

STATE-TO-STATE MIGRATION AND ITS RELATIONSHIP WITH
STATE FUNDING FOR EDUCATION

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by KARI GINGRICH
Dr. Bradley Curs, Dissertation Supervisor

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

STATE-TO-STATE MIGRATION AND ITS RELATIONSHIP
WITH STATE FUNDING FOR EDUCATION

presented by Kari M. Gingrich,

a candidate for the degree of Doctor of Education

and hereby certify that, in their opinion, it is worthy of acceptance.

Dr. Bradley Curs, Advisor

Dr. Marjorie Dorimé-Williams

Dr. Sarah Diem

Dr. Casandra Harper Morris

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STATE-TO-STATE MIGRATION AND ITS RELATIONSHIP WITH
STATE FUNDING FOR EDUCATION

Kari Gingrich

Dr. Bradley Curs, Dissertation Supervisor

ABSTRACT

One important way to assess the equity of our education system is understanding how funding – which is critical to the success of education institutions and its students – changes in reaction to resource availability. This study examined the impact on higher education state appropriations and K-12 per pupil spending when citizens enter or leave a state. Linear regression was used to explore the existence of a relationship between migration and K-20 funding; higher education had a significant relationship with migration both in and out of states, while K-12 education funding did not. This study illustrated the differences in funding sources between states, outlining disparities in educational experiences by students who reside in different states. This study's significance comes from a more recent dataset, analysis of migration as a predictor, as well as its examination of K-12 state support with higher education.

Keywords: migration, funding, higher education, K-12, multiple regression

SECTION ONE:

INTRODUCTION TO THE DISSERTATION IN PRACTICE

Education has famously been called the great equalizer (Duncan, 2016), but the current educational system in the United States “increasingly resembles a caste system” (Mettler, 2014, p. 5), separating citizens “by income group rather than providing them with ladders of opportunity” (p. 8). How can this be? “The progressivity of education depends entirely on who actually receives that education” (Ansell, 2010, p. 3) and whether funding for schools is enough to meet basic demands, such as staffing classrooms (Black, 2020). State funding for higher education has decreased 13% on average between 2008 and 2018 (Mitchell et al., 2019). Spending for K-12 education varies widely by state; for 2019 per pupil spending ranged from \$25,139 to \$7,985 in New York and Idaho, respectively (U.S. Census Bureau, 2019). How can we rely on education to be an equalizer when the resources that make it possible are so unequal, and further, what drives these funding differences in spending on K-20 education?

Research has concluded that funding matters (Baker, 2016; Mitchell et al., 2019; Tandberg & Laderman, 2018). K-12 educational funding allows for the hiring and retention of quality teachers, purchase of current technology, building and maintenance of infrastructure, and development of enrichment experiences for students (Baker, 2016); however, the complexity of K-12 funding – where resources come from multiple funding streams – can create a system of “unequalization aid,” (Baker, 2018, p. 128) where affluent schools have more funding than required and other districts not enough. For higher education, funding determines how much of the financial burden of college is borne by the student, impacting who has access at all (Mitchell et al., 2019). When a larger portion of the burden of higher education is placed on students, those students without financial means may be unable to attend college. Because debt is the key mechanism of financing college education for black students, any shift in resource acquisition

from state-appropriated to tuition-based results in less equitable access to education or increased debt upon completion (Brown, 2021).

A large portion of funding for K-20 education is provided by states (National Center for Education Statistics, 2019; U.S. Census Bureau, 2019), and those states have limited ability to generate resources. According to the National Center for Education Statistics (NCES) (2019) state budgets have faced more demands with fewer resources in the last decade as educational costs have increased. In 2019, states supplied an average of 47% of funding for K-12 schools (The Peterson Foundation, 2021); however, state support can be “particularly volatile throughout recessions” (para. 17). Although society knows that funding for education is important, there are differences in how states fund K-12 and higher education. States have different political climates, economic conditions, and other factors that impact how the state chooses to allocate its scarce financial resources among many competing needs. This paper examined migration as a driver of state education funding allocation to better understand how to make the equalizer work more equally, and equitably, for students.

Statement of the Problem

The foundational issue for this study is that state financial resources, which come primarily from state individual income and sales taxes (Baker, 2018), are scarce (McNichol et al., 2015) and must be allocated between various government priorities. Education, one of a state’s top financial initiatives, is expensive and accounts for about one third of state and local spending (National Association of State Budget Officers, 2016). A 2020 report by the National Association of State Budget Officers (NASBO) claims “all states to some extent face long-term spending pressures in areas ranging from health care and pensions to adequately funding K-12

education and infrastructure” (para. 2), so there is not enough tax revenue to meet demand for “some of the country’s highest priorities” (McNichol et al., 2015, para. 1).

In the United States, there is a two-layer, or federalist, structure of government, where states have primary jurisdiction over education policy for citizens (Bednar, 2011). As such, the decision of how to allocate the scarce state resources among programs – education, health care, infrastructure, unemployment – varies among states, which leads to differing spending for K-12 education (U.S. Census Bureau, 2019) and state appropriations for higher education (Tandberg & Laderman, 2018). Resources and allocation decisions vary by state “due to a combination of factors, including demographic trends, regional disparities in economic performance ... and fiscal policy decisions” (National Association of State Budget Officers, 2020, para. 2). States generate resources based on individual income tax, corporate income tax, property tax, and sales tax; then, political, economic, and other factors lead to varied allocation decisions among states.

The problem of practice that this study addressed is that states are tasked with allocating a finite pool of resources among various citizen needs, and the way the state allocates funds has a direct impact on those who live there. Disparities in educational funding that occur at the state level lead to disparities in educational outcomes in both K-12 education (Baker, 2016; Hedges et al., 1994; Jackson, 2018) and higher education (Tandberg & Laderman, 2018). School spending and student outcomes “support a causal relationship” (Jackson, 2018, p. 13). Because education is funded largely by the state and local populations near where schools and institutions of higher education operate, the education system of a state is highly dependent on funding decisions made at the state level. Disparate allocations of state resources to education results in varying educational outcomes for students. For K-12 students, those outcomes include completed years of education and wage potential (Jackson et al., 2016); for higher education students, those

outcomes include student access to public, 4-year institutions as well as completion rates (Tandberg & Laderman, 2018) and post-graduation debt, borne disproportionately by black students (Brown, 2021).

The federalist structure of government in the United States, where there are two tiers of government that overlap jurisdiction over the same geographic area (Bednar, 2011), has created confusion about which layer of government should lead the way in proposing models for education funding (Peterson et al., 1986), resulting in states determining their own education funding policy. It is now commonly accepted that education policy is primarily a state issue (Peterson et al., 1986; Rivlin, 1992), but states approach the issue differently (Gordon et al., 2016). Higher education funding is often viewed by state lawmakers as a discretionary activity, easily cut in times of budgetary distress or reduced resources (Delaney & Doyle, 2011). In contrast, K-12 state spending is constitutionally required by states and often follows state-adopted formulas to meet minimum education goals (Parker, 2016).

Current Literature

This section describes how research has led to the question posed by this study. First, research has shown that funding matters for student education outcomes, resulting both improved attainment and performance. In addition, at the higher education level, educational funding from states promotes more equitable access to college. Second, states approach funding differently, depending on their own economic and political factors. Finally, the gaps that exist in this area of research are discussed to frame the need for the current study.

Funding Matters for Student Outcomes and is Scarce at the State Level

Recent educational researchers have concluded that funding for K-12 education improves equity (Wong, 1999), reduces the student drop-out rate (Loeb & Page, 2000), and improves

student performance that persists into later grades (Mosteller, 1995). In a study by Jackson et al. (2016) the researchers found that “spending increases improve children’s long-run outcomes” (p. 35) and “the estimated effect of a 22.7 percent increase in per-pupil spending throughout all 12 school-age years for low-income children is large enough to eliminate the education gap between children from low-income and non-poor families” (p. 26). Funding for higher education puts less financial burden on students, allowing a wider group of students to access higher education (Mitchell et al., 2019; Tandberg & Laderman, 2018).

Even though it is now more commonly accepted that education funding improves student outcomes, state appropriations for higher education have fallen as a percentage of personal income and relative to overall state spending since 1977 (Kane et al., 2016). School districts face similar funding challenges with lagging recovery in times of economic downturn (Ellerson, 2015). Because we know that spending impacts student outcomes, and the strategic placement of financial resources in K-12 education may serve as the best way to redistribute wealth (Wong, 1999).

States Make Funding Decisions Based on Political, Economic, and Other Variables

State budgeting preferences vary due to cultural, economic, and demographic differences among states, which impact allocation decisions (Gordon et al., 2016). Various studies examined which state factors have a relationship with state funding of education, focusing primarily on higher education rather than K-12. The studies mentioned below each chose a blend of possible predictor variables – political, economic, and other – to examine a relationship with some dependent variables set to measure state support for higher education: share of general fund expenditures, spending, bachelor’s degrees, and state appropriations.

Both of Tandberg's (2009, 2010) studies focused on political factors as drivers of higher education support, including political party of the governor and the existence of a uni-party legislature at the state level. He found that such political characteristics do have a significant relationship with higher education support. He writes, "variation in the state political context results in variation in state funding for higher education" (Tandberg, 2010, p. 434).

Research has also found that state economic factors impact state funding for education. Unemployment was a significant factor for higher education state appropriations (Dunn, 2015; Tandberg, 2009), higher education's share of state general fund expenditures (Tandberg, 2010), higher education spending (Dar, 2012), and higher education bachelor's degrees (Titus, 2009). Several studies also considered the size of the private higher education market as a factor in state support of higher education (Dunn, 2015; Tandberg, 2009, 2010). Tandberg (2009, 2010) found both the gross state product (GSP) and Gini coefficient to be significant in his studies, showing the value of work generated by the state and the inequality present in the state affect support for higher education. This research shows the importance of economic factors within a state in determining state support for higher education, although the studies mentioned here do not perform the same analysis on K-12 state support.

Other state factors have also been researched and found to be significant. Okunade (2004) and Li (2017) found conflicting outcomes regarding the impact of geographic region on education spending. Tandberg (2009, 2010) and Dar (2012) both found an inverse relationship between tuition and state support for higher education. Tandberg (2009, 2010) found a significant relationship between state spending on Medicaid and higher education spending; Titus (2009) found a significant relationship between state spending on other programs, public welfare and corrections, and bachelor's degrees awarded. Finally, Titus used K-12 spending as a

predictor variable in their study of bachelor's degrees. The researcher found K-12 spending is not a significant predictor of state support for higher education, arguing K-12 and higher education are not competing for state resources; this finding conflicts with Rizzo's (2006) findings.

Gap in Literature

While a relationship between higher education state appropriations and various political, economic, and other factors has been established during periods of time before 2012 (Dar, 2012; Dunn, 2015; Tandberg, 2009, 2010; Titus, 2009), there has not been a study since, and none includes combined analysis of proposed variables and K-12 per pupil spending as measures of state education funding. In addition, this study considered both in-migration and out-migration as possible drivers of changes in funding because the geographic relocation of wealthy taxpayers can "poke a hole in a state budget" (Dadayan & Zwiefel, 2020, para. 5), thus impacting how the state chooses to allocate funding. Dunn (2015) studied the role of out-migration on state funding for higher education; the current study examined data from 2012 – 2018 to determine whether there is a relationship between in-migration and out-migration from state to state and state spending on K-20 education.

Purpose of the Study

The purpose of this study was to determine whether in-migration and out-migration of tax base into and out of states impacts how states choose to fund K-12 and higher education. According to previous research, states have varying characteristics – political, economic, and other – that influence higher education spending (Dar, 2012; Dunn, 2015; Tandberg, 2009, 2010; Titus, 2009). This study controlled for some of those known influencing variables altogether, while examining migration's impact specifically.

Because states act as the “primary political division for the distribution of socioeconomic and educational resources”(Jang & Reardon, 2019, p. 1), citizens depend on the allocation of resources for the programs they utilize. In addition, “states can vary in their expenditure patterns for a variety of reasons including history, preferences, and geography as well as economics and demographics” (Gordon et al., 2016, p. 35); there are differences in tolerance for state taxes and varying priorities for public spending, which could lead to divergence in educational funding sources. Even though there is evidence that funding promotes better educational outcomes (Baker, 2016; Jackson, 2018; Tandberg & Laderman, 2018), education continues to face budget cuts (Mitchell et al., 2019), which will put pressure on state budgets and programs (National Association of State Budget Officers, 2020).

This study determined the link between in-migration and out-migration and funding for both K-12 and higher education. Migration is important because individuals relocating from one state to another impact the state budgets through income tax, property tax, and other revenue sources (e.g. charitable donations). Dadayan and Zwiefel (2020) discuss how losing a single, ultra-wealthy taxpayer has caused state budget offices to worry “about losing substantial tax revenue” (para. 5). This study examined whether these state factors led to inconsistent state support for K-20 education. Ultimately, this study is significant because it determined whether movement in the tax base affected funding decisions for higher education and K-12 education. When funding is affected, policymakers may choose different courses of action that incentivize taxpayers to stay in the state within which they currently reside. This study controlled for variables found to be significant in other studies; it also considered political, economic, and other factors found important for understanding higher education funding to determine whether they

were also important for K-12 state funding. Jang and Reardon (2019) express the importance of examining the context at the state level and its impact on disparities in educational outcomes.

Research Question

The research questions guiding this study are:

- (1) Is there a relationship between migration of state tax base dollars and state-level higher education funding measured the following year?
- (2) Is there a relationship between migration of state tax base dollars and state K-12 per pupil spending measured the following year?

Theoretical Framework

While Tandberg (2009, 2010) examined the political environment of state funding for higher education in the context of “political actors, while seeking their own self interest” (p. 419) being driven to make funding decisions, this study used the concept of principal-agent theory. It is that power dynamic between citizens (who elect officials, pay taxes, and need government services) and the elected officials (who decide how tax dollars will be spent) that necessitates the lens of principal-agent theory. Principal-agent theory considers situations where one party, the agent, has power to affect the other party, the principal, through contractual, societal, or other arrangements (Moe, 1984). Moe (1984) used principal-agent theory and its two tenets – information asymmetry and goal conflict – to analyze various relationships where the agent may act in self-interest rather than in the interest of the principal. When the principal operates with less information than the agent, and the principal and agent have conflicting goals, principal-agent theory can provide a “rational explanation” (Boyd et al., 1994, p. 138) for the complex association. Principal-agent theory has been used in educational research considering the relationship between administration and departments (Liefner, 2003), organizational hierarchy

(Boyd et al., 1994), and regarding opportunism in assessments and funding decisions (Kivisto & Zalyevska, 2015).

This study used principal-agent theory in that citizens pay taxes and benefit from the services their taxes provide; however, it is the elected officials who make decisions on allocation, and states pursue different approaches to allocation of resources. This study reflected principal-agent theory because the citizens depend on state officials to act in their interests in allocating funding for education. In addition, the information asymmetry between principal and agent was high in this study because of the nature of bureaucracy and lack of transparency of decision making in government (Reck et al., 2016).

The second theory that informed this study is decision-output theory, which states that inputs into a system determine the outputs of the system (Easton, 1957). The system to which Easton refers is a political one, where the demands for resources exceed the supply of the resources (Iannaccone & Lutz, 1994). Decision-output theory considers the element of scarcity and the resulting discontent that ensues when the public policies and programs are not in line with the citizens demands for them (Wirt & Kirst, 1982). There are limited resources available to distribute, a near-infinite desire for the resources, and a political process within which allocation decisions are made.

This study used decision-output theory to frame the taxes citizens pay as inputs to the political system of the state budgeting process, resulting in an output of an allocation of dollars to educational initiatives. Migration was a key consideration of this study because the presence of citizens within a state and their subsequent income generation results in tax revenues available for allocation by the state. When people choose to relocate to another state, the state from which the person left will have a reduced capacity to fund important programs. On the other hand, the

state to which the citizen moves will have additional resources from which to fund programs. decision-output theory helps frame this study because it presents this system where “a finite pool of resources” (Iannaccone & Lutz, 1994, p. 39) must be divided up between competing needs. In addition, the pool of resources available to be distributed changes as citizens migrate across state lines. Scarcity, layered within the political system, is the complete picture within which state education funding decisions are made. Appendix 1 shows a visual model for the study.

Design of the Study

This study examined the relationship between state-to-state migration and state education funding, using quantitative regression analysis. A quantitative study was appropriate in this case because the data is numerical in nature and will result in a “true or false” (Mertens, 2020, p. 128) answer on the presence of a link between migration and education funding measures. Regression is the appropriate statistical tool since the research question asks if a group of variables can predict an outcome variable; multi-variate linear regression determined how well the outcome can be predicted from the variable inputs (Field, 2018).

Data

The setting for the study is in the United States and includes states as research participants. Independent variables came from a variety of publicly available sources for 2013 – 2018. Internal Revenue Service (IRS) migration data (2019) was used to gather data on migrants entering and leaving each state and adjusted gross income entering and leaving each state. Because income taxes from citizens are a main source of tax revenue for a state (Gordon, et al., 2016), it was important to consider the dollar amount of income entering and leaving each state as a determinant of resources for the state budget. Previous research by Tandberg (2010) used gross state product as a measure of state resources; this study used adjusted gross income

because it more closely reflects the tax base upon which states generate tax revenues from individuals.

Other independent variables measure: Republican political party control of the state legislature or governorship (Ballotpedia, n.d.), size of the private higher education market for each state (National Center for Education Statistics, 2020), state unemployment (U.S. Bureau of Labor Statistics, 2021), the age of each state population (Kaiser Family Foundation, 2018), educational attainment by state (The National Center for Higher Education Management Systems, 2022), income per capita by state (Bureau of Economic Analysis, n.d.), higher education enrollment by state (National Center for Education Statistics, 2020), and K-12 enrollment (U.S. Census Bureau, 2019).

The dependent variables for the study were the measures of state educational funding: K-12 per pupil spending (U.S. Census Bureau, 2019) and higher education state appropriations (National Center for Education Statistics, 2019).

The dataset consisted of 306 observations of panel data; each state, including the District of Columbia, was included in the dataset six times for years 2013 – 2018. To run a regression that can hold constant factors not included in the independent variables but that are present in each state, dummy variables were created for each state, which resulted in a fixed effect analysis (Tandberg, 2010). The description of variables and their sources can be found in Appendix 2.

Efforts to Support Quality Research

The quality and trustworthiness of quantitative research depends on reliability, validity, and objectivity (Mertens, 2020). The data was consistently measured in U.S. dollars by fiscal year, thus meeting the reliability of measurement standard. Because this study used the entire population (all states and all education funding date for each state), there is not concern that

changing conditions will affect the measurement. To be valid, a measure must measure “the attributes it was intended to measure rather than bias due to gender, race and ethnicity, class, disability, or other cultural factors” (p. 422). This study included some demographic factors to dissect influences on education funding. Objectivity “refers to how much the measurement is open to influence by the beliefs and biases of the individuals who administer, score, or interpret it” (p. 426). Perfect objectivity is impossible due to personal biases; in this study, neutral distinctions were drawn with the data (e.g., separating states into terciles or examining groups based on a definitive attribute) to make conclusions as objectively as possible.

This study aimed to measure whether there is a link between relocation among states and state education funding sources. While the data is reliable, it is possible that a confounding variable is missing that impacted the results of the study. Because this study examined an entire population, there are no generalizability concerns (Mertens, 2020, p. 454). Links between any of the stated independent variables and state education funding could be tied policies that drive these independent variables to other outcomes that are impacted by state budgets (for example, medical outcomes, and social welfare programs).

Limitations

This study’s biggest limitation was that there were many variables which impact differences in state spending that were not captured in the study. In addition, future studies of this nature could examine state budgets more holistically by including other sources of revenue, such as property tax and corporate taxes (Gordon et al., 2016). This study uses individual income tax information, but state budgets are largely funded by other tax revenue sources.

Additionally, this study used data from 2012 – 2018; the pandemic of 2020 has significantly changed the way people work and allowed for more mobilization of the workforce

(Zaretsky, 2021). It is possible that findings for this study would be different with data that included 2020 and 2021 migration.

Significance of the Study

Practice

Understanding drivers of educational funding can help policy makers and the public consistently demand adequate funding for education in their state and country. This study illustrated the differences in funding sources between states, outlining disparities in educational experiences by students who reside in different states. While causation cannot be proven from this study, relationships can be linked which might impact policy decisions about education funding (tied to geography or other factors) and incentives for or against migration. For example, in states where citizen relocation affected spending for education, states may enact policies to stem citizen migration and maintain their tax base. Such knowledge may impact election decisions and citizen involvement in government action. It is also possible that citizens may have little tolerance for disparities in educational opportunities among states, and they prefer more consistent policies. “Solving these interstate disparities will require a much larger federal role – one that involves substantial increases in federal aid coupled requirements that states provide their fair share of revenue to support adequate public schooling” (Baker et al., 2020, p. 19). It is important that all citizens have access to quality K-12 education and the ability to pursue higher education as the work force becomes more skilled.

Scholarship

This study extended our understanding of the drivers of funding in K-12 and higher education. Previous scholarship has highlighted the importance of funding for educational outcomes in K-12 (Baker, 2016; Jackson, 2018) and for access to higher education institutions

(Mitchell et al., 2019; Tandberg & Laderman, 2018). Previous literature has also emphasized the importance of political and economic state characteristics when predicting state support for higher education (Dar, 2012; Dunn, 2015; Tandberg, 2009, 2010; Titus, 2009). This study's significance came from a more recent dataset, analysis of migration as a predictor, as well as its examination of K-12 state support with higher education.

Summary

Educational funding matters for student opportunity and outcomes (Baker, 2016; Jackson, 2018; Tandberg & Laderman, 2018). States are facing budgetary challenges and have varying priorities when it comes to public spending (National Association of State Budget Officers, 2020). As such, there are diverging funding resources available for K-12 education and higher education among the states, giving students different educational opportunities and leading to disparate outcomes. This study determined whether migration to and from states was one of the factors that impacts state support for K-20 education. This research proposal identified impacts on state education funding sources to determine changes to education funding and, in the long term, find stable, plentiful ways to fund K-12 and higher education.

Definitions of Key Terms

Adjusted Gross Income (AGI)

Adjusted gross income is the tax base upon which individuals determine the tax owed. Income and gross state product, or value generated by labor efforts, are modified to arrive at AGI when calculating taxes. In this study, AGI is relevant as a measure of resources entering or leaving a state's pool of allocable funds.

Allocation

Allocation is the process by which resources, or money, is divided up among various uses. This process is used by states to divvy up resources it generates among many state initiatives that require financial support.

Higher Education State Appropriations

State higher education appropriations are the apportioned resources from the state to support higher education.

K-12 Per Pupil Spending (K-12 PPS)

K-12 Per Pupil Spending is the measure of apportioned resources to support K-12 education on a per student basis.

Migration

Migration describes the geographic relocation of a taxpayer from one U.S. state to another location, possibly another U.S. state or even a different country. Migration can be measured by dollars of AGI leaving or entering a state or by the number of tax returns leaving or entering a state. Migration data for this study is prepared by the IRS and represents data from individual tax returns, which are self-reported; additionally, the date captured by the IRS includes 95-98% of all migration because of the timing of filing of returns and deadline for publishing the information (Internal Revenue Service, 2019). Returns filed after September are not included in the dataset, but this represents a very small number of total returns since they are due earlier in the year.

Scarcity

When the demand of a resource exceeds the supply of that resource, the resource is considered scarce. Economists use the idea of scarcity to frame much of their understanding of human behavior and decisions about how to achieve desired ends with constrained means

(Robbins, 1932). This paper considers scarcity of state funds available to allocate between many citizens' needs, such as education and Medicaid.

Size of Private Higher Education Market

The size of the higher education market “provides a measure of the demand or preference for public higher education in a state” (Dunn, 2015, p. 243). The demand for private education may impact the way a state chooses to fund public higher education institutions.

State Tax Revenue

State tax revenue is the amount of financial resources generated by taxation that the state can then use to support its citizens' needs through the funding of programs, such as education.

Political Party of Governor and State Legislature

Tandberg (2009, 2010) found the importance of political party when examining funding preferences by states. The political party of the state governor will be either Democrat, Republican, or Other. The political party of the state legislature will be Democrat, Republican, or Mixed, indicating representation from both parties. Tandberg (2010) found that state political preference impacted funding choices for higher education.

Unemployment

Unemployment is a percentage measure of the people who are without a job compared to all people in a geographic location.

SECTION TWO:
PRACTITIONER CONTEXT

The following analyzes states that make up the United States as an organization. While the organization is the U.S., this research focuses on each state's allocation of education funds. As such, this contextual analysis will focus on states' environments. This section outlines the history of the organization regarding education, organizational analysis using Bolman and Deal's (2017) frame approach, leadership analysis of state governors, a description of federalism policy, and implications for research.

History of the Organization

Education in the U.S. has been a primarily state and local endeavor. By 1930, all U.S. states required elementary education for their youth, although each state was autonomous in its decision to do so (Graham, 1974). Schooling went from small, community schoolhouses to school districts, both using geographic boundaries to organize K-12 education. Often, state commitment for funding K-12 schools is driven by the economic climate; the Great Depression caused reduced tax revenues, and funding for schools had to be cut to use towards emergency economic relief (Hendrick, 1972). Subsequent enhancements and reductions in state support for K-12 education would later occur – for example, with the Great Recession of 2008 – with the ebb and flow of the state and country's economic cycle (Johnson, 2020). Current state constitutions mandate funding for public schooling, although the formulas for funding, the allocation of funding once granted, and the equity of funding is not guaranteed (Baker, 2018).

College and university creation was largely driven by states' desires for institutions of higher education. Some colleges were established as a combination of private donations and state contributions. The Morrill Land-Grant Colleges Acts of 1862 and 1890 were exceptions to the state-driven charge for higher education; in the Act, the federal government used proceeds from the sale of federal lands to begin land-grant institutions, specializing in agriculture and

engineering, two main priorities after the industrial revolution (National Research Council, 1995). After the turn of the century, there was a large increase in colleges and universities, including junior colleges and private colleges (Drury, 2003). State continued to play a key role in funding institutions of higher education, although state funding for higher education is often viewed as discretionary (Delaney & Doyle, 2011). Unlike funding for K-12, which is constitutionally mandated at the state level, institutions of higher education often request funding individually or with other institutions of the state, and this funding is cut or limited in times of reduced state resources.

Throughout analysis of both K-12 and higher education, there are state differences in funding choices. When times are good, states are more willing to fund education; in difficult times, states re-allocate tax revenue dollars to more immediate needs.

Organizational Analysis

The federalist U.S. structure creates overlap in education policy; there exists both the U.S. Department of Education and departments of education within each state. The following analysis uses Bolman and Deal's (2017) structural and political frames to discuss key elements of the organization of education at the state level.

Structural Frame Defined

Organizations exist to achieve previously established goals and should work to adapt to changing circumstances to achieve its goals (Bolman & Deal, 2017). The hierarchy of an organization should further its strategic initiatives and align incentives in the best interest of the organization's stakeholders. The structural frame provides a good starting point for organizational analysis because the organization being studied is structurally well-defined, and

the structure is important to understanding the context in which education funding decisions are made.

Education Structure

The U.S. consists of 50 autonomous states that have distinct power over their own policies and laws. The country is governed by the Constitution, which states that any power not specifically given to the federal government is left to the states, (U.S. Const. amend. X). Education, since not set aside for federal regulation, is primarily under state power. It is states then who hold the primary power in determining funding and policy for educational institutions within their geographic boundaries.

The state budgeting process – where states raise tax revenue and then elected officials allocate the revenue among various initiatives – is similar among most states, although the sources of tax revenue vary. In 2020, there were nine states that did not impose a state income tax on individual citizens: Alaska, Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Washington, and Wyoming (Tax Policy Center, 2021). These states raised tax revenue primarily through taxes on businesses and property within the state. This difference in tax revenue generation could lead to funding differences. This question is explored in the current study.

In addition to having some differences between states on how revenue is raised, there are differences in how states choose to prioritize spending and other statewide initiatives. The state budgeting process often requires a balanced budget (Center on Budget and Policy Priorities, 2013), so states can only spend what they will bring in during a year. This structure differs from the federal budgeting process which results in surpluses or deficits nationally. The requirement

for a balanced budget is a way for citizens to mitigate the principal-agent problem by holding elected officials accountable for spending.

Little Vertical Coordination and Loose Structure

One key challenge the state-managed educational structure creates is the vertical coordination dilemma. Because states are not under the authority of the federal government regarding education, there is not a required element of coordination between the state and federal government. The federal government supports K-12 and higher education by providing nearly 8% of the K-12 budget (Hanson, 2021). However, this effort between the state and federal government is often too loose, resulting in “little sense of what [the other level of government is] doing” (Bolman & Deal, 2017, p. 74). Without the proper discussion and coordination between the federal and state government, some important initiatives are not properly addressed, while others are handled with redundant efforts between the two governments.

Political Frame Defined

The political frame conceptualizes organizations as arenas where complex power dynamics determine how decisions are made and how scarce resources are allocated (Bolman & Deal, 2017). This approach focuses on power as a tool to achieve the goals outlined for the organization and its members. The political frame is also important in this U.S. analysis of states because each state elects decision makers through a political process, and each state is a political piece of the larger country.

Education Politics

In the realm of state government, elected officials hold position power because their role as governor, senator, or legislator “confer[s] certain levels of legitimate authority” (Bolman & Deal, 2017, p. 192). One of the duties of the governor is to put forth a budget that can be voted

on by the state legislature. As such, much power is wielded in the budget, or priority-setting, process. The goal of the governor is to use bargaining and negotiating to achieve his political agenda for the state, which is often influenced by lobbyists and their pull with donors. Elected officials may feel successful in their roles, even if important initiatives get fewer resources than previous administrations.

Coercive Power and Short-Term Thinking

One important challenge to note with the political frame is the potential for coercive power to manipulate elected officials into allocating resources in a way that is of less benefit to citizens (Bolman & Deal, 2017). Coercion is a power tactic that implies or explicitly threatens retaliation for non-compliance with the request. The power of coercion depends on the consequences of non-compliance (French & Raven, 1959). In the context of influence over state budgets, those who fund elected officials' campaigns can threaten to pull funding as a measure of retaliation for allocating government funds in a way the lobbyist does not like. If the elected official feels this pressure, she can allocate funds and make other governmental policy decisions that will benefit her short-term interest or re-election, rather than the best interests of the citizens. This coercive power challenge is another example of the principal-agent dilemma that exists between elected officials and citizens.

Leadership Analysis

Elected leadership at the state level in the U.S. has consistently lacked gender and racial diversity and has been awarded based on traits, rather than actions. Only nine women were governors in 2020 (Center on the American Governor, 2021), and only two Black governors have ever been elected in U.S. history (Zitner, 2020). Additionally, 47 governors are white, and the average age is 59 years old (Center on the American Governor, 2021). State government is

still largely an older, white, male position that relies on the trait-based perception of leadership, where a person is simply “born with special traits that [make] them great leaders” (Northouse, 2019, p. 39). The definition of good leadership has evolved in recent decades from valuing who the leader is, or trait-based leadership, to what the leader does, or servant leadership, authentic leadership, or transformational leadership (Northouse, 2019). In terms of governing, though, most of the political power still rests with a homogenous group of leaders who reflect the historical idea of what leadership looks like.

This lack of diversity of leadership at the state level may make it difficult for citizens to feel their leader understands their needs and is allocating funds in a way that will provide them optimal benefit. This problem relates to educational funding because education itself is a redistribution of wealth (Ansell, 2010). If the leader reflects a racial majority and is of the historically privileged gender, he may make decisions about funding allocations that impact people with whom he is familiar, not all citizens. For example, a governor may allocate money for universities with a mindset that everyone goes to college; in fact, allocating money to universities is a regressive redistribution of wealth, where people at higher incomes disproportionately benefit (Ansell, 2010). State funding of K-12 education, on the other hand, is progressive where lower-income people benefit the most.

Federalism Policy

In 1992, *The Dream, the Reality, and Some Solutions*, addressed the federalist structure in the United States and its impact on educational change. “Education in America will not improve significantly until states and communities decide they want better schools” (Rivlin, p. 11). Rivlin’s conclusion is that education, among other issues, is a problem that the federal government simply cannot fix and that states should be left to solve education issues. Rivlin

argues that tax revenue should increase, although with the caveat that people tend to be more accepting of tax increases when “revenues will be used for identifiable services important to them” (p. 16). This position hints at the possibility that citizens will react by relocating to states with tax policies more in line with their own preferences. She makes a case to increase tax revenue at the state level to pay for what citizens value, possibly education, while proposing a “devolution” (p. 17) of federal involvement in education policy. This reduction in federal involvement in education would leave policies to states and localities.

Peterson et al. (1986) agrees with Rivlin on a smaller federal role in education, and he uses the federalist system of government to argue for privatization of schools, describing a “moderate decentralization” (p. 222) of education at the federal level. He goes farther, though, arguing the merits of spending on education; “classifying education as primarily redistributive ignores the fact that investments in education have been routinely shown to be among the best predictors of national economic growth and economic productivity” (Peterson, 1995, p. 65). Rivlin, an economist, and Peterson, an educational researcher, use economics and political science to make their claims regarding the optimal role of state and federal government in education policy.

Implications for Research in the Practitioner Setting

The structure, leadership trend, and existence of a federalist form of government all create an environment where (a) states hold much power regarding educational funding, (b) state leaders do not reflect the citizens they represent, and (c) there are inherent inefficiencies in education policy. In the practitioner setting, it is of interest to know whether certain state characteristics – like migration – also play a role in how states choose to fund education. If

migration does impact funding for K-12, higher education, or both, policies may be created that help stem migration between states.

SECTION THREE:
SCHOLARLY REVIEW

States face conflicting incentives to keep taxes low for their citizens and provide those citizens with the public services they desire, including education. This clash of motivations results in different approaches to taxation across states, as well as varying funding allocation decisions for K-12 and higher education. The problem of practice that this study addressed is the scarcity of financial resources at the state level to be allocated among education and other social programs and services. State financial resources are generated through personal taxes imposed on individuals. Migration of citizens into and out of states affects the financial resources available for allocation by states and may impact the way a state chooses to fund K-12 and higher education.

The purpose of this study was to examine whether the in-migration and out-migration of personal income into and out of states impacts state funding allocation for K-20 education. Understanding the impacts of relocation may cause state governments to carefully weigh the impacts of their policy decisions on the behavior of citizens. The following sections details the state budgeting process, the body of research that supports the importance of educational funding, the ways funding differs across states, and the theories used to analyze stakeholder relationships and the environment in which decisions are made.

Review of Literature

This section outlines the research exploring historical perspectives on education funding, the more current beliefs on the importance of K-20 education funding, the characteristics that make funding decisions vary across states, and citizens' geographic relocation behavior. Each of these elements builds to the question addressed in this study: does in-migration and out-migration impact state decisions for education funding? Lack of funding affects K-12 schools, resulting in lower teacher wages, fewer resources for textbooks, and larger class sizes, ultimately

impacting student performance that lasts for years (Hedges, et al., 1994; Loeb & Page, 2000; Mosteller, 1995). For higher education, funding inadequacies result in a shift of financial burden for college onto the student; when the burden becomes too great, students will opt out of higher education (Tandberg & Laderman, 2018). Lack of funding for both K-12 and higher education results in inequity among students. Citizens are attracted to states with higher spending on education, yet they prefer states with lower state tax burdens (Cebula & Alexander, 2006). Funding is important for students attending both K-12 and higher education institutions, and that funding comes from a complex political process that varies among states, where conflict exists in citizen preferences and representative government incentives.

Early Perspective on Education Funding and The Hanushek Report

In the early 1990's The Hanushek Report (1994) was published, which gained much national attention because it was the product of a panel of economists' research on merits of education funding. The report concluded that spending on education was not the most economically efficient use of financial resources, and that money should be spent on other economic initiatives as higher priorities. The Hanushek Report's findings gave state policymakers reason to pause in allocating resources to schools because the report "conveys the message that school dollars have purchased few measurable benefits for children" (Wong, 1999, p. 5). Hanushek used a primarily economic focus in evaluating education funding to analyze economic growth, which resulted in a narrow conclusion about the merits of education with little regard for equity. Hanushek's research was disputed by Hedges et al. in 1994, who used more complex statistical methods, measurement approaches, and design. After the mid 1990's, it was commonly accepted by a large body of research that funding does matter for educational

outcomes (Baker, 2016; Loeb & Page, 2000; Mitchell et al., 2019; Mosteller, 1995; Tandberg & Laderman, 2018; Wong, 1999).

Funding Matters for Educational Outcomes

Citizens in the United States have felt longstanding discontent with the allocation of resources to education and other government programs; “the public seems angry and dissatisfied with government ... and unwilling either to increase its support [through increased taxes] or accept a lower level of services” (Rivlin, 1992, p. 15). Citizens want and need some government support for the initiatives they care about; however, there is disagreement among citizens about which initiatives warrant the most spending. Regardless of whether citizens agree on the extent to which education should be funded, there is conclusive research that funding is important for students at K-12 and higher education levels. The following sections discuss why funding matters in education and how funding differs across states.

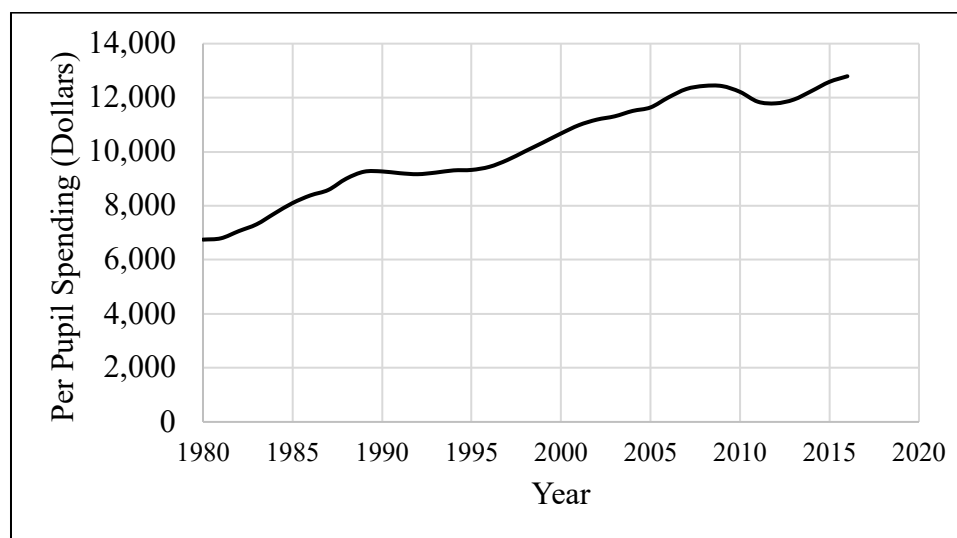
K-12 Outcomes

Funding at the K-12 level, often manifested as increased teacher pay, employing school finance reform (SRF), and smaller class sizes, can provide benefits to students that are both substantial and persistent (Baker, 2016). A ten-percent increase in teacher wages results in a reduction in student dropout rates by 3-4% (Loeb & Page, 2000). Smaller class sizes, especially early in K-12 grades, results in higher student academic performance that lasts beyond the year where the class size was small (Mosteller, 1995). Increased financial support at the K-12 level provides schools with options in terms of finding high quality teachers and hiring more teachers, resulting in smaller classes. While funding does not fix every problem in schools, it is a “necessary condition” (Jackson et al., 2016, p. 214) for well-performing schools.

One problem with state funding for K-12 education is that it has dipped in times of economic turbulence. Figure 1 shows the per pupil spending, in constant 2018 – 2019 dollars, from 1980 – 2016. Ellerson, of the American Association of School Administrators (AASA), published a report on behalf of The School Superintendents Association in 2015 that addressed the impact of the 2008 recession on school funding. Even as the recession ended, it took several years for state per pupil spending to return to pre-recession levels. During these times of lower funding, students do not experience the benefits that could have been achieved with additional K-12 state funding.

Figure 1

Per Pupil Spending in Constant 2018 – 2019 Dollars



Note. Data for this figure from the National Center for Education Statistics, 2019.

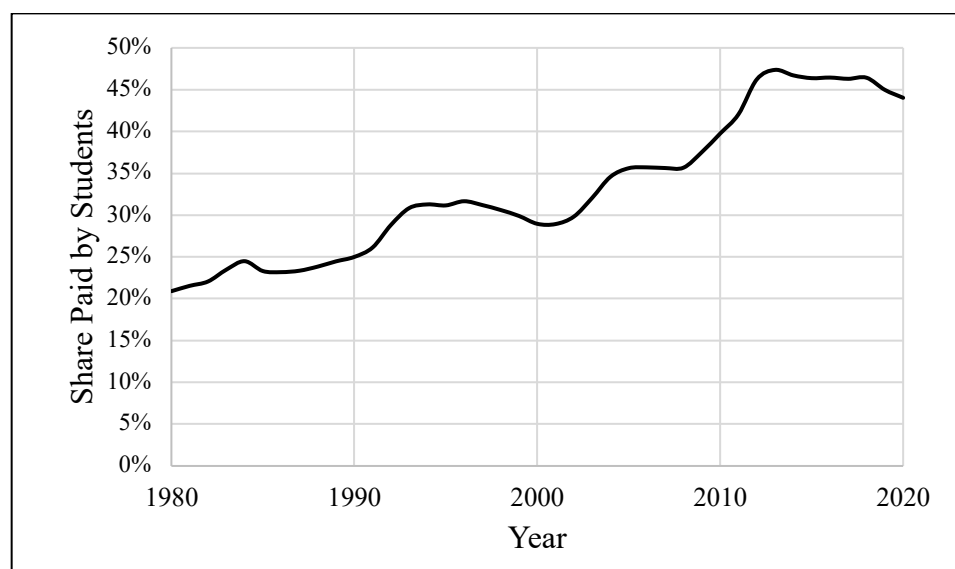
Higher Education Access and Outcomes

State funding at the higher education level and tuition rates are negatively correlated (Koshal & Koshal, 2000); when the state cuts funding for higher education, the institutions must make up for those lost resources with increased tuition costs. In contrast to K-12 schools, where students attend at any funding levels, lack of funding for higher education results a change in

access for students. When state support decreases and tuition increases, there is a shift of burden from the government to the student for payment of schooling. If tuition becomes too burdensome, some students may opt out of going to college altogether (Mitchell et al., 2019; Tandberg & Laderman, 2018). In 1980, students in higher education paid 20% of their education costs on average across the United States; in 2020, students are now paying nearly 45% of their higher education costs (State Higher Education Executive Officers Association, 2019). Figure 2 details the increased financial responsibility across time for students attaining a higher education degree.

Figure 2

Percentage of Higher Education Costs Borne by Students



Note. Data for this figure from the State Higher Education Executive Officers Association, 2019.

State funding for higher education is a critical piece of improved equity of access to higher education. Funding for higher education has increased over time, but it has “not kept pace with both inflation and enrollment” (Tandberg & Laderman, 2018, p. 2) or as a percentage of

personal income (Kane et al., 2016). In addition, when recessions occur and budgets are cut overall, states have not returned to pre-recession appropriations for higher education during the recovery period, deepening the recession for students who are not able to further their education. Both conditions result in a relatively higher financial burden for college on lower-income groups. “Ensuring that states are providing stable and predictable support...ensures that all students can afford to go to college” (Tandberg & Laderman, 2018, p. 14).

In addition to access, funding for higher education impacts student outcomes. Currently, historically Black colleges and universities (HBCUs) are seeing protests from students over housing inadequacies and the overall lack of investment in their institutions (Franklin, 2021). Students are asking for basic, livable conditions while they pursue their educational goals, and schools – often minority-serving institutions – do not have the funding to provide these conditions (Ortega & Swinton, 2018). State resources are key components needed to provide a healthy environment in which students can learn.

State Budgeting Process

K-12 education relies on funding from the state to cover more than half of its per pupil spending. On average, U.S. per pupil spending is \$12,624 and states contributed an average of \$6,785 per student (Hanson, 2021). State funding for education, then, is a substantial piece of where schools receive their financial resources. On average, state appropriations make up about 18% of the total expenditures for public higher education institutions (National Center for Education Statistics, 2019). State support of higher education is larger than federal or local combined, so it is also important to understand how state budgets are enacted.

The budgeting process at the state level begins with agencies requesting funds, followed by the governor submitting a budget, and then the budget being adopted by the state legislature.

The main difference between states is the power the legislature holds to make changes to the governor's budget (Center on Budget and Policy Priorities, 2013). A key consideration of this process is the power possessed by the governor to set important budgetary priorities. Figure 3 shows a timeline of the steps of the state budget.

Figure 3

State Budgeting Timeline



Note. Timeline from Center for Budget and Policy Priorities (2013).

State Attributes Affect Funding Decisions

In addition to the fluctuations in support within a state, states vary widely from each other in their support for higher education. The average state support per full time equivalent (FTE) for the U.S. is \$7,198, but it ranges from \$2,417 in Arizona to \$19,151 in Alaska (National Center for Science and Engineering Statistics, 2019). Several studies have examined what causes states to vary so greatly in their funding for education, and those studies have found a difference in state support for higher education dependent on political, economic, and other factors (Dar, 2012; Dunn, 2015; Tandberg, 2009, 2010; Titus, 2009).

Political Factors

Political variables have been included in other research models to gauge the impact of state politics on educational funding (Dar, 2012; Tandberg, 2009, 2010). Politics can drive preferences for certain types of spending and preferences for government involvement in citizens' lives. These studies measured political culture by considering the polarization of the citizenry (Dar, 2012) and by including the political parties of the legislatures and governors (Tandberg, 2009, 2010). At least one political factor was found to be significant in each of these studies. Tandberg (2010) saw a significant effect on K-12 funding for unified governments, where one party controls both legislative houses – senate and house. “Unified governments have been more generous towards K-12 education (relative to higher education)” (p. 437). This research considered states with Republican control of either the state legislature or governorship.

Economic Factors

Titus (2009) used a combination of unemployment and lagged gross state product and found that higher education appropriations from the state are negatively impacted by state unemployment rate. When unemployment rate is high, states do not invest as much in higher

education. Other studies have found that unemployment is a significant variable related to higher education (Dar, 2012; Dunn, 2015; Titus, 2009). As such, study considered unemployment.

The size of the higher education market describes the proportion of the higher education system in the state that is public versus private. Some states have much larger private higher education markets than others. Studies have found states that a large percentage of students who attend private universities, the state chooses not to fund higher education at the same level as it otherwise would have (Dunn, 2015; Tandberg, 2009, 2010). This study included the percentage of the higher education market enrolled in private institutions.

When considering what factors may impact state funding choices, it is important to consider how much income the state itself generates, as not all states have the same industries from which to generate resources. In other studies, the chosen measure of state income and wealth has had a positive relationship with state funding for education (Dar, 2012; Dunn, 2015; Tandberg, 2009; Titus, 2009). The present study used state income per capita as a measure of individual income.

Other Factors

States may prioritize spending based on what will best serve their populations. For example, states with an older population may prioritize spending on eldercare and healthcare, while states with younger populations may prioritize education spending (Dunn, 2015). This study used the percentage of the population 65 years old or older to measure population age.

States that have a higher average educational attainment may choose to put more funding into education (Dunn, 2015). This study used the percentage of the population with a high school diploma or equivalent to measure educational attainment.

Migration, or the geographic movement of principal residence of taxpayers between states, directly impacts state budgets because the taxpayers are a key source of tax revenue for the state. When states see in-migration – more people are moving into the state than leaving – the state budgets will see an increase due to more tax revenue. The opposite is also true, so when states see out-migration – more people exiting a state than entering – the state budget will see decreases in tax base. State-to-state migration is a variable of interest for many in policy because of how it impacts state budgets and possibly state policy (Cebula & Alexander, 2006; Dadayan & Zweifel, 2020). Migration is the key independent variable in this study because it has an unknown impact on the funding for K-12 education. Out-migration and in-migration have been studied; out-migration had a significant impact on state support for higher education, but in-migration did not (Dunn, 2015). This study focused on migration to see any relationship between relocation and state spending choices.

Citizens React to State Policies

Several studies evaluated what factors impacted state-to-state migration (i.e., Saltz, 1998; Clark & Hunter, 1992), and found citizens relocate to another state for a variety of reasons. While this study examined the impact of migration on funding for education, it is important to understand that there is a circular effect where, ultimately, citizens will respond to state policies they dislike by relocating. Cebula and Alexander (2006) evaluated a similar question, examining net in-migration from 2000-2004. These researchers find that “state income tax burden is negative and significant... strongly implying that state net in-migration is a decreasing function of per capita state income tax levels” (p. 121). When tax burden is high, there is less state in-migration; people are aware of and respond to state tax rates. They also found a positive relationship between state in-migration and spending on primary and secondary public

education; “higher per capita spending on public education can act as an inducement to in-migration” (p. 122). Each of these variables works in the opposite direction as the other. This study did not aim to answer why people relocate from one state to another. It instead asked whether this relocation affects how states fund K-20 education. However, the fact that citizens do respond to policy by relocating is important for the implications from this study. If migration impacts funding for education, policymakers may aim to avoid measure that cause people to relocate.

Two key findings from previous research are critical for this study. First, several researchers have found that funding matters for education (Baker, 2016; Loeb & Page, 2000; Mitchell et al., 2019; Mosteller, 1995; Tandberg & Laderman, 2018; Wong, 1999). K-12 institutions that receive adequate funding can better serve students smaller class sizes (Mosteller, 1995) and better teacher pay (Loeb & Page, 2000). Higher education institutions that receive adequate funding can keep tuition stable and relatively low, providing the opportunity for a more diverse group of students to attend college (Tandberg & Laderman, 2018). Second, education funding varies across states, depending on political, economic, and other characteristics of the state (Dar, 2012; Dunn, 2015, Tandberg, 2009, 2010; Titus, 2009). Some states more readily fund K-12 education, higher education, or both.

Gap in literature

Current research has concluded that funding is important for educational outcomes at both K-12 and higher education levels (Hedges, 1994; Loeb & Page, 2000; Jackson et al., 2016). In addition, there is research to suggest that funding is varied across states, resulting in different opportunities and equity (Tandberg & Laderman, 2018; Jang & Reardon, 2019). Finally, research has shown that citizens have been responsive to economic and policy factors when making

decisions about the geographic location of their homes (Cebula & Alexander, 2006). Tandberg's (2010) study analyzes the political attributes that impact state higher education funding over a 15-year time horizon, ending in 2004. Dunn's (2015) study analyzes several economic, political, and social factors, including migration, that affect higher education funding between 1993 – 2012; however, his study does not consider K-12 funding, geographic region, or cover the time frame within the last ten years. There is not a current, comprehensive study, including in-migration and out-migration, that examines what drives K-20 educational funding at the state level.

The current study examined the period from 2012 – 2018 to determine whether in-migration and out-migration between states drives educational funding for both K-12 and higher education. Higher education can be viewed as a regressive redistribution of wealth, or one that benefits the rich, because of who attends college (Ansell, 2010). K-12 education is progressive in that it utilizes resources raised through tax revenue and benefits all children, not just those who attain college. The differences in higher education and K-12 demand consideration separately, as the forces affecting their funding may be different.

This study examined whether previous relationships hold under post-2008 Great Recession economic conditions. The economic climate of the United States has changed since some of the previous studies have been conducted. In addition, this research included the variables above, already found to be significant in previous work, and determine whether they are still significant drivers of educational funding in more recent economic circumstances and when considered together. This study built on Dunn's (2015) work by considering regional preferences that may impact attitudes toward state government spending and incorporating

funding for K-12. See Appendix 4 for a matrix of variables studied in previous literature and the combination selected for this study.

Theoretical Framework

This study used principal-agent theory and decision-output theory to consider the relationship between migration and K-20 state funding. Principal-agent theory was appropriate because it considers the complex information and asymmetry between state legislators and citizens, as well as the possible conflict of interest that legislators may have. If funding education does not serve them, the legislators may choose to fund other initiatives. With that, decision-output theory is important because it brings in the concept of scarcity. Without scarcity of financial resources, legislative decisions on funding would not be as consequential; however, because financial resources in states are limited, migration may be a key element to resource allocation.

Principal-Agent Theory

Principal-agent theory characterizes the challenges present where “one party, the principal, considers entering into a contractual agreement with another, the agent, in the expectation that the agent will subsequently choose actions that produce outcomes desired by the principal” (Moe, 1984, p. 756), often during a transaction such as a real estate purchase or between an employer and employee. Because the agent has incentives of his own, the principal is uncertain whether the agent acts in the principal’s best interests or in self-interest. Principal-agent theory has two key components: information asymmetry between the two parties and conflicting goals of the agent and principal (Moe, 1984). This theory was studied by Ross (1973) as “the principal’s problem” (p. 136), where he focused on the broad application of this theory from the perspective of the principal, calling it a “universal” (p. 134) part of many social

interactions. Moe (1984) applied principal-agent theory to the relationship between the government and its citizens, stating governments act as agents for citizens, determining “the optimal supply of the public good” (p. 759). Moe’s research goes on to say that the conflict created between the principal and the agent occurs “for there is no guarantee that the agent, once hired, will in fact choose to pursue the principal's best interests” (p. 756). The agent may act in his own self-interest before acting in the best interest of his principal. Even with this problem, efficiency demands the use of agents; governmental structure in democracies results in the use of agents as elected officials (Boyd et al., 1994). The left panel of Figure 5 illustrates principal-agent theory and shows the relationship between principal and agent.

Principal-Agent Theory in Education Research

Principal-agent theory has also been used in the study of educational issues. Boyd et al. (1994) discusses principal-agent theory in the context of organizational hierarchy in education, writing that principal-agent theory’s contribution is “its full recognition of, and rational explanation for, the ‘messiness’” of the relationship between parties and “the many ambiguities regarding rewards and performance expectations” (p. 138). Researchers have used principal-agent theory to consider relationships between university administration and individual departments, as well as opportunistic behavior in development of funding models (Liefner, 2003; Kivisto & Zalyevska, 2015). Principal-agent theory can be applied to a variety of settings where multiple parties are in a relationship and have competing power, incentives, and information. Ansell (2010) more recently alluded to the principal-agent theory in their study of educational politics when writing:

The chief determinant of education spending will be the extent to which the polity's decision makers are "representative agents" of the population affected by their decisions.

Where the franchise is limited or the executive unconstrained, policies will reflect the redistributive interests of the elite (Ansell, 2010, p. 26).

Principal-Agent Theory's Application to the Current Study

A party can be a principal in one relationship and an agent in another, even if the party is performing the same function. While the state government can be viewed as a principal and the school system or university as an agent, one can also take a broader focus to consider how the state government can be an agent for the citizenry. This study used the conceptual framework of principal-agent theory, viewing the citizens as the principals who elect agents, or elected officials, to act in their best interest when determining spending for education. There is information asymmetry between citizens and their elected officials in the existence of confidential information possessed by state government. In addition, goal conflict between citizens and elected officials is present; elected officials may have their own political agendas, electoral promises to keep, and may appropriate funds to programs they value most. Citizens do not have the direct ability to end the principal-agent relationship, leaving the principal (citizen) with the ability to geographically relocate when he believes the agent is not acting in his best interest. This relocation can then impact further resource allocation. As such, principal-agent theory provided the context where citizens can relocate, thus potentially impacting the funding decisions of the states they enter and leave.

Decision-Output Theory

Decision-output theory states that inputs into a system result in outputs from the system (Easton, 1957). "These inputs [or demands] are converted by the processes of the system into outputs [or decisions]," which have "consequences both for the system and for the environment in which the system exists" (p. 384). Decision-output theory also considers the system, a political

one, in which the inputs enter and the outputs exit. This theory assumes “a finite pool of resources and an infinite or very near infinite craving of public interests and demands upon those resources” (Iannaccone & Lutz, 1994, p. 39), which aligns with the concept of a finite pool of distributable tax revenue that can be used to fulfill competing desires from citizens. The right panel of Figure 5 illustrates decision-output theory and the relationship between inputs and outputs in the context of the political system.

Decision-Output Theory in Education Research

In the context of education, decision-output theory has been applied by considering policies that result from the allocation of resources. Inputs come from tax revenue, while the output is the resulting funding policy, which distributes resources to K-12, higher education, or some other use. Resources and support are necessary to keep the system going (Easton, 1957). Iannaccone and Lutz (1994) agree and explore the relationship between “inputs (resources and demands) to the political process and outputs (policy and programs)” (p. 39), finding that scarcity exists and causes discontent among stakeholders on the final outputs. This discontent was affirmed by Wirt and Kirst (1982), who used decision-output theory and found differences in demand for government influence between groups considering tax cuts (or a reduction in resources into the system) and groups advocating for school spending (or increased outputs). Those in favor of tax cuts were “seeking to stop or reverse the growth in state and local spending” (p. 12), while the group in favor of increased school funding was prioritizing equity across student populations.

Decision-Output Theory’s Application to the Current Study

In the context of the current study, decision-output theory provided the environmental lens within which decisions are made. State budgets are under pressure because of the scarcity of

resources raised from tax revenue and other sources. Decision makers at the state level exist in an environment of political pressure, as well. Interest groups, wealthy individuals, corporations, and majority rule play a powerful role in incentivizing elected officials to pursue some policies over others. The system in which the legislators operate is politically charged with consequences for the decision-maker; if donor projects are not funded adequately, the elected official may lose support from that donor. State officials are not simply funding what they believe to be the highest priority programs for their citizens; they must also consider the political repercussions for the decisions they make. Figure 4 outlines the major tenets of principal-agent theory and decision-output theory.

Figure 4*Tenets of Principal-Agent Theory and Decision-Output Theory*

	Principal-Agent Theory	Decision-Output Theory
Summary	Principal-agent theory is an economic and political theory that gives context to the relationship between two parties: the principal (citizens) and the agent (various governmental actors).	Decision-output theory is an economic theory that frames the scarcity of resources problem that exists in our society. There are not enough resources to meet all demands put on those resources.
Key Tenets	Information asymmetry - one party (the agent, or government) has more information than the other party (the principal, or the citizenry). Goal conflicts - the two parties do not have perfectly aligned goals throughout their relationship.	Finite resources - there exist only a finite pool of resources available to be distributed. Infinite demand - there is an infinite, conflicting demand put upon the resources that are available.
Application to this Research	Citizens elect various government officials who then have the power to act on behalf of the citizenry; the goals of the citizenry are frequently in conflict with each other and with the governing body. However, the citizenry relies on the government to act in its best interest.	There is only a finite amount of tax revenue generated at the state level, which the government must allocate for various uses. The citizens have nearly infinite demands on the state revenues.

Note. This figure outlines the basic parts of each of the theories described for use in this research.

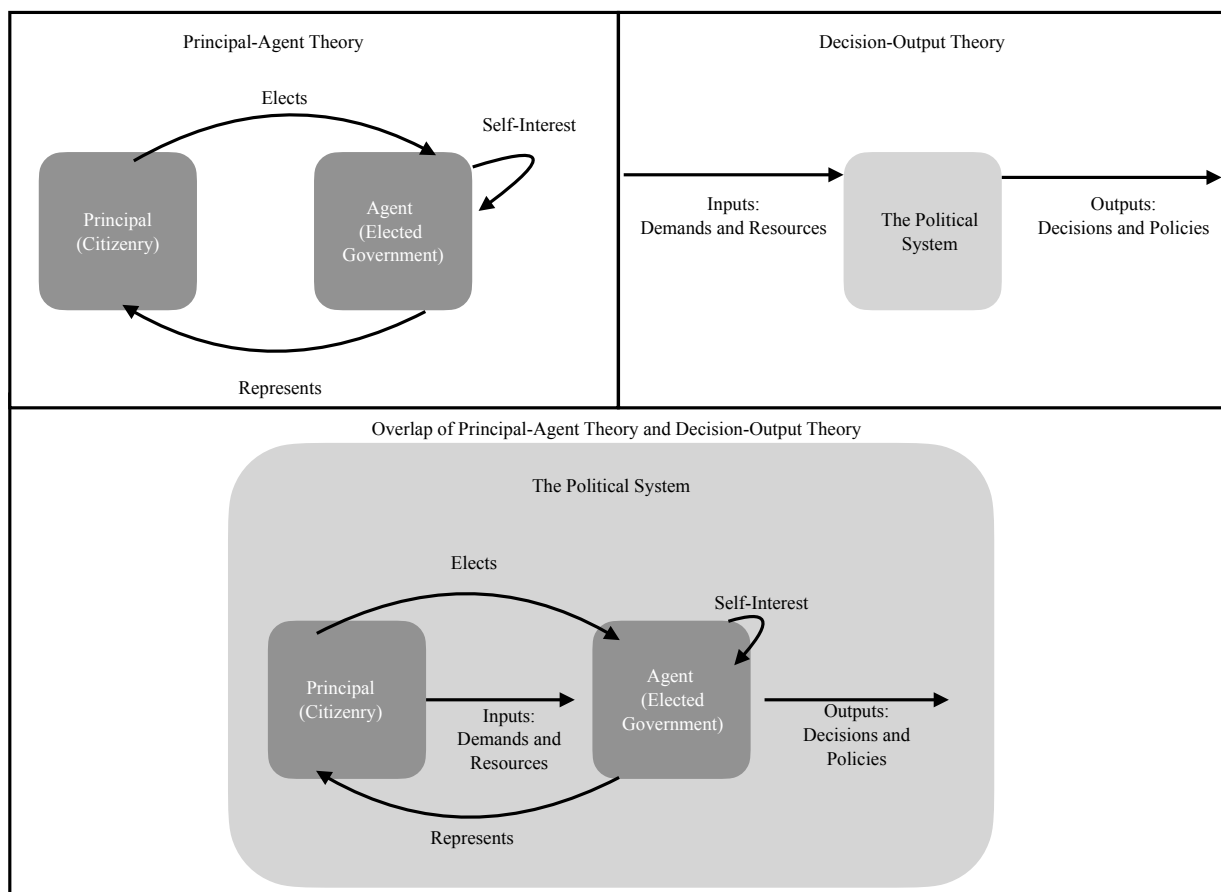
Overlap of Principal-Agent Theory and Decision-Output Theory

This study used both principal-agent theory and decision-output theory as the relevant theories when examining funding for K-12 and higher education, both forms of political economic theory. Principal-agent theory considers the complexity of information asymmetry between citizens, or recipients of funding policies, and the government, the makers of policy. Each party, the principal and the agent, have different information about which funding will achieve desired outcomes. It also captures goal conflict between citizens and elected officials in

that each party may have competing preferences or needs for how funding is allocated. This idea of information asymmetry relates to the current study where the citizenry do not have the same information about budgeting priorities and processes as the elected government. In addition, there is a goal conflict dilemma because the priorities of the elected officials, and even other citizens, may not align some citizens' spending preferences. Principal-agent theory entertains the notion that the elected officials of a state may act in their own interest, rather than in the interest of the citizens they serve when allocating funds.

Decision-output theory incorporates the context of scarcity of resources (inputs) and the policies that come (outputs) from funding allocation decisions. In the current study, the element of finite resources was key to understanding the funding allocation decision at the state level. If revenue was infinite, K-12 and higher education could both be adequately funded in each state. Because resources are scarce, the allocation decision occurs between many worthy state priorities. The additional layer to add is that there is a near-infinite need for the resources, further pressuring the allocation decision. Citizens have important needs – healthcare, education, housing – that consume state resources. There is never enough to cover all the citizens' needs. decision-output theory frames this scarcity issue and couples it with the demand from citizens to fund important priorities.

Principal-agent theory and decision-output theory give context to the complex environment in which educational funding decisions are made. The bottom panel of Figure 5 shows the overlap of principal-agent theory and decision-output theory as conceptualized for this study.

Figure 5*Overlap of Principal-Agent Theory and Decision-Output Theory*

Note. This figure illustrates the overlapping relationship between principal-agent theory and decision-output theory used in this study. The left panel principal-agent theory model modified from Snippert et al. (2015). The right panel decision-output theory model modified from Easton (1957).

Summary

In higher education, state funding has been reduced for the last 30 years, pushing more of the cost of education from the government onto students and exacerbating inequity (Mitchell et al., 2019). In K-12 education, state funding has failed to return to pre-recession levels, limiting the ability of elementary and secondary schools to staff adequately and provide resources to

students (Ellerson, 2015). While the commonly accepted position is now that money does matter in education (Baker, 2016; Jackson, 2018; Mitchell et al., 2019), there are vast differences in spending across states, depending on political appetites (Tandberg, 2010). Citizens consider taxation and education spending when relocating between states (Cebula & Alexander, 2006), although those factors work in opposite directions. This study aimed to pull together political and economic factors to assess what drives state funding for K-12 and higher education to provide “stable and predictable state support” (Tandberg & Laderman, 2018, p. 14) for K-12 and higher education students.

SECTION FOUR:
CONTRIBUTION TO PRACTICE

Plan for Dissemination of Practitioner Contribution

After successful defense of this dissertation, the researcher plans to submit a policy brief to *The National Conference of State Legislators*, an organization of state legislators that focuses on policy, leadership, and research. The rationale for this target is to reach legislators who make funding decisions and react to changing revenue (as occurs when citizens migrate). This organization also focuses on interstate cooperation and the sharing of ideas, which could further a more comprehensive plan to fund higher education adequately and equitably across all states.

Higher Education as an Afterthought in Times of Tax Base Decreases

Education has famously been called the great equalizer (Duncan, 2016), but the current educational system in the United States “increasingly resembles a caste system” (Mettler, 2014, p. 5), resulting in limited opportunities for some students. Education can only be an equalizer when all students have access to it, which depends on the adequate and equitable funding of higher education. States, the gatekeepers of funding for higher education, should prioritize funding for higher education, to benefit both students who gain access and the communities that rely on economic growth and innovation.

Scope of the Problem

Higher education institutions need adequate funding to provide quality learning opportunities for students; however, state funding for higher education has decreased 13% on average between 2008 and 2018, forcing more of the burden of college onto families in the form of tuition. Arizona and Louisiana have experienced near doubling of tuition costs at 4-year, public institutions since 2008 (Mitchell et al., 2019). During the same time period, median family income has increased only 0.8% (The College Board, 2018), severely limiting “affordability and access” to college for many, especially students of color and with lower income (Mitchell et al., 2019, para. 4). When states reduce funding and do not adequately support higher education, it affects every student in the state who is considering college. Some of those students can overcome the financial burden of tuition and attend anyway, often burdened by debt to do so; many cannot, however, and must end their educational careers after their K-12 schooling, with lower paying jobs and fewer opportunities available.

Much of the funding problem in higher education stems from state legislators’ views on education as a discretionary line-item in the state budget. When citizens leave a state to relocate

elsewhere, the state has reduced income tax revenue, which is linked to a reduction in state spending for higher education. The reverse is, unfortunately, not true. When citizens relocate into a state – even though there is additional income tax revenue – states do not use the revenue to fund higher education at a higher level. Instead, lawmakers use these resources to fund other state initiatives. This resource allocation choice has consequences for students, as well as for the communities of each state.

A large portion of funding for higher education is provided by states, which have limited ability to generate resources. According to the National Center for Education Statistics (NCES) (2019) state budgets have faced more demands with fewer resources in the last decade as educational costs and economic volatility have both increased. In addition to economic volatility, there is increased mobility of citizens between states, impacting the tax base upon which states can generate revenue. When citizens leave a state, the state has less tax revenue to spend on important initiatives like education. When you couple the irregular access to resources and legislators' regrettable views of higher education as a peripheral state priority, we are left with inadequate funding in our education system, preventing institutions of higher education from having a chance at improved educational opportunity and equity.

Effects of Inadequate Education Funding on Students and Communities

From a student perspective, funding determines how much of the financial burden of college is borne by the student, impacting who has access to college at all (Mitchell et al., 2019). When a larger portion of the burden of higher education is placed on students, those students without financial means may be unable to attend college, worsening equity in our communities. Because debt is the key mechanism of financing college education for black students, any shift in resource acquisition from state-appropriated to tuition-based results in less equitable access to

education or increased debt upon completion (Brown, 2021). It is inadequate funding, then, that leads to worsening equity in higher education access.

From a community perspective, robustly funding higher education leads to a well-educated, highly skilled citizenry, leading to economic growth and reduced unemployment (Esmail, 2019). Human development gains include innovation, entrepreneurship, and creative problem solving. Overall productivity of communities is increased when universities work well within their communities. There are also fewer citizens leaving communities and states where productivity is high. “Households move to states with greater opportunities, and those states with greater levels of economic freedom have greater opportunities” (Shumway & Davis, 2015, p. 397).

Inadequate Funding at Historically Black Colleges and Universities

While inadequate state funding is problematic across the country and most institutions of higher education, it has been particularly harmful at institutions serving primarily minority students. Recently, several historically black colleges and universities have won lawsuits, demanding the repayment of millions of state funding dollars that were not appropriately given to them, going all the way back to the 1950’s. Tennessee State University, a historically black university, should have received almost \$600 million in state funding over the course of nearly 80 years. Tennessee’s state government adequately funded the University of Tennessee, but it did not do the same for Tennessee State University. It is hard to explain the lack of state funding for a historically black university when its predominantly white counterpart received the funding it was entitled to without concluding the state’s lack of concern for equity.

This lack of adequate funding is not an isolated incident in Tennessee or for historically black colleges and universities; however, lack of adequate funding at historically black colleges

and universities illustrates the impact of inadequate resources on higher. Lack of funding has resulted in fewer scholarships and unlivable conditions in dormitories, both of which lead to significant barriers to college for students of color. It also makes it harder for these colleges and universities to recruit and retain high quality faculty (Smith, 2021). Even though funding is looking to increase through lawsuits, it will take many years for the decades of underfunding to stabilize.

Call to Action

Adequate and equitable funding for higher education should be a top national priority. It supports economic prosperity. Some research has viewed higher education funding as a regressive transfer of wealth because primarily wealthy students attend college (Ansell, 2010); however, if college were truly affordable, the regressive nature of this transfer would diminish and allow for equitable access for all students. It is in students' best interests and our communities' best interests to adequately fund higher education and priorities equity in doing so. The following recommendations to policy can help achieve adequate, equitable higher education funding:

- States should make a longer-term commitment to higher education funding as part of its constitution, similarly to what is promised to citizens regarding K-12 education.
- States should partner with institutions of higher education to better communicate economic and employment needs of the state with university course, certificate, and major program offerings.
- Universities should cap tuition for blocks of time to provide stability to entering students.

- States should develop scholarships and grants for students who are likely to be priced out of higher education due to tuition costs.
- States should monitor changes in tax resources, especially in-migration when the state's resources are increasing.

“The progressivity of education depends entirely on who actually receives that education” (Ansell, 2010, p. 3) and whether funding for schools is adequate to meet basic institutional needs. As Collins (2021) wrote, education is a proxy for skills and competency; if education access is given only to a narrow group, it furthers disparity in all areas of society. States should prioritize higher education to help all students and communities achieve educational adequacy and equity.

SECTION FIVE:
CONTRIBUTION TO SCHOLARSHIP

Target Journal and Rational for this Target

At the time of defense of this dissertation, the researcher plans to submit a manuscript to the *Education Policy* journal, an interdisciplinary journal that combines education, policymaking, research, economics, and politics to publish new ideas in the field of education policy. The researcher chose to target *Education Policy* because the journal includes focus on K-12 and higher education research. The journal includes research on policy decisions that consider a variety of policy issues. This journal connects education research with practical implications of this research, making its list of stakeholders extensive, including educators, policy makers, and academic researchers. Because this research is multi-disciplinary – including analysis through educational, economic, and political lenses – a journal with a multi-faceted approach is appropriate.

State-to-State Migration and its Relationship with State Funding for Education

Education has famously been called the great equalizer (Duncan, 2016), but the current educational system in the United States “increasingly resembles a caste system” (Mettler, 2014, p. 5), separating citizens “by income group rather than providing them with ladders of opportunity” (p. 8). How can this be? “The progressivity of education depends entirely on who actually receives that education” (Ansell, 2010, p. 3) and whether funding for schools is enough to meet basic demands, such as staffing classrooms (Black, 2020). State funding for higher education has decreased 13% on average between 2008 and 2018 (Mitchell et al., 2019). Spending for K-12 education varies widely by state; for 2019 per pupil spending ranged from \$25,139 to \$7,985 in New York and Idaho, respectively (U.S. Census Bureau, 2019). How can we rely on education to be an equalizer when the resources that make it possible are so unequal, and further, what drives these funding differences in spending on K-20 education?

Research has concluded that funding matters (Baker, 2016; Mitchell et al., 2019; Tandberg & Laderman, 2018). K-12 educational funding allows for the hiring and retention of quality teachers, purchase of current technology, building and maintenance of infrastructure, and development of enrichment experiences for students (Baker, 2016); however, the complexity of K-12 funding – where resources come from multiple funding streams – can create a system of “unequalization aid,” (Baker, 2018, p. 128) where affluent schools have more funding that required and other districts not enough. For higher education, funding determines how much of the financial burden of college is borne by the student, impacting who has access at all (Mitchell et al., 2019). When a larger portion of the burden of higher education is placed on students, those students without financial means may be unable to attend college. “Debt is the key mechanism of financing college education for black students” (Brown, 2021, p. 112). As such, any shift in

resource acquisition from state-appropriated to tuition-based results in less equitable access to education or increased debt upon completion.

A large portion of funding for K-20 education is provided by states (National Center for Education Statistics, 2019; U.S. Census Bureau, 2019), and those states have limited ability to generate resources. According to the National Center for Education Statistics (NCES) (2019) state budgets have faced more demands with fewer resources in the last decade as educational costs have increased. In 2019, states supplied an average of 47% of funding for K-12 schools (The Peterson Foundation, 2021); however, state support can be “particularly volatile throughout recessions” (para. 17). Although society knows that funding for education is important, there are differences in how states fund K-12 and higher education. States have different political climates, economic conditions, and other factors that impact how the state chooses to allocate its scarce financial resources among many competing needs. This paper examined migration as a driver of state education funding allocation to better understand how to make the equalizer work more equally, and equitably, for students.

The purpose of this study was to determine whether in-migration and out-migration of tax base into and out of states impacted how states choose to fund K-12 and higher education. According to previous research, states have varying characteristics – political, economic, and other – that influence higher education spending (Dar, 2012; Dunn, 2015; Tandberg, 2009, 2010; Titus, 2009). This study aimed to control for some of those known influencing variables altogether and examined migration’s impact specifically.

Because states act as the “primary political division for the distribution of socioeconomic and educational resources”(Jang & Reardon, 2019, p. 1), citizens depend on the allocation of resources for the programs they utilize. In addition, “states can vary in their expenditure patterns

for a variety of reasons including history, preferences, and geography as well as economics and demographics” (Gordon et al., 2016, p. 35); there are differences in tolerance for state taxes and varying priorities for public spending, which could lead to divergence in educational funding sources. Even though there is evidence that funding promotes better educational outcomes (Baker, 2016; Jackson, 2018; Tandberg & Laderman, 2018), education continues to face budget cuts (Mitchell et al., 2019), which will put pressure on state budgets and programs (National Association of State Budget Officers, 2020).

This study aimed to determine if there was a link between in-migration and out-migration and funding for both K-12 and higher education and asked whether there a relationship among funding sources for education, as measured by higher education state appropriations and K-12 per pupil spending, and migration. Migration is important because individuals relocating from one state to another impact the state budgets through income tax, property tax, and other revenue sources (e.g. charitable donations). Dadayan and Zwiefel (2020) discuss how losing a single, ultra-wealthy taxpayer has caused state budget offices to worry “about losing substantial tax revenue” (para. 5). This study examined whether these state factors led to inconsistent state support for K-20 education. Ultimately, this study is significant because it determined whether movement in the tax base affected funding decisions for higher education and K-12 education. Because funding was affected, policymakers could choose different courses of action that incentivize taxpayers to stay in the state within which they currently reside. This study controlled for variables found to be significant in other studies; it also considered political, economic, and other factors found important for understanding higher education funding and determined whether they were also important for K-12 state funding. Jang and Reardon (2019) express the

importance of examining the context at the state level and its impact on disparities in educational outcomes.

Literature Review

This section describes how research has led to the question posed by this study. First, research has shown that funding matters for student education outcomes, resulting both improved attainment and performance. In addition, at the higher education level, educational funding from states promotes more equitable access to college. Second, states approach funding differently, depending on their own economic and political factors. Finally, the gaps that exist in this area of research are discussed to frame the need for the current study.

Funding Matters for Student Outcomes and is Scarce at the State Level

Recent educational researchers have concluded that funding for K-12 education improves equity (Wong, 1999), reduces the student drop-out rate (Loeb & Page, 2000), and improves student performance that persists into later grades (Mosteller, 1995). In a study by Jackson et al. (2016) the researchers found that “spending increases improve children’s long-run outcomes” (p. 35) and “the estimated effect of a 22.7 percent increase in per-pupil spending throughout all 12 school-age years for low-income children is large enough to eliminate the education gap between children from low-income and non-poor families” (p. 26). Funding for higher education puts less financial burden on students, allowing a wider group of students to access higher education (Mitchell et al., 2019; Tandberg & Laderman, 2018).

Even though it is now more commonly accepted that education funding improves student outcomes, state appropriations for higher education have fallen as a percentage of personal income and relative to overall state spending since 1977 (Kane et al., 2016). School districts face similar funding challenges with lagging recovery in times of economic downturn (Ellerson,

2015). Because we know that spending impacts student outcomes, and the strategic placement of financial resources in K-12 education may serve as the best way to redistribute wealth (Wong, 1999).

States Make Funding Decisions Based on Political, Economic, and Other Variables

State budgeting preferences vary due to cultural, economic, and demographic differences among states, which impact allocation decisions (Gordon et al., 2016). Various studies examined which state factors have a relationship with state funding of education, focusing primarily on higher education rather than K-12. The studies mentioned below each chose a blend of possible predictor variables – political, economic, and other – to examine a relationship with some dependent variable set to measure state support for higher education: share of general fund expenditures, spending, bachelor’s degrees, and state appropriations.

Both of Tandberg’s (2009, 2010) studies focused on political factors as drivers of higher education support, including political party of the governor and the existence of a uni-party legislature at the state level. He found that such political characteristics do have a significant relationship with higher education support. He writes, “variation in the state political context results in variation in state funding for higher education” (Tandberg, 2010, p. 434).

Research has also found that state economic factors impact state funding for education. Unemployment was a significant factor for higher education state appropriations (Dunn, 2015; Tandberg, 2009), higher education’s share of state general fund expenditures (Tandberg, 2010), higher education spending (Dar, 2012), and higher education bachelor’s degrees (Titus, 2009). Several studies also considered the size of the private higher education market as a factor in state support of higher education (Dunn, 2015; Tandberg, 2009, 2010). Tandberg (2009, 2010) found both the gross state product (GSP) and Gini coefficient to be significant in his studies, showing

the value of work generated by the state and the inequality present in the state affect support for higher education. This research shows the importance of economic factors within a state in determining state support for higher education, although the studies mentioned here do not perform the same analysis on K-12 state support.

Other state factors have also been researched and found to be significant. Okunade (2004) and Li (2017) found conflicting outcomes regarding the impact of geographic region on education spending. Tandberg (2009, 2010) and Dar (2012) both found an inverse relationship between tuition and state support for higher education. Tandberg (2009, 2010) found a significant relationship between state spending on Medicaid and higher education spending; Titus (2009) found a significant relationship between state spending on other programs, public welfare and corrections, and bachelor's degrees awarded. Finally, Titus used K-12 spending as a predictor variable in their study of bachelor's degrees. Titus found K-12 spending is not a significant predictor of state support for higher education, arguing K-12 and higher education are not competing for state resources; this finding conflicts with Rizzo's (2006) findings, which leaves unanswered questions regarding the relationship between funding for higher education and K-12.

Gap in Literature

While a relationship between higher education state appropriations and various political, economic, and other factors has been established during periods of time before 2012 (Dar, 2012; Dunn, 2015; Tandberg, 2009, 2010; Titus, 2009), there has not been a study since, and none includes combined analysis of proposed variables and K-12 per pupil spending as measures of state education funding. In addition, this study considered both in-migration and out-migration as possible drivers of changes in funding because the geographic relocation of wealthy taxpayers

can “poke a hole in a state budget” (Dadayan & Zwiefel, 2020, para. 5), thus impacting how the state chooses to allocate funding. Dunn (2015) studied the role of out-migration on state funding for higher education; the current study examined data from 2012 – 2018 and determined whether there was a relationship between in-migration and out-migration from state to state and state spending on higher education. This analysis also included consideration of K-12 funding.

Theoretical Framework

This study used principal-agent theory and decision-output theory and considered the relationship between migration and K-20 state funding. Principal-agent theory was appropriate because it considers the complex information and asymmetry between state legislators and citizens, as well as the possible conflict of interest that legislators may have. If funding education does not serve them, the legislators may choose to fund other initiatives. With that, decision-output theory was important because it brings in the concept of scarcity. Without scarcity of financial resources, legislative decisions on funding would not be as consequential; however, because financial resources in states are limited, migration may be a key element to resource allocation.

Principal-Agent Theory

While Tandberg (2009) examined the political environment of state funding for higher education in the context of “political actors, while seeking their own self-interest being driven to make funding decisions, this study will use the concept of principal-agent theory” (p. 419). It is that power dynamic between citizens (who elect officials, pay taxes, and need government services) and the elected officials (who decide how tax dollars will be spent) that necessitates the lens of principal-agent theory. Principal-agent theory considers situations where one party, the agent, has power to affect the other party, the principal, through contractual, societal, or other

arrangements (Moe, 1984). Moe (1984) used principal-agent theory and its two tenets – information asymmetry and goal conflict – to analyze various relationships where the agent may act in self-interest rather than in the interest of the principal.

This study used principal-agent theory in that citizens pay taxes and benefit from the services their taxes provide; however, it is the elected officials who make decisions on allocation, and states pursue different approaches to allocation of resources. This study utilizes principal-agent theory because the citizens depend on state officials to act in their interests in allocating funding for education. In addition, the information asymmetry between principal and agent was high in this study because of the nature of bureaucracy and lack of transparency of decision making in government (Reck et al., 2016).

Decision-Output Theory

The second theory that informed this study was decision-output theory, which states that inputs into a system determine the outputs of the system (Easton, 1957). The system to which Easton refers is a political one, where the demands for resources exceed the supply of the resources (Iannaccone & Lutz, 1994). Decision-output theory considers the element of scarcity and the resulting discontent that ensues when the public policies and programs are not in line with the citizens demands for them (Wirt & Kirst, 1982). There are limited resources available to distribute, a near-infinite desire for the resources, and a political process within which allocation decisions are made.

In the context of the current study, decision-output theory provided the environmental lens within which decisions are made. State budgets are under pressure because of the scarcity of resources raised from tax revenue and other sources. Decision makers at the state level exist in an environment of political pressure, as well. Interest groups, wealthy individuals, corporations,

and majority rule play a powerful role in incentivizing elected officials to pursue some policies over others. The system in which the legislators operate is politically charged with consequences for the decision-maker; if donor projects are not funded adequately, the elected official may lose support from that donor. State officials are not simply funding what they believe to be the highest priority programs for their citizens; they must also consider the political repercussions for the decisions they make.

Overlap of Principal-Agent Theory and Decision-Output Theory

This study used both principal-agent theory and decision-output theory as the relevant theories when examining funding for K-12 and higher education, both forms of political economic theory. Principal-agent theory considers the complexity of information asymmetry between citizens, or recipients of funding policies, and the government, the makers of policy. Each party, the principal and the agent, have different information about which funding will achieve desired outcomes. It also captures goal conflict between citizens and elected officials in that each party may have competing preferences or needs for how funding is allocated. This idea of information asymmetry relates to the current study where the citizenry do not have the same information about budgeting priorities and processes as the elected government. In addition, there is a goal conflict dilemma because the priorities of the elected officials, and even other citizens, may not align some citizens' spending preferences. Principal-agent theory entertains the notion that the elected officials of a state may act in their own interest, rather than in the interest of the citizens they serve when allocating funds.

Decision-output theory incorporates the context of scarcity of resources (inputs) and the policies that come (outputs) from funding allocation decisions. In the current study, the element of finite resources is key to understanding the funding allocation decision at the state level. If

revenue was infinite, K-12 and higher education could both be adequately funded in each state. Because resources are scarce, the allocation decision occurs between many worthy state priorities. The additional layer to add is that there is a near-infinite need for the resources, further pressuring the allocation decision. Citizens have important needs – healthcare, education, housing – that consume state resources. There is never enough to cover all the citizens’ needs. decision-output theory frames this scarcity issue and couples it with the demand from citizens to fund important priorities.

Empirical Methods

This study examined the relationship between state-to-state migration and state education funding, using quantitative regression analysis. A quantitative study was appropriate in this case because the data was numerical in nature and resulted in a “true or false” (Mertens, 2020, p. 128) answer on the presence of a link between migration and education funding measures. Regression was the appropriate statistical tool since the research question asks if a group of variables can predict an outcome variable; multi-variate linear regression will determine how well the outcome can be predicted from the variable inputs (Field, 2018).

Data

The setting for the study was in the United States and included states as research participants. Independent variables came from a variety of publicly available sources for 2013 – 2018. Internal Revenue Service (IRS) migration data (2019) was used to gather data on migrants entering and leaving each state and adjusted gross income entering and leaving each state. Because income taxes from citizens are a main source of tax revenue for a state (Gordon, et al., 2016), it was important to consider the dollar amount of income entering and leaving each state as a determinant of resources for the state budget. Previous research by Tandberg (2010) used

gross state product as a measure of state resources; this study used adjusted gross income because it more closely reflected the tax base upon which states generate tax revenues from individuals.

Other independent variables controlled for: Republican political party control of the state legislature or governorship (Ballotpedia, n.d.), size of the private higher education market for each state (National Center for Education Statistics, 2020), state unemployment (U.S. Bureau of Labor Statistics, 2021), the age of each state population (Kaiser Family Foundation, 2018), educational attainment by state (The National Center for Higher Education Management Systems, 2022), income per capita by state (Bureau of Economic Analysis, n.d.), higher education enrollment by state (National Center for Education Statistics, 2020), and K-12 enrollment (U.S. Census Bureau, 2019).

The dependent variables for the study were the measures of state educational funding: K-12 per pupil spending (U.S. Census Bureau, 2019) and higher education state appropriations (National Center for Education Statistics, 2019), both measured one year after the other variables. All variables are listed in Table 1 below.

The dataset consisted of 306 observations of panel data; each state, including the District of Columbia, was included in the dataset six times for years 2013 – 2018. To run a regression that can hold constant factors not included in the independent variables but that are present in each state, dummy variables were created for each state, which resulted in a fixed effect analysis (Tandberg, 2010).

Data Analysis

Descriptive Statistics

Descriptive statistics showed initial distributions of variables and helped assess assumptions required for linear regression analysis; descriptive statistics for all variables are shown in Table 1. Descriptive statistics also showed skewness and kurtosis; both dependent variables show right skewness, or data that is clustered on the left side of the graph. Normality will be shown by the Kolmogorov-Smirnov statistic; this data showed a violation of normality, which is “quite common in larger samples” and in social sciences research (Pallant, 2013, p. 66). This data represented the entire population, so outliers were not removed from the dataset.

Table 1*Descriptive Statistics of Variables*

Variable (<i>n</i> = 306)	Minimum	Maximum	Mean	Std. Deviation
Adjusted Gross Income Out Per Migrant (dollars)	20,282.23	72,629.58	34,148.40	9,223.37
Adjusted Gross Income In Per Migrant (dollars)	20,234.59	61,951.65	33,959.77	8,280.35
Unemployment (percentage of those unemployed)	2.36	9.43	5.07	1.52
Income Per Capita (dollars)	34,222.00	80,342.00	48,539.77	8,489.26
Percentage Population 65+ (percentage of population)	0.0940	0.2060	0.1537	0.0199
Percentage Population Diploma or Equivalent (percentage of population)	84.7800	96.5700	90.9292	2.5332
Percentage of Private Higher Education Market (percentage of higher education market)	0.0190	0.9494	0.2868	0.1689
Republican Control (dummy variable)	0	1	0.725	0.447
Exemptions In as a Percentage of Total Exemptions (people coming in as a percentage of total people)	0.0037	0.6681	0.0390	0.0592
Exemptions In as a Percentage of Total Exemptions (people going out as a percentage of total people)	0.0101	0.1019	0.0314	0.0140
Higher Education Enrollment (students)	5,802.00	3,050,029.00	381,448.96	489,418.83
K 12 Enrollment (students)	78,153.00	6,312,623.00	989,365.04	1,170,602.58
Higher Education State Appropriations Per Student (1-year lag) (dollars)	107.01	15,340.06	4,028.55	2,017.57
K 12 Per Pupil Spending (1-year lag) (dollars)	6,499.93	25,139.20	9,223.37	3,673.95

Note. This table shows the minimum, maximum, mean, and standard deviations for all variables in the current study.

Descriptive Analysis of Correlations

Correlation analysis was used to determine if there are any strong relationships among variables to be used in the regression. Table 2 shows the Pearson correlation coefficient for each

variable relationship, with the strongest relationships between a) educational attainment (the percentage of the population with a high school diploma or equivalent) and unemployment, and b) educational attainment and income per capita. Enrollment is also considered for both K-12 and higher education, although they are only present in their respective models. None of the correlations are so high that they warrant removal from the regression model.

Table 2*Correlations of Variables*

	Unemployment	Income Per Capita	Percentage Population 65+	Percentage Population Diploma or Equivalent	Percentage of Private Higher Education Market	Republican Control	Exemptions Out as a Percentage of Total Exemptions	Exemptions In as a Percentage of Total Exemptions	Higher Education Enrollment	K12 Enrollment
Unemployment	1									
Income Per Capita	-.232**	1								
Percentage Population 65+	-.300**	-.131*	1							
Percentage Population Diploma or Equivalent	-.576**	.519**	.235**	1						
Percentage of Private Higher Education Market	0.025	.376**	0.089	.263**	1					
Republican Control	-.166**	-.401**	0.063	-.119*	-.275**	1				
Exemptions In as a Percentage of Total Exemptions	-0.037	0.109	-0.079	0.056	0.051	0.043	1			
Exemptions Out as a Percentage of Total Exemptions	-0.047	.226**	-.134*	0.094	.133*	-0.11	.235**	1		
Higher Education Enrollment	.154**	0.059	-.188**	-.338**	-.133*	-0.093	-0.051	-.339**	1	
K12 Enrollment	.155**	0.073	-.195**	-.342**	-0.11	-0.059	-0.056	-.352**	.984**	1

Note. Levels of significance: *** 1%; ** 5%; * 10%.

Multiple Linear Regression

This study used regression to examine the factors that influence education funding sources. Important influences were shown when an independent variable had a statistical significance less than 0.05. Multiple regression analyses was run and determined which model had the best fit with the data. Independence was assessed to ensure the statistical analysis was appropriate for this data (Field, 2018). To be independent, observations “must not be influenced by any other observation or measurement” (Pallant, 2013, p. 130); in this study, there was not

concern about independence because the observations were on a state-by-state basis, and thus not dependent on other observations.

Multiple linear regression analysis was used to observe the relationship between the dependent variables of interest – K-12 per pupil spending and higher education state appropriations – and the independent variables. This approach should be used to look at relationships between a dependent variable and one or more predictor variables (Field, 2018).

Limitations

This study's biggest limitation was that there are many variables impact differences in state spending that are not captured in the study. In addition, future studies of this nature could examine state budgets more holistically by including other sources of revenue, such as property tax and corporate taxes (Gordon et al., 2016). This study used individual income tax information, but state budgets are largely funded by other tax revenue sources.

Additionally, this study took place with data from 2012 – 2018; the pandemic of 2020 has significantly changed the way people work and allowed for more mobilization of the workforce (Zaretsky, 2021). It is possible that findings for this study would change with data that includes 2020 and 2021 migration.

Results

The results of the study are presented below, starting first with in- and out-migration's relationship with K-12 per pupil spending and then higher education state appropriations. Table 3 details the coefficients, t-statistics, and p-values for each of the variables considered in the regression analysis.

K-12

To expand previously conducted research, this study included an analysis of K-12 per pupil spending, using the same model as outlined above. The regression analysis found no statistically significant relationship between migration – AGI entering a state or AGI leaving a state – and state spending on K-12 education per pupil one year later at the 1%, 5%, or 10% significance levels. The relationship between K-12 funding and state tax base behaved differently than the relationship between higher education funding and state tax base. In these regressions, income per capita and K-12 enrollment were significant variables included in the model.

Higher Education

The results of the regression analysis for higher education funding as related to out-migration can be found in Table 3. Keeping with previous research, namely Dunn (2015), higher education appropriations for the year after migration showed a significant relationship at the one percent significance level with adjusted gross income out of a state (out-migration of income). Therefore, when states lose tax base due to citizens leaving the state, there was an inverse relationship with the following year's state appropriations for higher education. This aligns with Dunn's findings from previous data, which show "increased outmigration in general is associated with a reduction in public higher education funding" (p. 245). For every dollar of AGI that leaves a state per migrant, state appropriations for higher education shrinks the following year by \$0.035. In this model, R^2 had a value of .974; income per capita, percentage of population over 65 years old, size of the private higher education market, and higher education enrollment were also significant variables.

In-migration, which was not studied by Dunn (2015), also showed a significant relationship at the five percent significance level with higher education state appropriations the

year after migration. When states experience a higher tax base, there is an inverse relationship with the following year's state appropriations for higher education. For every dollar of AGI that enters a state per migrant, state appropriations for higher education shrinks the following year by \$0.023. In this model, R^2 had a value of .974; income per capita, percentage of population over 65 years old, size of the private higher education market, exemptions into a state, and higher education enrollment were also significant variables.

Table 3*Regression Results*

	Dependent Variable: Higher Education State Appropriations Per Migrant (measured one year later)		Dependent Variable: K-12 Per Pupil Spending (measured one year later)	
	Adjusted Gross Income Out	Adjusted Gross Income In	Adjusted Gross Income Out	Adjusted Gross Income In
Adjusted Gross Income Out Per Migrant	-.035*** (-3.32)	NA	.002 (.125)	NA
Adjusted Gross Income In Per Migrant	NA	-0.023** (-2.015)	NA	.004 (.247)
Unemployment	0.777 (-.021)	-25.374 (-.682)	25.63 (.551)	10.561 (.223)
Income Per Capita	.135*** (7.431)	.141*** (7.818)	.197*** (8.661)	.201*** (8.785)
Percentage Population 65+	-30,749.402*** (-3.462)	-22,171.02** (-2.465)	-13,712.706 (-1.228)	-10,888.706 (-.957)
Percentage Population Diploma or Equivalent	4.166 (.17)	6.075 (.251)	28.116 (.917)	30.578 (1.002)
Percentage of Private Higher Education Market	-2,862.288*** (-4.719)	-2,297.8*** (-3.645)	1,213.08 (1.457)	1,426.088* (1.678)
Republican Control	-71.66 (-.813)	-99.372 (-1.141)	157.945 (1.437)	150.749 (1.38)
Exemptions Out as a Percentage of Total Exemptions	348.516 (.728)	NA	-91.188 (-.151)	NA
Exemptions In as a Percentage of Total Exemptions	NA	-26,864.99*** (-3.791)	NA	-14,068.657 (-1.542)
Higher Education Enrollment	-.006*** (-7.344)	-.005*** (-6.285)	NA	NA
K12 Enrollment	NA	NA	-.005*** (7.187)	-.005*** (-6.547)

Note. *T*-statistics reported in parentheses. Levels of significance (p-value): *** 1%; ** 5%; * 10%.

Discussion

This paper focused on the relationship between out-migration of tax base and in-migration of tax base with K-12 per pupil spending and higher education state appropriations, both measured one year later. The data for this analysis spanned from 2013 – 2018, considering a period after the Great Recession of 2008 and recovery period. The results from this research show that higher education appropriations had a significant relationship with both out- and in-migration of the tax base. The results also show that there is not a significant relationship with K-12 per pupil spending and either out- or in-migration of the tax base. The following section will discuss the results and the possible reasons for differences between higher education and K-12.

Higher Education

State funding of higher education is impacted by 1) the fact that states are required to balance their annual budgets, so they cannot spend more than the state expects to collect in tax revenues each year, and 2) institutions of higher education can make up lost funding through increases in tuition. States are not able to fund any initiatives over and above what resources the state has for the year, so when the revenues generated from personal income taxes decline due to migration, the state has fewer resources from which to allocate. Additionally, tuition is another means by which higher education institutions can make up for any shortfalls in funding; when states cut resources to higher education, these institutions can raise tuition to avoid cutting services. These two reasons help explain why out-migration of tax base showed a significant relationship with state appropriations for higher education. When states face worse times, they cut funding for higher education (Delaney & Doyle, 2011).

When considering these results and principal-agent theory, it is clear that lawmakers are reacting to declines in state tax bases by adjusting funding for what they might find to be a

discretionary expense. Those who allocate state resources likely weigh “the degree to which state policymakers believe they will benefit from their investment higher education” (Delaney & Doyle, 2011, p. 348). If lawmakers do not expect to be rewarded with reelection or other incentives for funding higher education, they are likely to stop funding it in times of financial stress.

In-migration also had a significant inverse relationship with higher education state appropriations. When states have excess resources, they are not increasing funding for higher education. It is possible that the lack of increase in higher education comes from the general movement for states to decrease support for higher education (Mitchell et al., 2019), or it could be related to the aforementioned principal-agent theory, where lawmakers are looking for the benefits they will receive from investment in initiatives. If higher education investment is not rewarded, they may choose not to increase its funding. These findings affirm concepts of decision-output theory, showing reduction in funding for higher education when resources become scarcer.

The following recommendations to policy can help achieve adequate, equitable higher education funding:

- States should make a longer-term commitment to higher education funding as part of its constitution, similarly to what is promised to citizens regarding K-12 education.
- States should partner with institutions of higher education to better communicate economic and employment needs of the state with university course, certificate, and major program offerings.

- Universities should cap tuition for blocks of time to provide stability to entering students.
- States should develop scholarships and grants for students who are likely to be priced out of higher education due to tuition costs.
- States should monitor changes in tax resources, especially in-migration when the state's resources are increasing.

“The progressivity of education depends entirely on who actually receives that education” (Ansell, 2010, p. 3) and whether funding for schools is adequate to meet basic institutional needs. As Collins (2021) wrote, education is a proxy for skills and competency; if education access is given only to a narrow group, it furthers disparity in all areas of society. States should prioritize higher education to help all students and communities achieve educational adequacy and equity.

K-12

The findings of this study show that K-12 funding is not sensitive to migration from state-to-state in the same way higher education is. State funding for K-12 education is constitutionally mandated by states; as such, it is not sensitive to the availability of funding. It is also clear that state support for K-12 education varies across states:

Per-student spending ranges widely from state to state and varies considerably from year to year, depending on property values, tax revenues, budgetary constraints, and political conditions. A highly complex and chaotic school finance system leaves thousands of schools with inadequate resources and millions of students with insufficient opportunities to learn (Lieberman, 2021, n.p.).

States are required to fund K-12 education at a baseline level, although this baseline formula is different in each state, which explains why the findings show no significant relationship between in- and out-migration and K-12 per pupil spending. It appears state funding for K-12 education depends on other variables rather than in- and out-migration of tax base. In addition, unlike higher education, K-12 institutions do not have the ability to turn to tuition as an alternate means of funding.

Principal-agent theory and decision-output theory may not be as strong regarding K-12 funding because citizens demand a baseline amount of funding for K-12 education. Lawmakers are unable to react to tax base changes – either in- or out-migration – because of the stability necessary for a successful K-12 program.

Individual student benefits of funding K-12 education have been shown from studies demonstrating a positive relationship between funding and years of education completed and wage potential (Jackson et al., 2016). While this study did not find a significant relationship between migration and K-12 state funding, it is worth reiterating the importance of this funding and its stability for student success. Huge variation in per pupil spending exists between states, resulting in inequitable education experiences for K-12 students. One recommendation from this research includes a thorough examination and publication of K-12 state per pupil spending, with particular emphasis on equity of spending between states. While our federalist system of government precludes mandating equitable spending on K-12 across all states, citizens may use knowledge of disparities between states to make choices for their families. The federal government could also become a stopgap to provide funding for states that do not currently allocate adequate resources to fund K-12 education at the same level as other states.

Implications for Research

This study extends our understanding of the drivers of funding in K-12 and higher education. Previous scholarship has highlighted the importance of funding for educational outcomes in K-12 (Baker, 2016; Jackson, 2018) and for access to higher education institutions (Mitchell et al., 2019; Tandberg & Laderman, 2018). Previous literature has also emphasized the importance of political and economic state characteristics when predicting state support for higher education (Dar, 2012; Dunn, 2015; Tandberg, 2009, 2010; Titus, 2009). This study's significance comes from analysis of migration as a predictor, as well as its examination of K-12 state support.

Implications for Practice

Understanding drivers of educational funding can help policy makers and the public consistently demand adequate funding for education in their state and country. This study could illustrate the differences in funding sources between states, outlining disparities in educational experiences by students who reside in different states. While causation cannot be proven from this study, relationships can be linked which might impact policy decisions about education funding (tied to geography or other factors) and incentives for or against migration. For example, if citizen relocation affects spending for education, states may enact policies – like reduced taxes – to stem citizen migration and maintain their tax base. Such knowledge may impact election decisions and citizen involvement in government action. It is also possible that citizens may have little tolerance for disparities in educational opportunities among states, and they prefer more consistent policies. “Solving these interstate disparities will require a much larger federal role – one that involves substantial increases in federal aid coupled requirements that states provide their fair share of revenue to support adequate public schooling” (Baker et al., 2020, p. 19). It is

important that all citizens have access to quality K-12 education and the ability to pursue higher education as the work force becomes more skilled.

Recommendations for Future Studies

Future research should explore the differences between states who fund higher education and K-12 education primarily through state income tax, state property tax, or other business taxes. This study only examined a small portion – the results of individual migration from state to state – as a measure of state resource shifts. However, states receive resources through various forms of taxation, and further research may identify differences in K-20 funding that comes from competing taxation models.

SECTION SIX:
SCHOLARLY PRACTITIONER REFLECTION

Influences on My Practice as an Educational Leader

I have always viewed myself as a life-long learner, starting with a degree in economics, pursuing a master's degree in accounting, becoming a certified public accountant, transitioning to a teaching academic, and then finding passion for educational leadership. Various topics interest me because I have an appreciation for learning and evolving over the course of a lifetime. Two major influences – authentic leadership and the importance of leaders pursuing equity – have impacted me most over the course of my time studying educational leadership. Authentic leadership speaks to me because I prefer meaningful connections with others and putting myself truly out in the world to be seen. I have also been impacted by competing power dynamics and have learned new ways to be an agent for positive change and equity with the power I possess.

Authentic Leadership

Policy analysis “is complex and often disorderly” (Fowler, 2013, p. 14) because it involves complicated problems with many stakeholders and different courses of action. Group theory states that policy is “the product of the group struggle” (Anderson, 2015, p. 21). The ability to be authentic as a leader benefits the organization in a policy analysis setting because authentic leaders are comfortable hearing other viewpoints and have built the trust necessary to explore several avenues of action.

In the world of policy analysis, the first “crucial step” (Bardach & Patashnik, 2020, p. 1) is identification of the problem because it dictates the next steps that an organization will take. Levi (2017) agrees, emphasizing that failing to understand the underlying issue is often “the biggest problem teams have” (p. 220); in the problem definition step in policy analysis, the team must be in alignment on what the problem is, and the behavioral approach to leadership states the

effectiveness of this alignment will depend on how the leader acts even more than the leader's position on issues (Northouse, 2019). Authenticity aids in problem identification because authentic leaders can "explore other people's opinions before making a decision" (Northouse, 2019, p. 204). In my practice as a member of a program policy committee for the School of Accountancy, the idea of a group struggle is real. Our mission is to analyze and re-think policies within our school and make adaptations where necessary. Frequently, there are competing stakeholders – students, faculty, staff, donors – who do not have the same goals. When we approach a policy change, we often remind ourselves of the problem we are trying to fix as we go along, making sure that listening to others' opinions.

Authenticity also has an impact on how a team's proposed policy will be received by others. When a leader is credible, the group is "receptive to the analyst's story about why its preferred alternative is superior" (Bardach & Patashnik, 2020, p. 90). A leader who has built a trusting foundation with others, open conversation and brainstorming are possible in the policy process. When a course of action has been chosen, a leader who has proven herself to be "trustworthy and believable" (Northouse, 2019, p. 207) in previous iterations of communication has established more credibility for the audience to accept the proposed course of action.

Authentic leadership comes easily to me because it is the type of leadership I like to see in those who are leading me. There are times when I have felt that authenticity was lacking in those who have led me, or that the leadership I was under had compromised values of themselves and our organization. When I worked as a financial statement auditor, I had a client who routinely displayed little self-control. He called his staff into his office, slammed the door so everyone could hear, and berated the person to whom he was speaking. The entire office suite could hear the conversation. The audit team viewed this leadership style as a financial risk for

the organization because people within the organization would be likely to hide mistakes and errors from leadership to avoid this public humiliation. If this leader had displayed an authentic leadership style, it would be more likely for the employees to display reciprocal “loyalty and commitment” (Northouse, 2019, p. 201). To continue to grow in authentic leadership, I reflect on the types of leaders I see and whether they display qualities I want to emulate. I also want to continue to get “to know others’ life stories” to increase awareness and care for “other cultures, backgrounds, and living situations” (p. 201). Considering others’ experiences and emotions, and how my actions and emotions affect others, builds emotional intelligence, leading to more authentic leadership.

Agents of Change Must Acknowledge Power Imbalances and Work Towards Equity

Power can be described as “the capacity or potential to influence” (Northouse, 2019, p. 9); “the capacity to make things happen” (Bolman & Deal, 2017, p. 186); or even “the ability to deal with the load” (Merriam & Bierema, 2014, p. 153), where the load represents various responsibilities and challenges. French and Raven (1959) explored power relationships and identified what they call bases of power. Position power comes from assignment in a position with authority and includes legitimate, reward, information, and coercive power (French & Raven, 1959). Personal power includes referent and expert power and “comes from followers” (Northouse, 2019, p. 15). While power and leadership are not the same, this understanding of power can be conceptualized as a tool for leaders to use to influence others or as a component of relationships between people (Northouse, 2019). The bases of power helped me understand the power types that exist in different types of relationships, and which are more effective under alternate circumstances.

In my practice, there are many types of power depending on the relationship being examined. First, among faculty and staff, there is a strong existence of position and reward power, as people are given authority with their job titles and are rewarded for behaving according to expectations. Second, between students and faculty, there is legitimate and expert power because students show deference to and respect the hierarchy of faculty, and faculty have influence over students' cognition (French & Raven, 1959). Third, there is also a power dynamic in the larger university context between students and administration; it is a complex relationship with various types of power: reward (the receipt of a degree), legitimate (respect for authority), and information (students are seeking information that the university controls). Finally, the power structure between the university itself and the state demonstrates yet another complicated power dynamic, mainly coercive power; the state holds funding that the university needs to pursue its mission. Actions taken by the university put the approval of the lawmakers in question. "The state, through its demand for particular outcomes... shape educational institutions" (Pusser & Marginson, 2012, p. 92). While not threatening physical harm, the state often threatens financial reductions if the university does not follow the actions deemed appropriate by the state government.

Reflecting on who has power and what type of power they possess leads to analysis of power relations. Critical theory examines this interaction, looking at "how social systems of oppression protect dominant groups" (Merriam & Bierema, 2014, p. 229). For a leader to use her power for the good of others, she must support "democratic behavior" and oppose behavior that is "damaging to democracy" (p. 230). The use of small groups, personal reflection, and modeling appropriate critical thinking for others are some ways to build a learning community with equity and power imbalance in mind (Merriam & Bierema, 2014). In my practice, the study of power

relations leads me to reflection on culturally relevant teaching; McLean (2006) recommends “we acknowledge the diversity of worldviews” and truly embrace lifelong learning ourselves (as cited in Merriam & Bierema, 2014, p. 246). Merriam and Kim (2011) emphasize holistic, lifelong, communal learning. Their research highlights those who learn to benefit their communities and improve connection with each other, over Western views on teaching and knowing.

Power imbalance drives inequity, and there are moments when I am a person who possesses power. In those moments where I am a person who holds power, such as in my classroom and within my colleague relationships, I can promote a learning culture through reflective inquiry by “asking questions that generate feedback” to “continually improve” (Gill, 2010, p. 74) parts of an organization that affect “how people think, feel, and act” (p. 5). In my practice, asking questions of others comes across as an open-minded, which “can create opportunities for unimagined initiatives to be tried” (Preskill & Brookfield, 2010, p. 25). It is not only in moments where I feel powerful and comfortable that I can affect change; all moments where there is equity imbalance should be used to further the mission of equity. Bolman and Deal (2017) argue the importance of building networks to be able to rely on the power of relationships. Listening to others, working with others, and advocating for others will be key approaches I use to further equity in education.

Influence of Dissertation on My Scholarly Practice

The dissertation has given me a greater ability to see and appreciate the full contributions academic research gives to the world. I reflect now on the process of having curiosity and asking a question, determining how the question should be approached, consulting with others who have more expertise than I do, and ultimately learning more about myself. Each of the phases adds knowledge and humility for where I am now compared to where I began the doctoral journey.

I have always been curious and asked questions because I have respect and interest in so many facets of life. In terms of the doctoral study, I quickly tried to think about the intersection of educational leadership with my other areas of interest: accounting, policy, and economics. My topic choice came from my understanding of taxation and its role in education, both at the higher education and K-12 levels. If educational institutions lack funding, they cannot do as much for students.

When I knew my question would focus on how funding changes with changes in human behavior, I considered multiple ways to approach this question. A qualitative study would include interviews and try to have a deep understanding for why people choose to relocate and why lawmakers allocate funds the way they do. Although these are both interesting offshoots, I found that a quantitative study, asking a yes or no question, was more in line with my postpositivist paradigm to discover the reality that exists in the world (Mertens, 2020).

One of the most valuable experiences while dissertating has been consulting with my advisors and others who have done extensive quantitative research. Whether from informal discussions with my colleagues to the formal mentoring I have received from my advisors, their guidance has been a lesson in transformational leadership. Their style has been one of empowerment and nurturing, creating a culture where asking questions was encouraged, accomplishments were celebrated, and trust was built (Northouse, 2019).

In the end, I also learned some about myself. While I was scaffolded with support throughout the coursework time and the process of writing my dissertation, I did have to use self-reflection to stay focused and driven to completion. Mezirow's (2009) concept of critical reflection was important for me. What is working? What is not? How can I change as a learner to

meet the moment in front of me and complete my doctorate degree? The true “emergence of self” (Mezirow, 2009, p. 25) was a part of the dissertation that I had not expected.

Conclusion

My goal, both professionally and personally, is to be a person who leaves my community better than it was before I came. As an educational leader, much of this progress comes from my belief that equity should be a top priority for actions we take as an organization, community, and world. The themes of authenticity and equity each serve a clear purpose in changing me as a leader so that my efforts to be a change agent are fruitful. I have grown in my ability to use “multiframe thinking” to move beyond “narrow, mechanical approaches for understanding organizations” (Bolman & Deal, 2017, p. 21). This growth has also expanded my view of what we consider knowing from a post-positivist, Western elitism view to a more inclusive view that values cultural contexts and avoids “posing limitations on the kind of knowledge that is constructed, accessible, and available for understanding the world” (Holmes, 2010, p. 306). My coursework has been an exercise in transformational learning and reflection. As Mezirow (2009) states, transformation occurs when one reflects on parts of her own psyche; “when entered into consciously and imaginatively, it provides a deepening awareness of the self, an expansion of one’s consciousness, and an engendering of the soul” (p. 25). The dissertation process has given me the foundation for asking and answering important questions in a systematic way and growing in how I think about solving problems. Leading others requires first that one can examine and grow from within. I am better for having learned what I have throughout my coursework, and I hope to continue this reflection to be a lifelong learner of education and leadership.

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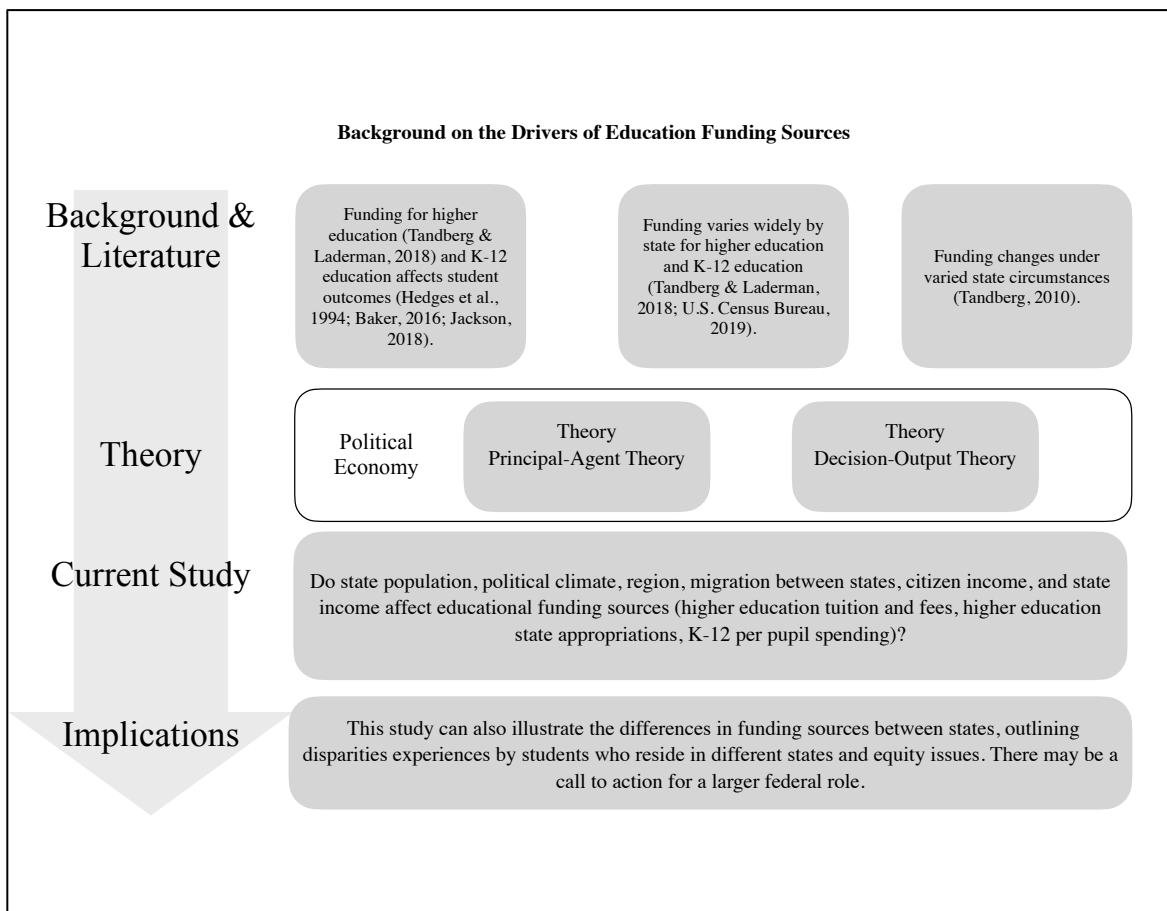
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Appendix 1

Background on the Drivers of Education Funding Sources



Note. This figure shows the background and literature, theory informing this study, the research question, and implications for the study.

Appendix 2

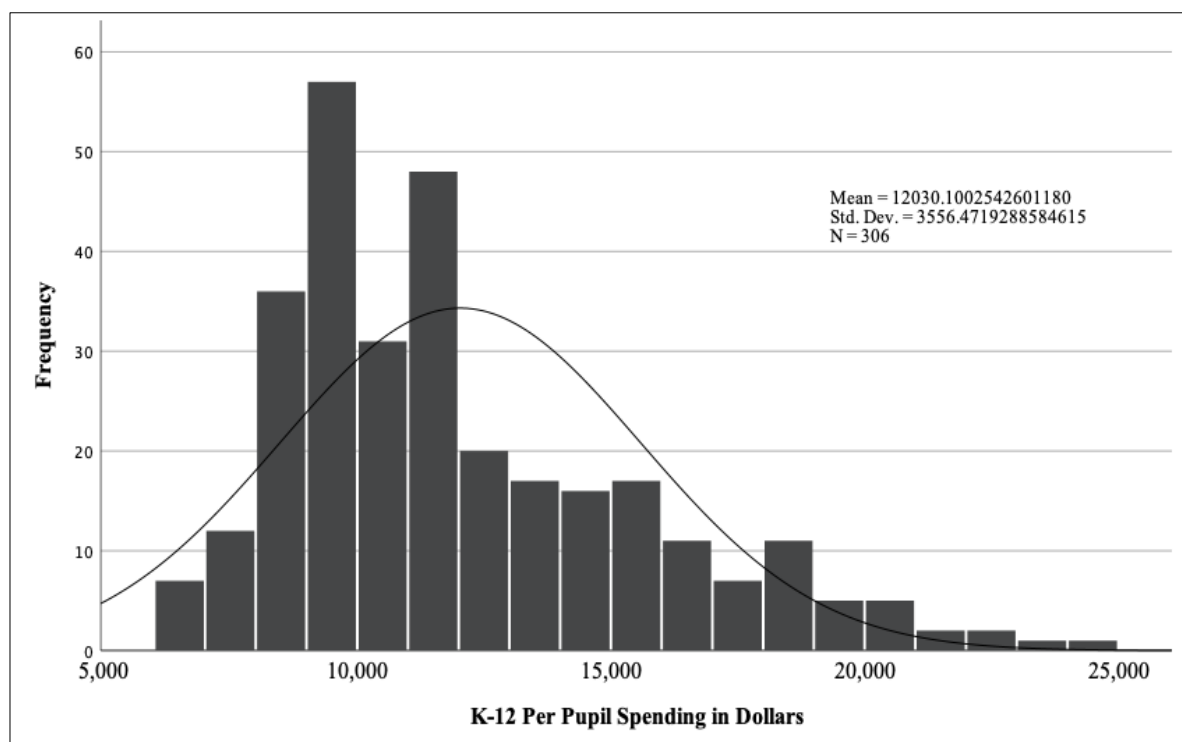
Variable Description

<i>Dependent Variables</i>			
	Variables	Description	Source
	State Appropriations (Higher Education)	measure of funding from the state	National Center for Education Statistics
	K-12 Per Pupil Spending	measure of funding from the state	United States Census Bureau
<i>Independent Variables</i>			
Category	Variables	Description	Source
Economic	Unemployment	measure of economic climate of the state	U.S. Bureau of Labor Statistics
	State Income Per Capita	measure of income per person in the state	Bureau of Economic Analysis
	Size of Private Higher Education Market	measure of market share of students choosing public versus private higher education	National Center for Education Statistics
Other	Out- and In-Migration (by AGI)	measure of tax base leaving or entering a state	SOI Tax Stats—Migration Data, Internal Revenue Service
	Exemptions Out and In	proxy for the number of people entering or leaving a state	SOI Tax Stats—Migration Data, Internal Revenue Service
	Population Age	measure of the age of the population and proximity to school years	Kaiser Family Foundation
	Educational Attainment	measure of the number of citizens with a high school diploma or equivalent	National Center for Higher Education Management Systems
	Enrollment Higher Education	measure of the number of students enrolled	National Center for Education Statistics
	Enrollment K12	measure of the number of students enrolled	United States Census Bureau
	State Spending on K-12 or Higher Education	measure of how much the state spends on other forms of education initiatives	National Center for Education Statistics, U.S. Census Bureau
Political	Republican Control	measure of political ideology and culture of citizens; states are deemed to have control when both the governor and the legislature are held by the same party; dummy variable, 1 if Republican control of either the legislature or the governorship, 2 if Republicans do not control either the legislature or governorship.	Ballotpedia

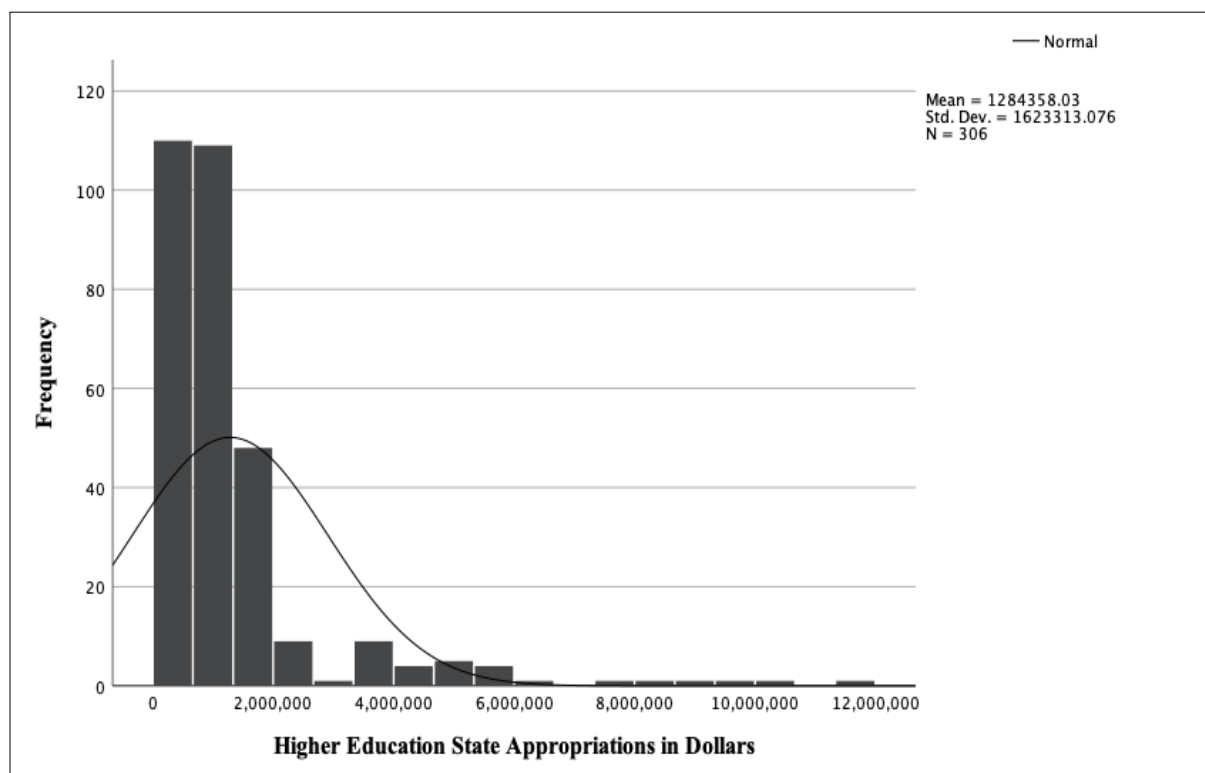
Note. This table outlines each variable, its category, a description of the variable, and the source of data.

Appendix 3

Figure 6

K-12 Per Pupil Spending Histogram

Note. This histogram shows the distribution of K-12 per pupil spending.

Figure 7*Higher Education State Appropriations Histogram*

Note. This histogram shows the distribution of higher education state appropriation funding.

Appendix 4

Key Studies of Political and Economic Variables on State Education Funding

Variables Considered	Tandberg 2009	Tandberg 2010	Dar 2012	Titus 2009	Dunn 2015	Current Study
	H Ed State Appropriations	H Ed Share of State General Fund Expenditures	H Ed Spending	H Ed Bachelors Degrees	H Ed State Appropriations	H Ed State Appropriations & K-12 Per Pupil Spending
Date of Data	1976 - 2004	1985 - 2004	1976 - 2006	1992 - 2004	1993 - 2012	2012 - 2018
Gini Coeff	x, -	x, NS				
GSP per capita	x, +	x, -				
Recession Year	x, NS	x, NS				
Unemployment	x, +	x, NS	x, -	x, -	x, -	x
% population below Pell	x, +	x, -				
% elderly	x, NS	x, NS				
% college age	x, -	x, NS				
Existence of HEd funding fomula	x, +	x, NS				
Giving to public research universities per FTE	x, NS	x, NS				
Tuition	x, -		x, -			
% enrolled in private H Ed	x, +	x, +			x, -	x
% enrolled in 2-year H Ed	x, -	x, NS				
Budgetary power of governor	x, NS	x, NS				
Citizen ideology	x, +	x, NS				
Electoral competition	x, NS	x, NS				
H Ed governance structure	x, -	x, NS				
H Ed interest ratio	x, +					
Legislative professionalism	x, +	x, +				
Party of governor	x, +	x, -				
Party of legislature	x, +	x, NS				
Political culture	x, NS	x, NS				
Term limits	x, NS	x, NS				
Unified legislative control	x, -	x, NS				
Voter turnout	x, NS	x, NS				
Medicaid spending	x, -	x, -				
Interest group density		x, -				
State H Ed Appropriations				x, +		
Per capita state expenditures K-12				x, NS		
Per capital state expenditures public welfare				x, -		
Per capita state expenditures health				x, NS		
Per capita state expenditures corrections				x, +		
Per capita state expenditures debt				x, -		
Per capita state income				x, NS	x, +	
State revenue per capita			x, NS			
Polarization			x, +			
Legislator ideology			x, NS		x, -	
Outmigration					x, -	
AGI per out-migrant					x, -	
Enrollment					x, -	
Median age					x	x
Education attainment					x, -	x
Out- and In-migration						x
State controlled by same political party						x
Income per capita					x	x
Per Pupil Spending K-12						x
Major Contribution	Various political variables impact H Ed State Appropriations	Interest group activity affects H Ed share of expenditures	The polarization of citizens impacts higher education spending.	Public welfare is in direct competition with funding for H Ed.	Outmigration is related to decreased levels of state H Ed appropriations.	Whether net migration impacts H Ed state appropriations or K-12 per pupil spending when considering other

Note. This table outlines the variables studied by other researchers related to this study. Higher Education is abbreviated H Ed. NS signifies an insignificant relationship with the dependent variable, and +/- indicates a positive or negative relationship.

VITA

Kari Gingrich, the author of this study, began her career in higher education teaching introductory accounting and economics courses at the University of Iowa. She worked for KPMG in Chicago and Des Moines as an auditor in the manufacturing sector, before relocating to Columbia with her husband and son to pursue a career in teaching at the University of Missouri, where she teaches a variety of accounting courses.

She also works as a job coach to students involved with business internships through MU's Professional Development Program, and she enjoys the opportunity to work closely with students from the Trulaske College of Business as they enter their working lives. Kari believes in giving back to the community through pro bono accounting work for not-for-profits.