were statistically significant, but with negative coefficients for each year, with beta weights ranging between 14% and 32%.

Standardized regression coefficients related to the gifted and talented education component indicated statistically significant, positive results for five of the six years studied while the beginning teacher salary element exhibited statistically significant, but negative outcomes for five of the six years. The special education component displayed statistically significant, negative standardized regression coefficients for four of the years of data included in the analysis while the inclusion of the vocational funding component exhibited statistically significant, negative coefficients for three of the six years studied. Standardized regression coefficients for the bilingual component failed to yield statistically significant results for any of the years included in the analysis.

Table 15.
Accountability Rating – Standardized Regression Coefficients
Secondary Campus Level—Vocational Included

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach	Voc
2010	.289	167.606	---	.062	-.229	-.104	.362	---	---
2009	.233	123.096	---	.116	-.313	-.130	.159	-.132	---
2008	.206	104.138	---	.157	-.200	-.042	.223	-.095	-.084
2007	.258	137.068	---	.170	-.162	---	.303	-.065	-.160
2006	.254	133.200	---	.172	-.322	---	.136	-.162	-.208
2004	.322	183.635	---	.255	-.142	-.073	.365	-.144	---
2003	*	*	*	*	*	*	*	*	*

p<.05
*TEA did not issue accountability ratings for the 2002-03 school year.

where:

Year	=	current year campus accountability rating, secondary campuses
Adj R^2	=	amount of variation per year, explained by variations in six funding components
F	=	ratio of explained variance to unexplained variance between the campus accountability rating and one or more of the included funding components
Bil	=	bilingual funding component, based on campus percent students coded bilingual
Gif	=	gifted and talented funding component, base on campus percent students coded gifted and talented
ECD	=	compensatory education funding component, based on campus percent students coded economically disadvantaged
Sped	=	special education funding component, based on campus percent students coded special education
Att	=	attendance rate, based on average percent students in attendance on a daily basis
Teach	=	average beginning teacher salary, based on campus beginning teachers
Voc	=	vocational education funding component, based on campus percent students enrolled in vocational courses
---	=	lack of statistically significant results (sig based on a p. value < .05)

Table 16 shows that over 15% of the variation related to campus accountability ratings may be explained by variations within the funding components included in the analysis for each year of data studied. This variation, based on adjusted R^2 figures per year, ranges from 16% in 2008 to 22% in 2004. Standardized regression coefficients for the attendance, economically disadvantaged, special education, and bilingual funding components indicated statistically significant results for each of the years studied;

however, the direction of the beta weights was not the same. The attendance component exhibited a statistically significant, positive relationship for each year studied. For the economically disadvantaged and special education components, the relationships were statistically significant, but negative for each year. The bilingual component showed statistically significant, positive results for five of the six years studied and significant, negative results for one year (2004). Standardized regression coefficients for the gifted and talented education component yielded statistically significant, negative results for three of the six years studied. Beginning teacher salary provided two years of statistically significant results, one directionally positive (2007) and one directionally negative (2009).

Table 16.
Campus Accountability Rating – Standardized Regression Coefficients
All Campus Grade Spans

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach
2010	.213	301.518	.086	---	-.356	-.086	.269	---
2009	.198	268.944	.129	-.083	-.366	-.176	.209	-.028
2008	.155	197.875	.145	-.049	-.326	-.154	.175	---
2007	.195	254.698	.048	---	-.347	-.043	.259	.033
2006	.186	238.340	.060	-.040	-.380	-.108	.216	---

Table 16. Continued.

Year	Adj. R^2	F	Bil	Gif	ECD	Sped	Att	Teach
2004	.221	307.625	-.046	---	-.242	-.114	.372	---
2003	*	*	*	*	*	*	*	*

$p<.05$
*TEA did not issue accountability ratings for the 2002-03 school year.

where:

Year	=	current year campus accountability rating, all campus grade spans
Adj R^2	=	amount of variation per year, explained by variations in six funding components
F	=	ratio of explained variance to unexplained variance between the campus accountability rating and one or more of the included funding components
Bil	=	bilingual funding component, based on campus percent students coded bilingual
Gif	=	gifted and talented funding component, base on campus percent students coded gifted and talented
ECD	=	compensatory education funding component, based on campus percent students coded economically disadvantaged
Sped	=	special education funding component, based on campus percent students coded special education
Att	=	attendance rate, based on average percent students in attendance on a daily basis
Teach	=	average beginning teacher salary, based on campus beginning teachers
---	=	lack of statistically significant results (sig based on a p. value < .05)

Research Question #3

What statistical relationships exist between the Texas FSP funding components and student outcomes in schools within property-wealthy (i.e. Chapter. 41) districts and those in property-poor (i.e. Chapter 42) districts?

The discussion now moves from the campus level to the district level to further examine the relationships between FSP funding components and student outcomes. The district rating serves as the outcome measure utilized to determine whether or not statistically significant relationships exist with the selected FSP funding components for this study. This district-level model also allows for the inclusion in this analysis of tax rate and property value per pupil, which are key district funding components. As noted,

property value per pupil has shown to be a key predictor of district-level resource utilization.

The results provided in the tables below were generated using logistic regression rather than Ordinary Least Squares (OLS) regression. As noted in Chapter III, this technique allowed us to separate districts into two groups based on accountability ratings to determine whether or not evidence existed to suggest that being separated into a lower or higher academic performance group related to key FSP funding components. The results below used different interpretative statistics. The Cox and Snell and Nagelkerke pseudo-R^2 statistics provided an avenue to evaluate the nature of the created models since the standard R^2 statistic found in OLS cannot be computed using logistic regression. However, these approximations do allow for a discussion of variation within the model and the influence of the FSP funding components on district accountability. The exponential B (Ex[B]), or odds-ratio, and Wald statistics then provide information as to the influence of a given FSP funding component on a district's accountability rating. Specifically, the EX(B) indicates the odds of the influence of a one-unit change in the funding component resulting in a one-unit change in the academic performance of a district. Also, district-level funding components related to district size, transportation costs, property wealth classification, tax rate, and property wealth per pupil were included with the other components used in the campus-level analysis above.

Table 17a lists the results of the first analysis of district accountability where districts were divided into two groups: those rated exemplary, the highest possible rating, and those with any of the other three ratings. The conservative Cox & Snell

pseudo-R^2 statistic indicates that over 4% of the variation related to district accountability ratings may be explained by variations in the funded components, while the more liberal Nagelkerke R^2 suggests that over 30% of the variation may be explained. The attendance funding component yielded statistically significant results for four of the seven years of data studied, three of which were positive (2008-10) and one negative (2004). The transportation, small/mid-sized, and gifted and talented components indicated statistically significant, positive results for two of the seven years, while the economically disadvantaged and bilingual components also showed statistically significant, but negative, results for two of the years studied. Tax rate, vocational education, and special education were found to be statistically significant in a negative direction for one year of data examined. No statistically significant results were found for funding components related to property value per pupil, property wealth classification, beginning teacher base salary, or sparsity components.

Table 17b lists the results of the second analysis of district accountability, where districts were divided into two additional groups: those rated exemplary or recognized and those with the lower academically acceptable and academically unacceptable ratings. The Cox and Snell pseudo-R^2 statistic indicated that over 15% of the variation related to district accountability ratings may be explained by variations in the funded components while the Nagelkerke R^2 suggests that over 20% of the variation may be explained. Statistically significant, negative results were found for each year of data studied related to the economically disadvantaged funding component while the attendance component yielded statistically significant, positive results for six of the

seven years. The small/mid-sized school component was statistically significant in a positive direction for five of the seven years. Property value per pupil and gifted and talented education exhibited three statistically significant, positive results. The transportation component yielded two statistically significant, positive results and district tax rate also showed two significant results, one year positive and one negative. Chapter 42 status, sparsity, beginning teacher salary, and special education were statistically significant in a positive direction for one year. Bilingual and vocational education failed to yield a statistically significant result for any of the years studied.

Table 17a.
District Rating – Standardized Regression Coefficients, Wald Statistics—Group High

Year		2010	2009	2008	2007	2006	2005	2004
Cox		.173	.117	.053	.039	.035	.047	.262
Nagelkerke		.301	.299	.333	.464	.311	.737	.671
Tax Rate	EX(B)	---	---	---	---	---	---	.039
	W	---	---	---	---	---	---	35.534
PropVal	EX(B)	---	---	---	---	---	---	---
	W	---	---	---	---	---	---	---
Ch. 42	EX(B)	---	---	---	---	---	---	---
	W	---	---	---	---	---	---	---
Trans	EX(B)	---	1.003	---	---	---	---	1.000
	W	---	15.838	---	---	---	---	4.332
Sparse	EX(B)	---	---	---	---	---	---	---
	W	---	---	---	---	---	---	---
Small	EX(B)	2.230	---	---	---	---	---	.034
	W	4.001	---	---	---	---	---	5.848
ECD	EX(B)	.962	.962	---	---	---	---	---
	W	21.834	12.567	---	---	---	---	---
Bil	EX(B)	.950	---	---	---	.730	---	---
	W	4.345	---	---	---	5.626	---	---
Gif	EX(B)	---	1.115	---	1.271	---	---	---
	W	---	6.571	---	4.491	---	---	---
Voc	EX(B)	---	---	---	.869	---	---	---
	W	---	---	---	6.909	---	---	---
Teach	EX(B)	---	---	---	---	---	---	---
	W	---	---	---	---	---	---	---
Sped	EX(B)	---	---	---	---	.658	---	---
	W	---	---	---	---	7.526	---	---
Att	EX(B)	2.699	2.477	4.529	---	---	---	.840
	W	34.000	16.443	12.011	---	---	---	10.102

$p < .05$

Table 17b.
District Rating – Standardized Regression Coefficients, Wald Statistics—Group Low

Year		2010	2009	2008	2007	2006	2005	2004
Cox		.209	.214	.167	.157	.193	.156	.151
Nagelkerk		.300	.286	.240	.260	.274	.278	.207
TaxRate	EX(B)	5.166	---	---	---	---	---	.249
	W	3.207	---	---	---	---	---	40.613
PropVal	EX(B)	---	1.000	1.000	---	---	---	1.000
	W	---	5.395	4.854	---	---	---	7.885
Ch. 42	EX(B)	1.998	---	---	---	---	---	---
	W	11.744	---	---	---	---	---	---
Trans	EX(B)	1.002	---	---	---	---	1.001	---
	W	4.757	---	---	---	---	4.378	---
Sparse	EX(B)	---	---	2.208	---	---	---	---
	W	---	---	4.018	---	---	---	---
Small	EX(B)	2.005	1.877	---	2.558	---	2.798	1.979
	W	7.193	5.870	---	5.049	---	5.148	5.110
ECD	EX(B)	.952	.967	.978	.974	.965	.971	.968
	W	46.923	34.988	13.645	12.396	35.013	14.158	49.769
Bil	EX(B)	---	---	---	---	---	---	---
	W	---	---	---	---	---	---	---
Gif	EX(B)	1.072	---	---	1.092	---	1.065	---
	W	5.014	---	---	8.512	---	4.163	---

Table 17b. Continued.

Year		2010	2009	2008	2007	2006	2005	2004
Voc	EX(B)	---	---	---	---	---	---	---
	W	---	---	---	---	---	---	---
Teach	EX(B)	---	---	---	---	---	---	1.000
	W	---	---	---	---	---	---	5.301
Sped	EX(B)	---	---	---	---	---	---	1.031
	W	---	---	---	---	---	---	5.978
Att	EX(B)	2.303	2.436	2.248	2.858	2.254	2.798	---
	W	48.295	59.710	48.666	49.464	44.611	4.148	---

$p < .05$

where:

Year(Y)	=	current year district accountability rating
Cox	=	pseudo R^2 statistic describing the amount of variation per year, explained by variations in thirteen funding components, more conservative
Nagelkerke	=	pseudo R^2 statistic describing the amount of variation per year, explained by variations in thirteen funding components, more liberal
TaxRate	=	District Maintenance and Operations (M&O) tax rate
PropVal	=	District property value per pupil
Ch. 42	=	District property wealth classification, value per pupil < $319,500 (06-10) or < $305,000 (04-06)
Trans	=	District transportation expenditure per pupil
Sparse	=	Sparsity district funding adjustment, district enrollment < 130 students
Small	=	Small to mid-size district funding adjustment, district enrollment < 5,000 students
ECD	=	Compensatory education funding component, based on district percent students coded economically disadvantaged
Bil	=	Bilingual funding component, based on district percent students coded bilingual
Gif	=	Gifted and talented funding component, base on district percent students coded gifted and talented
Voc	=	Vocational education funding component, based on district percent students enrolled in vocational courses
Teach	=	Average beginning teacher salary, based on district beginning teachers
Sped	=	Special education funding component, based on district percent students coded special education
Att	=	District attendance rate, weighted based on average percent students in attendance on a daily basis
---	=	Lack of statistically significant results (sig based on a p. value < .05)

CHAPTER V

DISCUSSION, IMPLICATIONS, AND CONCLUSIONS

Discussion of Key Results

Research Question #1

The first research question examined in this study centered on the relationship between campus-level expenditures and key Foundation School Program (FSP) funding components. The review of literature underscored the lack of research probing the influence of state funding components on campus-level resource utilization (Picus, 2000). As Odden and Clune (1998) noted, such studies may be useful in advancing understanding of key decisions about resource usage made at the campus level. Prior to these studies, Berne and Stiefel (1994) discussed the need to analyze school resource allocation patterns at both the campus- and intradistrict levels. The present analysis furthers these concepts by examining Texas campuses. The nature of the funding components found in the Texas FSP required this study to analyze campuses with three different groupings based on the availability of vocational courses: elementary, secondary, and all grade spans. These groupings provide the basis for examining whether or not the intent of those crafting school funding policy in Texas meshes with the local implementation capacity of the practitioners at the student level (Cohen, et al., 2007).

The longitudinal data related to elementary campuses indicates that the gifted and talented education, special education, beginning teacher salary, and economically disadvantaged funding elements were all positive predictors of campus spending.

Specifically, as campus expenditure increased, the percentage of students with these designations also increased. This relationship would be expected if the FSP is functioning as designed to provide greater resources for specified student groups. In their study of selected California school districts and campuses, Chambers, et al. (2010), compiled similar results related to weighted campus per-pupil spending. In that study, the evidence suggested that funding levels increased as the number of students classified as economically disadvantaged increased. This comparison suggests that weighted student funding programs in two large, diverse states tend to provide greater campus spending opportunities. The findings of the present analysis are consistent with Klein's (2008) study of intradistrict equity at the elementary level in Knoxville, Tennessee. His study found that students from low-income backgrounds in that particular large, diverse district had access to the funds necessary to provide resources. Klein also believed that federal accountability regulations tend to provide an incentive for resources to be allocated to high-need students in hopes of providing them the best opportunity for success on required standardized testing.

Having examined elementary-level campuses, a discussion of secondary campuses and the influence of FSP funding components is now in order. Secondary campuses yielded similar results. Vocational course enrollment appeared to influence the functioning of the funding mechanism at secondary campuses. Since vocational programs receive some of the highest funding weights, this would be expected if the FSP functioned as intended (Texas Association of School Boards, 2010). Vocational enrollment was significant for six of the seven years examined; however, in two cases, it

was a negative predictor. In a majority of the years studied, the data suggests that , as expenditures increased, so did student enrollment in vocational programs. It is important to consider that vocational programs and the funds they require are based on choices made at the local level. Local Boards of Trustees play a key role in deciding whether or not to utilize vocational programs as they do with any type of program requiring specified resource allocation (National Research Council, 1999).

Having examined elementary and secondary campuses separately, the combination of both provides an overall view of the relationship between funding components and student level expenditures. Chapter II of this study provided examples of scholars (Berne & Stiefel, 1984; Berne & Stiefel, 1999; Monk, 1990; Odden & Picus, 2008; Toutkoushian & Michael, 2007) who have examined vertical equity constructs and their influence on resource allocation patterns for specified student groups. This study considers the vertical equity components found at the campus level and provides evidence which suggests that the FSP appears to function as designed with respect to those specified funding elements. Across all grade spans, the special education funding component remained positively predictive of campus expenditures across the data studied. The varying weights assigned to special education students based on their particular category of disability seemed to function as designed when considered in the context of total campus expenditures. However, this only suggests that the mechanism is functioning as designed in this area, not that the needs of special education students are being met optimally. Each of the remaining components included in the combined-campus analysis provided statistically significant results. Two of the components,

attendance rate and beginning teacher salary, were negative predictors for each year studied. In other words, as expenditures increased, student attendance rates and beginning teacher salary decreased. It appears that the weighted attendance related to the specified funding components is more important than the simple calculation of attendance rate utilized here. These non-weighted funding elements did not appear to influence the ability of a campus to utilize available resources. This is consistent with the findings of Roza et al. (2007), which suggested that categorical funding tended to be allocated more equitably than unspecified funds.

Research Question #2

The second research question examined in this study moves the discussion from total campus expenditures to academic performance outcomes in relation to the selected FSP funding components. Student academic performance measures, often in the form of standardized assessment results, form the basis for the pursuit of the elusive "general diffusion of knowledge" required by the Texas Constitution, judicial interpretation, and legislative policy (Texas Association of School Boards, 2010; Texas Const. art VII; Gronberg, et al., 2005; Imazeki & Reschovsky, 2005). The decision rendered in *Edgewood v. Meno* (1995), while continuing to wrestle with funding equity concerns, led to the development of the standards-based school accountability system in place during the years included in this study. The key opinion in this case went so far as to state that the "State's duty to provide districts with substantially equal access to revenue applies only to the provision of funding necessary for a general diffusion of knowledge (*Edgewood v. Meno,* 1995). As recently as 2005, the Texas Supreme Court in *Neeley v.*

West Orange Cove found that the FSP was not unconstitutional in regard to providing resources to ensure student achievement via the often-mentioned general knowledge diffusion.

The Texas Educational Excellence Project utilized combined Texas Assessment of Academic Skills (TAAS), the forerunner of the Texas Assessment of Knowledge and Skills (TAKS), results to examine whether or not local revenue and property wealth influenced district-level academic performance. His results did not provide evidence that either local revenue or property wealth served as predictors of strong test results. Combined standardized test scores are also utilized in this study. The per-campus percentage of students passing all portions of the TAKS and campus accountability ratings were established as a means of analyzing student outcomes in relation to key funding components. Campus ratings, a key component of the state accountability system, originally implemented as a result of *Edgewood v. Meno* (1995), also combine various elements to determine school effectiveness. The Texas Education Agency's Academic Excellence Indicator System processes and reports this information. The intent of this study was to determine whether the evidence suggests that the selected funding components influence academic performance variables. As noted in Chapter IV and above, an examination of the three campus groupings provided the basis for this discussion.

The longitudinal data studied here focused on per-campus percentages of students passing all portions of their required TAKS examinations and campus accountability ratings and the relationships that existed between these student

performance variables and selected FSP funding components. Campuses with fewer economically disadvantaged students tended to have stronger TAKS results and campus accountability ratings. This result is consistent in all three campus groupings. It was noted above that this component was a significant, positive predictor of campus expenditures across all three campus groupings in most cases; however, the strength of the association with weaker TAKS and campus accountability rating results across all groupings is significant. Tables 11-16 in Chapter IV provide the statistical data indicating the strong, negative beta weights related to this association. Duncombe and Yinger (1999) felt that elements that were beyond the control of the local school district, such as poverty levels, exemplified by significant student populations of economically disadvantaged students, should be considered when providing resources and evaluating student performance. As such, the data analyzed here suggests that the economically disadvantaged funding component influences the ability of a campus to spend, but not at a level to generate stronger academic outcomes.

Another FSP funding component which proved to be significant when examining the longitudinal data related to campus student TAKS performance and campus accountability rating was student attendance. Campus attendance rate is a significant, positive predictor of student academic performance for each year and for all three campus groupings studied. However, as noted above, this was not the case with campus expenditures. If the ability to utilize resources is important, which as noted is a controversial topic (Greenwald, et al., 1996; Hanushek, 1997; Picus, 2000; Rolle & Houck, 2007), then the results presented here suggest that increases in funding for

campus student attendance could provide an avenue for increased student performance. One could assert that the relationship between student attendance and performance is solely based on student exposure to increased opportunities for instruction, practice, assessment, and the like; however, it is difficult to separate the influence of resource availability and utilization from effective instructional practice. This idea is consistent with Baker's (2012) assertion that money certainly matters, especially in regard to resources that matter and their associated costs. Certainly, this area of inquiry provides fertile ground for further research opportunities.

A third area of discussion generated by the analysis of the data related to student performance concerns the influence of the gifted and talented education and special education funding components. These two components are designed to provide increased funding opportunities for students deemed to have the greatest challenges related to academic success and those determined to have inherent academic talent and ability. The data related to campuses grouped together as a whole, regardless of grade span, suggested that neither of these components are positive predictors of TAKS performance and campus accountability rating. In fact, as the number of students in these two categories decreases, campus academic performance increases. Numerous factors may influence the performance of these two student groups; however, since the purpose of this study was to focus on funding components, the evidence here suggests that how these groups are funded is worthy of additional analysis and consideration.

It is important to consider the influence of the vocational funding component on secondary campuses. As noted above and in Chapters III and IV, campuses were

analyzed based on three different groupings since elementary level campuses do not offer vocational programs. Secondary-level vocational course offerings consist of a wide range of programs including but not limited to: agriculture, metal fabrication, automotive technology, cosmetology, certified nursing assistant, marketing, and the like. In many cases, these programs lead to a successful student receiving some sort of proficiency certification leading to entry-level employment in a particular field. The data analyzed here indicated that the number of students enrolled in vocational courses decreases as student test scores and accountability ratings increase. Again, the purpose of this analysis was to seek evidence concerning the effectiveness of the FSP. This data does not suggest that vocational programs are ineffective or generate negative student outcomes; however, it does suggest that a closer look at how vocational programs are funded may be in order.

Research Question #3

The third research question in this study moves the discussion from the campus to the district level to attempt to gain a degree of understanding about the influence of key district funding components and property wealth on performance outcomes. Two logistic regressions were calculated. As noted in Chapter III and IV, districts were grouped based on their state accountability ratings. The first logistic regression, which consisted of a group of districts rated Exemplary and a group with all of the other three ratings, did not yield a large number of statistically significant results. However, as with the campus analysis, the economically disadvantaged component displayed statistically significant results, but only for two of the years studied. In both these years, the

statistically significant relationships were negative. In other words, as the odds of being placed in the higher performing academic group increased, the number of economically disadvantaged students receiving weighted funding decreased.

The attendance funding component provides significant results from the first logistic regression conducted. The results indicate that the odds of group placement positively increased as a district's attendance rate increased. Certainly, positive relationships with academic performance indicators logically increase if the students in question have high attendance, resulting in greater access to instruction; however, one must consider the possibility that the increased funding generated by higher attendance rates play a role as well.

The second logistic regression used to analyze the relationship between district accountability ratings and FSP funding components also separated school districts into two groups. In this case, a high-performing group consisting of Exemplary and Recognized districts was examined in relation to a lower grouping of Academically Acceptable and Low Performing districts. As above, the economically disadvantaged and attendance components exhibited statistically significant results; additionally, their influence was felt over a greater number of years of the data studied. As the district accountability rating increased, the number of economically disadvantaged students decreased while district attendance rates increased. From the data analysis, it appears that these two components have a marked influence on key student performance indicators in Texas.

The evidence does not suggest that a district being classified as property poor plays a statistically significant role in student performance. Over the number of years studied for each of the two district groupings examined, a district's property wealth designation was found to be significant in only one instance. Also, district property value per pupil was only found to be significant in three of the years analyzed in the second grouping of districts. In those cases, as district property value increased, the odds of receiving a higher accountability also increased. When looking at groupings which isolated the highest performing districts in the first logistic regression, property value per pupil did not appear to have as strong an influence. As Rolle and Torres (2010) noted, property value per pupil was the most significant predictor of district expenditures; however, that does not appear to be the case with district accountability ratings.

Implications for Theory

The Texas FSP as school funding policy was developed over time, and often, as a result of legal challenges to its equity and effectiveness (Rolle & Torres, 2010; Ryan, 2008; Walsh, et al., 2005). This empirical examination of the FSP, with an emphasis on the campus level, offered mixed results as to whether or not the FSP equitably provided school funds to allow for the constitutionally required "general diffusion of knowledge (Texas Const. art VII)." The analysis of campus level expenditures in relation to specified FSP funding components, often related to student characteristics, provided evidence that those components as a group tend to provide statistically significant results. Though there were exceptions as noted in the Discussion section of this chapter, these components appear to work in a positive manner in regard to campus-level

resource availability and utilization. However, as noted when discussing the limitations of this study, one must consider that district resource allocation policies at the local level play an important role in these relationships.

The results of the statistical analysis related to campus-level academic achievement allow for perhaps a clearer interpretation of the FSP's functional ability to provide resources leading to the state-mandated, but unspecified, knowledge diffusion discussed throughout this study. These results indicate that students designated as economically disadvantaged and special education serve as strong, negative predictors of campus academic performance, whether that is based on specified test results or broader accountability ratings. Certainly, instructional delivery, teacher quality, and similar factors influence student performance; however, one must not discount the role that resource availability and utilization plays in the process. Especially in regard to these two student groups, the evidence suggests that the weighted funding levels assigned by the FSP fail to meet these groups' resource needs and bring in to question the efficacy of knowledge diffusion. In short, for key student groups included in the methodology of how campuses are measured, one can state that the FSP's effectiveness is questionable and certainly open to further research.

The analysis of Texas school districts and the influence of selected funding components on district accountability ratings also allows for a discussion of key theoretical implications. Across both groupings of districts, few of the funding elements included yielded consistent, statistically significant results, especially when separating the highest-rated districts from the remainder. The funding component related to

economically disadvantaged students again exhibited consistent, statistically significant, and negative, results. This evidence suggests that the key revenue-generating funding components one would anticipate being of greatest importance in producing strong accountability ratings, such as property value per pupil, do not have the influence that weighted student characteristics do. This concept also applies to the property wealth classification of a district, which one would consider to be of significance when examining broad school performance outcome objectives.

These results may also be considered in relation to the broad, controversial, often discussed, and consistently relevant school finance debate over whether or not money truly matters in generating strong student performance outcomes. As noted in Chapter II, researchers have supported both sides of this argument (Greenwald, et al., 1996; Hanushek, 1997). This study certainly does not provide any definitive answers to this question; however, it does provide evidence to suggest that the allocation of resources, especially in relation to challenging student groups, does play a role in Texas schools. Rolle and Torres (2010) noted that the FSP is designed to provide funds in an inequitable fashion to increase vertical equity for student groups requiring greater resources. By policy design, this takes place; however, the results of this study suggest that the established levels may be insufficient to meet all student needs.

Implications for Policy and Practice

The section above related to implications of this research to key theoretical school finance constructs provides a natural segue into an examination of implications for policy and practice. As discussed in detail in Chapter II, one must always consider

the importance of the Texas state judicial system when discussing school finance policy, and specifically, modifications to the structure of the FSP. This study utilized longitudinal data which examined the function of the funding mechanism between the years 2003-2010. In 2005, the most recent Texas Supreme Court ruling deemed the FSP unconstitutional and required legislative action. This occurred and modifications, primarily related to property taxation, were enacted; however, when looking at the data analyzed here, which included years before and after the ruling, little systemic change occurred to alleviate what could be construed to be underfunding of certain components.

Currently, the constitutionality of the FSP is being challenged in the judicial system. On February 4, 2013, Judge John K. Dietz of the 250th District Court of Travis County, Texas, again found the funding mechanism to be unconstitutional (Texas Association of School Business Officials, 2013). If history, as outlined in Chapter II holds true, an appeal by the State to the Texas Supreme Court is imminent. All indications point to the Legislature again being given a judicial directive to modify funding policy. Information related to how the mechanism functions at all levels is relevant to determining how to proceed and meet judicial requirements.

The data examined and the results generated in this study also have implications for the development and maintenance of state and federal accountability systems. These accountability systems are very important components of education policy that, for better or for worse, influence practice by driving instructional programs and determining the perception of whether or not districts and campuses are successful. The Texas accountability system that was in place over the length of the longitudinal data studied

was based primarily on subgroup performance on the mandatory TAKS assessments. If one subgroup performed below a State-established standard, then the entire district and/or campus would be rated as Academically Unacceptable. The results here indicated that economically disadvantaged students, one of the subgroups evaluated, served as the strongest, negative predictors of academic performance. There are many reasons why this happens, but State policymakers must consider whether or not districts and campuses with large numbers of economically disadvantaged students require larger levels of weighted funding than they are receiving now.

Currently, the structure of the Texas accountability system is in a period of flux as various committees are working to develop a new system as mandated by the Texas Legislature. Though the current drafts of the new system indicate significant changes, one constant is the importance of economically disadvantaged students, as one index within the developing new format concerns reducing achievement gaps with those students (Texas Education Agency, 2013). If all factors impacting the education of these students are not considered, including whether or not appropriate funding is available, then one can predict that continued negative performance results will occur

Implications for Further Research

Providing resources to meet the needs of the diverse communities and student populations of a state the size of Texas is a challenge for all involved in the educational process. The research footprint needed to guide politicians, policymakers, educators, and similar stakeholders at each level of the educational system is relevant. Throughout this

study, avenues for further research related to the topics addressed have been noted. The discussion which follows outlines some additional opportunities.

Teacher Significance

The examination of the FSP funding components and their influence on campus-level student outcomes provides one with an opportunity to logically expand this study. Certainly, a key resource that school funds provide at the local level relates to the salaries of the teaching staff. This study utilizes beginning teacher salary averages; however, data exists which would allow a deeper analysis of teacher salaries. The ability of a district to provide a competitive salary schedule to attract and retain quality teachers is a key element in the education of all students. The inclusion of teacher characteristic variables, such as teacher salary and years of experience, using a similar methodological approach as in this study, has the potential to yield pertinent information as to whether or not elements are significant predictors of positive student outcomes when considered along with important FSP funding components. Another route for further research pertains to whether or not a district's property wealth is important in attracting and retaining teachers. If so, this would provide another indicator that property wealth serves as the key predictor of an important district level expenditure.

District and Campus Size

This study did not take into consideration the size of the campuses or districts analyzed in the context of the FSP funding components. Further research on the efficacy of the FSP in funding districts and campuses of various sizes based on spending patterns and educational outcomes is needed. Furthermore, an analysis of district and campus

size leads one to consider population demographics as they relate to a school's geographical location. In essence, does a school's size and location (urban, suburban, and rural) influence the ability of the FSP to provide equitable funding? Though there may be exceptions, one can logically note that large-enrollment school districts and campuses tend to be found in urban and suburban areas, which often have strong property values per pupil. On the other hand, most small districts and campuses are found in rural areas with lower property values. A study centered on whether or not the FSP funding components significantly affect spending patterns and educational outcomes based on the size and location elements mentioned above has the potential to yield pertinent results.

Oil and Gas Exploration and Extraction

A further extension of the idea listed above involves school size and location, but includes an often overlooked concept related to school funding in Texas. The overlooked element in question with the potential to yield significant research results concerns a district's mineral wealth. In rural areas, districts labeled as property wealthy often gain this status due to an influx or continuation of oil and natural gas exploration and extraction. These minerals often lead to a great deal of excess revenue. For example, Franklin ISD, a rural school district found in Robertson County, Texas, is a property wealthy district due in no small part to an abundance of oil and natural gas exploration and extraction. According to the Texas Taxpayers and Research Association (2012), Franklin ISD has a combined state and local revenue per weighted average daily attendance (WADA) figure of $8,789 per student. Comparatively, Madisonville CISD, a

rural school district in neighboring Madison County, receives only $5,141 per WADA. The question then becomes: Does a district's mineral wealth serve as a key indicator of the capacity of a district or campus to utilize resources and produce positive student academic outcomes?

Additional Academic Outcome Considerations

The AEIS system provides data for several additional academic outcome variables which, whether examined in addition to or exclusive of the ones in this study, have the potential to increase the research knowledge base as it relates to the relationship between funding and student performance in Texas. This study examines academic outcomes centered primarily on a student, campus, or district's success or lack thereof on the TAKS, a set standardized assessments used to determine basic skill proficiency. The utilization of measures of higher academic ability, such as ACT/SAT scale performance and the percentage of students performing at the state Commended level over the course of the years studied could serve to provide more insight to the funding and outcome environment. Also, future research based on academic outcomes related to the new State of Texas Assessments of Academic Readiness (STAAR) tests, developed and implemented at a much higher rigor level than the TAKS, should also provide mechanisms for studying similar concepts examined in this study.

Vocational Programs

Vocational programs and their role as an FSP funding component were included in this study. However, the current educational climate in Texas has included discussions as to the importance and relevance of vocational education in the public schools. The

new STAAR testing system focuses on preparing all students to attend college; however, educators, parent groups, key legislators, and other stakeholders are beginning to question the wisdom of this thought process. For example, Jimmie Don Aycock, Chairman of the Texas House of Representatives Public Education Committee for the 83rd Legislature, has filed legislation which would restructure the system and provide high school graduation programs designed to accommodate students seeking vocational training and certifications (H.B. 5, 2013; Smith, 2013). Additional vocational programs would entail higher levels of funding to meet the needs of more students. Research as to the effectiveness of these programs is needed to guide policy development, implementation, and evaluation decisions.

Conclusion

Public education is a controversial topic at the local, state, and federal levels of government. Policymakers at all these levels face the challenge of developing mechanisms which provide oversight, structure, and funding for public schools while adhering to complex legislative and judicial requirements. Texas is no exception and often serves to drive national debate on important topics such as funding, standardized testing, and accountability. The Texas FSP and its myriad of funding components provide many opportunities for discussion, debate, and analysis. This study provides a level of analysis that furthers other noted studies that focused on the district but did not include an empirical examination of campuses or how their resources were utilized to achieve positive student outcomes.

The results of this study indicated that resource utilization at the campus level, while significant in relation to most key FSP funding components, did not consistently generate positive student outcomes for those groups receiving additional funding. Texas holds its schools accountable for how student groups perform on a variety of standardized tests. Economically disadvantaged students are a key group considered for accountability purposes, as the group is comprised of students from all ethnic backgrounds, with poverty being the common characteristic. The results of this analysis suggested that these students, along with others, such as those receiving special education services, did not generate sufficient revenue to meet their educational needs. If vertical equity as described by Toutkoushian and Michael (2007) is important in that it focuses on the concept that certain groups of students require more educational funds than others, then the FSP appears to have the conceptual structure, but not the funding amounts, in place to generate positive outcomes.

The initial examination of property-wealth classification conducted in this study yielded results that indicate that a district's classification itself does not appear to influence its accountability rating in a significant manner. However, further analysis is needed to delve deeper into how property wealth generates higher levels of local funds, which may be utilized in a variety of ways to improve the educational environment within a given district. The inherent dissonance found within the FSP as it relates to equity is applicable here. In one respect, the structure of the mechanism seeks to generate vertical equity related to challenging or unique student groups; however, in another, it allows disparities in local property wealth to create significant funding gaps

between districts, regardless of student characteristics. As a result of these disparities, the Texas FSP is again facing significant legal challenges.

So, what lies ahead for the Texas FSP? Thompson and Crampton (2002) discussed in great detail whether or not the litigation cycle actually leads to substantive change in the structure and function of state funding mechanisms. They found through an exhaustive literature review that while litigation effects are often negative and time-consuming, it often leads to greater legislative attention being placed on equitable means for distributing funds. Texas is again at this point, as it has been several times over the past twenty-five years. It will be interesting to observe both the Texas Supreme Court's view of the FSP and then, if found unconstitutional, the Legislature's response. Educators, policymakers, parents, students, and all other stakeholders in the educational process await the result of this current cycle of litigation.

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APPENDIX

Vertical Equity Statistics for Texas Public School Districts
Combined State and Local Education Expenditures per Student
1994-2007

	Standardized Regression Coefficients											
Year	*Tax Rate*	*Assed Value*	*Bilingual Need*	*Income Disadvan*	*Gifted & Talented*	*Special Needs*	*Vocat. Services*	*Teacher Salary*	*Student Attend*	*Transpo Allotment*	*F Score*	*Adj R-Square*
1994	0.117	0.682	--	0.143	0.053	0.054	--	-0.078	0.109	NA	107.517	0.521
1995	0.100	0.684	--	0.126	--	0.099	--	-0.120	0.122	NA	152.846	0.575
1996	0.166	0.511	--	0.176	0.067	0.082	--	-0.142	0.145	NA	89.213	0.435
1997	0.114	0.419	--	0.193	0.060	0.121	0.097	-0.057	0.181	0.013	123.823	0.543
1998	0.077	0.461	--	0.100	--	0.162	0.171	-0.061	0.084	0.273	111.474	0.512
1999	-0.085	0.387	--	--	--	--	--	-0.105	0.179	0.140	39.708	0.268
2000	-0.074	0.641	--	0.058	--	0.166	0.102	--	0.102	0.133	110.373	0.534
2001	-0.131	0.455	--	--	--	0.325	--	0.016	--	0.147	60.282	0.374
2002	-0.072	0.322	--	--	--	0.168	0.055	--	--	0.717	252.332	0.716
2003	--	0.642	--	0.086	--	0.213	0.092	--	0.057	0.147	122.631	0.541
2004	--	0.511	--	0.143	0.062	0.294	0.117	--	0.130	0.205	115.761	0.530
2005	0.110	0.402	--	--	--	0.202	--	--	--	0.184	50.657	0.315
2006	0.071	0.466	--	--	--	0.233	0.076	0.064	0.105	0.179	78.237	0.419
2007	0.067	0.444	--	--	--	0.228	--	0.063	0.110	0.149	64.290	0.374