Money and Matriculation: A Comparative Case Study of Lottery-Based Education Funding and Enrollment at Public Institutions of Higher Education in Georgia, Florida, and Kentucky

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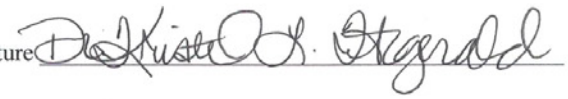
Signature 

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ABSTRACT

State lottery scholarships have become a common tool for promoting increased access to college enrollment. To research potential relationships between these scholarships and postsecondary enrollment, this case study examined eligibility requirements, distribution equity, student perceptions of scholarship sufficiency, policy modifications, and challenges to program sustainability for Georgia, Florida, and Kentucky in which lottery scholarship program histories, implementations, and successes and failures were evaluated on a state-by-state basis in an effort to address the research question of whether lottery scholarships help increase student enrollment at public institutions of higher education.

After examination of evidence and outcomes, the researcher identified several potential issues associated with lottery-funded scholarships and their goal of increasing enrollment at public institutions of higher education in Georgia, Florida, and Kentucky, due to inequitable distribution of awards, failure to index tuition increases, low retention rates of lottery scholarships, and the effects of mercurial legislative changes. Recommended solutions to address these issues included legislative changes geared toward need-based aid, policies separating and safeguarding earmarked lottery revenues for scholarships, and changing eligibility requirements.

Because of the potentially expanding gaps between income and racial groups who receive lottery scholarships, future research should concentrate on the question of whether lottery scholarship programs are accomplishing their policy goals of increasing access to postsecondary education and improving education outcomes across the broad spectrum of students.

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I: INTRODUCTION

Overview

According to the North American Association of State and Provincial Lotteries (NASPL), gross state lottery revenues in the U.S. totaled $90.5 billion in 2015, of which $23.5 billion was transferred to state and local governments to support initiatives such as education, parks, roads, public safety, and health care. Given the investment of those dollars, touted by states as significant, do students consider lottery scholarship programs to be adequate in helping fund their postsecondary education? States with established policy goals for lottery-based scholarships have cited the following as goals for these merit-based aid programs:

- Attracting and retaining the 'best and brightest';
- Increasing access to higher education by decreasing financial burden;
- Promoting and rewarding academic achievement;
- Increasing higher education enrollment rates; and;
- Improving college completion and graduation rates

(*A Comparison of States' Lottery Scholarship Programs,* 2012).

Thus, have lottery-based scholarship programs sufficiently met the identified goals above? Specifically, is lottery funding one of the primary factors driving enrollment at public institutions of higher education?

Higher education costs have continued to soar over the last few decades and students, as well as their parents, have been left to scramble to find ways of financing their education. Between academic years 2003–04 and 2013–14, prices for undergraduate tuition, fees, room, and board at public institutions rose 34%, and prices at private nonprofit institutions rose 25%, after adjustment for inflation (*Digest of Education Statistics,* 2016).

Student loan debt is a common player in education and can shackle a graduate, or worse a nongraduate, with a liability that can follow them to their grave. Poorer students have the option of need-based aid, but funding levels are not generally sufficient to cover all costs. Students from middle or upper-class families do not qualify for need-based aid, but any loans they take out are generally unsubsidized with higher interest rates. It is this scenario that precipitated the creation of many merit-based scholarships funded by lotteries, although research indicates that poorer students do not have equal access to this source of funding.

Lottery funding of educational initiatives began in the United States in 1964, a year after New Hampshire adopted the first state lottery. One by one, 43 other states followed suit, though not all of them fund education. The proliferation of lottery-funded scholarships and grants has been concentrated primarily in the southeastern United States over the last several years. Each state lottery is run independently and allocations to earmarked expenses are determined by state specific formulae. According to the North American Association of State and Provincial Lotteries, over half of all lotteries identify education as a specific benefactor of lottery revenues. The way education dollars find their way to corresponding educational expenses is convoluted at best and not always

significant. In fact, lottery revenues commonly account for less than 5% of a state's total educational budget.

Legislatures across the country have adopted lotteries as funding mechanisms for education and, although each state lottery markets those lotteries as a pivotal element of successful outcomes, the existing literature does not support this assertion, citing fungibility and the small percentage of total education budget (3%) as evidence (Borg & Mason, 1988; Brady & Pijanowski, 2007; Erekson, Deshano, Platt, and Ziegert, 2002; Garrett, 2001; Pantuosco, Seyfried, & Stonebraker, 2007). One exception, Georgia's HOPE (Helping Outstanding Pupils Educationally) scholarship, is considered by many to be the gold standard in educational scholarships funded by a lottery and has provided more than $7 billion in scholarships since its 1993 inception. Other states have attempted to imitate its success, borrowing its structure and even name, but oftentimes placing emphasis more on procedure rather than payment. After the HOPE scholarship was established, surrounding states soon adopted their own education lotteries, including Florida and Kentucky.

Two primary functions of public administrators are to implement programs for the common good and identifying particular needs of specific populations. State lottery scholarship programs represents an intersection between these two functions. Research about the relationship between lottery scholarships and enrollment rates could assist public administrators and legislators in implementing programs that meet the needs of postsecondary students and strengthen states' pools of educated candidates for employment.

To effectuate a study of how lottery-funded scholarships can help increase enrollment in public postsecondary institutions of higher education, existing qualitative data will be utilized to distill state-level outcomes, as recommended by Stanley and French (2005). To date, individual evaluation of this type has yet to be studied. As such, this project could serve to inform various stakeholders in Georgia, Florida, and Kentucky about the effectiveness of their state programs and allow for providing recommendations to relevant groups within education and even policymakers.

Project Objectives

While rich scholarship exists regarding financial aid and educational outcomes, financial aid can be composed of a variety of funding sources, of which lotteries are only one. Inspired by the work of Stanley and French, this research project will analyze the educational lottery in Kentucky, using similarly established programs in Georgia and Florida as comparatives, to address the research question below. Therefore, the project objectives will be:

1) To present qualitative data for Florida, Georgia, and Kentucky that examines each state's lottery scholarship history, implementation, and successes and failures;
2) To provide public postsecondary institution enrollment data, as well as total lottery dollars awarded and number of lottery scholarship recipients, for Georgia, Florida, and Kentucky, both prior to and following implementation of state lottery scholarships; and
3) To report how students depict the effectiveness of their lottery scholarships in meeting the costs of a postsecondary education.

Research Question

The research question sought to be answered is: Do lottery-funded scholarships help increase enrollment at public institutions of higher education in Georgia, Florida, and Kentucky?

Project Selection

This project will focus on qualitative data that identify potential relationships between lottery-funded scholarships and enrollment numbers at Kentucky's public institutions of higher education, as well as public institutions of higher education in Georgia and Florida to provide richness of comparative data. A brief description of each state's lottery-funded scholarship program, as described on each state's program website, follows. It is important to note that other programs funded by lotteries in these states, such as grants, will not be evaluated—only their base scholarship programs.

Georgia

Georgia's Helping Outstanding Pupils Educationally (HOPE) scholarship is a merit-based award whose recipients must graduate high school with a 3.0 GPA. The maximum award amounts are $70–210 (depending on the institution) per credit hour at public institutions and $1800 per semester/$1200 per quarter at private institutions, but cannot be used for out-of-state enrollment. The scholarship is not time limited, but does cap at 127 hours. Additionally, there is no defined timeline as to when a student may enroll after high school (Georgia Student Finance Commission website).

Florida

Florida's Medallion Scholars Award (FMS) is a merit-based scholarship that requires a 3.0 high school GPA and a minimum of 20 on the ACT. Recipients must

complete specific core courses and 75 hours of community service. The maximum award amount is $125 per credit hour at 4-year institutions, is time limited to five years, caps at 120 hours, and students must enroll within three years of graduating high school. The scholarship cannot be used for out-of-state enrollment (Florida Student Scholarship & Grant Programs website).

Kentucky

Kentucky's Educational Excellence Scholarship (KEES) is a merit-based scholarship calculated on sliding scales for GPA and ACT (either will qualify a student as eligible). The maximum award is $2500, time limited to 4 years, caps at 8 semesters, and students must enroll within 5 years of graduating high school. The KEES scholarship can be used for out-of-state enrollment in some circumstances (Kentucky Higher Education Assistance Authority website).

Summary

There are education policy stakeholders who assert that lotteries are failed public policy. They posit that lotteries promote gambling addiction, serve as a regressive tax, do not benefit those who fund it, and hurt the economy. Others argue that lottery dollars, detached from moral or ethical debate, have promoted increased access to higher education and directly impacted enrollment numbers through scholarship programs. The latter of these two positions will be the focus of the current research—seeking evidence to address the research question of whether lottery scholarships help increase higher education enrollment.

II: LITERATURE REVIEW

Problem Overview

Funding for education is a perpetual problem and institutions consistently seek a growing array of methods for financing various services. Postsecondary education has been impacted by a sluggish economy and increasing tuition rates for several years. As a result, many states have adopted lotteries to relieve some of the burden that students face when assessing how they will pay for their education. Lottery scholarships, primarily realized as merit-based aid, have become a common tool for promoting college enrollment, but there remains the nagging question of the true significance of these awards and their actual effectiveness.

Others, such as Stanley and French (2005, 2009), suggest that enrollment rates have not been substantively impacted by lottery scholarships; they cite different factors, such as population, unemployment, the economy, and other potential variables that are key in promoting higher education. Additional issues to consider include educational policy, education finance, and the very structure of financial aid itself.

This literature review will examine prior research on these issues, as well as the scholarship available on the path of lottery adoption and legislation surrounding education lotteries. While much of the analyses conducted on lotteries deal with the distributional burden of taxes and regressive nature of lottery ticket sales, there is a solid body of work dedicated to earmarked lottery programs.

Lottery Adoption and Legislation

As recent as the mid-20th century, lotteries were illegal in the United States due to decades of rampant gaming corruption and various crooked schemes. It was not until 1964 in New Hampshire that lotteries became legal—and state sanctioned. While the consequences of implementing new taxation could be political suicide, introducing a lottery was acceptable and embraced. To this day, New Hampshire still has no sales or income tax. Once lotteries became state-run enterprises, legislatures quickly saw the value in their ability to generate revenue. Even detractors were ameliorated by the notion that government oversight would regulate gambling that would likely have occurred anyway (Heberling, 2002; Simon, 1997). Additionally, proponents argued that state lotteries shouldn't even be considered actual gambling, but rather innocuous tools that would create funding streams for worthy causes such as education.

Over a dozen states implemented lotteries during the 1990's. One possible explanation for this is the culmination of several factors—the 1982 recession, the decline in federal dollars for education, and increased state taxes such as sales, service, business, and income taxes. These conditions forced states to seek new revenue streams (Allen, 1991).

The proliferation of lottery adoption in the United States was examined by Berry and Berry (1990) utilizing two models. The first was internal and suggested that the likelihood of state governments adopting a lottery was directly tied to their political, economic, and social characteristics. The worse a state's fiscal health, the more likely a state was to adopt a lottery (p. 401). The second model was external and suggested that the likelihood of state governments adopting a lottery was directly tied to the influence of

nearby states. For example, if a contiguous state already had a lottery, states without the lottery were likely to adopt one. The thought of losing revenue to a neighboring state was found to be powerful. Another influential factor in lottery adoption was incidence of election years. Politicians love promising big change without new costs. Their depiction of the lottery as free money is a compelling argument. Lotteries have been demonstrated to be an easy sell since they are touted as voluntary, alternatives to illegal gambling, and legitimate revenue streams for education, despite empirical evidence that increased educational funding does not necessarily improve performance.

The miasma of legislative debate on the ethics and morality of lotteries can be rather pointed. Labels such as "sinful," "immoral," "controversial," and "conspiratorial" are not uncommon. Academicians in the social sciences have necessarily concluded that enterprises such as the state-sponsored lottery are merely avenues for fleecing the poor, a failure of policy and ethics, and governmental lures that contribute to gambling addiction (Bobbitt, 2003; McAuliffe, 2006; Miller & Pierce, 1997; Rychlak, 1992; Wisman, 2005).

When considering adoption of a lottery for funding education, many policymakers seemingly have found it unimportant to consider whether or not this type of state-sponsored windfall would provide the intended benefit without harming those who actually spend their dollars to provide it. A rich vein of scholarship supports the assertion that low income groups disproportionately bear the burden of lottery sales (Combs, Kim, & Spry, 2008; Daberkow & Wei, 2012; Oster, 2004, Price & Novak, 1999). As a result, lotteries are today generally regarded as regressive taxes, especially on the poor.

While Mikesell (1989) did extensive work regarding income elasticity and education levels vis-a-vis lottery sales, his finding that only instant games are regressive

does not account for the most comprehensive demographics and census data in his methodology. In fact, collective evidence demonstrates that most people do not even participate in the lottery, only a small number who spend large amounts on tickets not systematically dependent on income (Garibaldi, Frisoli, Ke, & Lim, 2015; Ghent & Grant, 2010; Herring & Bledsoe, 1994; McCrary & Condrey, 2003; Perez & Humphreys, 2013; Rubenstein & Scafidi, 2002; and Welte, Barnes, Wieczorek, Tidwell, & Parker, 2002).

Lotteries certainly have a lifecycle, however. This harsh reality becomes glaringly obvious after ticket sales invariably subside and funding no longer adequately covers earmarked programs and initiatives. Once this occurs, legislatures must then pursue alternative funding mechanisms, such as raising taxes, increasing advertising to snare additional customers, and modifying the mix of available games for players (Daberkow & Wei, 2012). At that point, lottery sales simply worsen economic crises—for states and its citizenry.

Research supports a divide between perceived versus actual impact of lottery money. Because lottery dollars often free up state funding for other programs (known as fungibility), there isn't a direct relationship between lottery funding and program quality. Allen (1991) argues that this divide subsequently results in policies that encourage marketing abuse and manipulation of those with low socioeconomic status. Whereas lotteries spend a large percentage of sales revenue for advertising and administration, very little actually makes it back to the players. For example, lottery sales for 2015 in Kentucky totaled almost $900 million. Although $221.5 million was transferred to the state, only $98.3 funded KEES scholarships (KCEP analysis of Kentucky Office of the

State Budget Director, Budget Brief, February 1, 2016). Additionally, the overhead for running a lottery is highly inefficient, with estimates of 10¢ to 40¢ to raise $1 of lottery money, compared to 5¢ for each $1 of conventional taxes (Allen, 1991; Thomas & Webb, 1989).

This perceived inefficiency of lotteries was studied by Bowden and Elrod (2004) who examined the way revenues and taxes are reported. In comparing traditional taxes versus lottery revenues, they found that when traditional taxes are collected, the cost of collection is reported to the government as an expense rather than a reduction of taxes collected. Thus, states know exactly how much revenue is collected and the expense associated with collecting it. Lotteries, on the other hand, deduct the cost of vendor commissions and other administration-related expenses without reporting those costs and simply reduce the reported total sales (80). This certainly raises questions regarding the transparency and legitimacy of reported revenues. Additionally, discerning exactly how much revenue is collected by states becomes challenging.

Lottery adoption implies a tacit contract between voters and their government. Though there are competing interests in how that funding is spent, public officials oftentimes fail to support legislative action that clearly aligns expenditures with voter intent. Karcher (1989) explains: "Restraining the legitimate flow of information to consumers is an intractable problem, made even thornier by the fact that the states are caught in the bind of being protector of consumers on the one hand and marketers of a specific product on the other" (p. 72).

There is little evidence to suggest that state legislatures have researched the incidence of reduced need-based aid in favor of merit-based aid (lottery scholarships),

though criticism of the phenomenon is well documented (Dynarski, 2000; Heller, 2002; Henry, Rubenstein, & Bugler, 2004). For example, when the HOPE scholarship was implemented, students who received federal Pell grants found that those dollars were deducted from the HOPE scholarship, resulting in a reduced award. Georgia did repeal this part of the process, thus increasing students' total available aid. One gap in the literature is research on lottery-based scholarship programs that tend to focus more on award structure and policy and less on the actual effect on students receiving those scholarships. Likewise, analysis of total financial aid, apart from merit-based aid, would provide powerful data in assessing the comprehensive value of each (Henry et al., 2004).

A topic common to many legislatures debating the virtues of a state lottery with earmarked funds for scholarships is the inducement for students to remain in state. Data suggests that such incentives have had the intended effect and beyond. For example, after adoption, the HOPE scholarship continued to grow in popularity; however, the increased popularity resulted in fewer average funds per student due to static lottery sales. What began as a bipartisan effort quickly devolved into a party line debate regarding eligibility changes.

The effort to determine the robustness of scholarship programs of this type has been met with resistance on both sides of the aisle in legislatures, with some arguing that lottery scholarships should assist those students who can least afford to attend college versus the assertion that the best and brightest deserve recognition and monetary rewards for their accomplishments (Constantine & Lighthiser, 2011). Funding formulae vary by state vis-à-vis need versus merit awards.

Kingdon's (1995) multiple streams (MS) theoretical framework, consisting of three dynamic streams—problems, policies, and politics—provides a context for legislatures grappling with state lotteries. The problem stream illustrates how education funding is inadequate and worthy of attention. The policy stream offers viable solutions, including state lotteries. Lastly, the politics stream results in policymakers who are motivated and capable of adopting a proposed solution.

Though some scholars have criticized Kingdon's theory, it remains prominent in policy literature and illustrates well the fragmentation of political institutions. The three streams theory, using a lottery adoption scenario, truly demonstrates how a homeostatic balance must be struck to achieve the desired ends. Certainly, without a solution to the funding problem, no action is warranted; and insufficient political and policy support will not result in adoption of a solution.

One final note about lottery adoption—despite campaign promises and personal justifications for voting 'yes' in referendums, research suggests that voting and buying behavior are inconsistent. In particular, Ghent and Grant (2007) present compelling findings that differentiate between voters in poor versus affluent districts, as well as voters living in counties bordering contiguous states. Their analysis of voter versus sales behavior strengthens the argument that variation between the two is driven by public finance issues (p. 669). Specifically, research shows that the heavier a state's tax burden, the more likely a lottery will be adopted. Additionally, their evidence supports a likely correlation between lottery adoption and performance of schools (p. 685).

Lotteries and Education Policy

State lotteries and, more specifically, lottery sponsored scholarships are legitimate policy ventures for funding education. A lottery's enacting legislation is generally broad and straightforward, although selection mechanisms can be controversial. The debate centered on merit versus need-based aid can be contentious. As indicated in the prior section of this literature review, very little analysis of program policy has been dedicated to the actual impact of such programs (Duffourc, 2006).

The manner in which lottery funded scholarship programs are implemented and administered varies among states. Duffourc explains:

> Variation in these scholarships falls on two continua: political and economic. Political variables focus on policy formulation and administration. These variables include the scholarship timeline, selection criteria, and retention standards. The timeline takes into account the early adopters, the late adopters, and how the programs are structured. Requirements for selection and retention of these scholarships are formulated with regard to program goals and intended beneficiaries. Economic variables deal with the issues of size and impact, and include award amount, number of recipients, and state costs. Economic variables are heavily influenced by the scholarship funding source. (p. 236)

There is some congruity between Duffourc's continua and Berry and Berry's 1990 models. Duffourc's economic variable corresponds well with Berry and Berry's internal model, which looks within a state to evaluate impact, while Duffourc's political

variable corresponds well to Berry and Berry's external model of boundary spanning to assess administrative challenges.

Regardless of the endgame, lotteries are still a method of gambling. As such, the issue of their viability as a public funding tool raises concerns from different dimensions, especially moral questions. One well-reasoned argument supporting state lotteries is that they are simply a form of entertainment, no different from going to the movies or even buying fast food (Borg & Stranahan, 2005; Herring & Bledsoe, 1994; Koza, 1982).

Critics argue, however, that there are ethical challenges to a state government promoting and sponsoring gambling to fill its own coffers; that while it is true lotteries are voluntary, unlike mandatory state or income taxes, they are deceptive, improperly advertised and marketed, and do not fully disclose where funding actually goes (Cosgrave, J, & Klassen, T.R., 2001; McAuliffe, 2006; Stearns & Borna, 1995). Exempt from the Federal Trade Commission's truth in advertising regulations, states vary in the degree to which they disseminate gambling addiction information and resources. Rarely does this component factor into cost-benefit analyses.

The National Center for Education Statistics (NCES) reports education to be the largest expense in most state and local government budgets. The primary funding mechanisms for these budgets include state and local taxes and federal aid/grants. There is considerable disparity among the states regarding educational spending, however. This is largely attributed to differences in political culture. Elazar (1984) posited three categorical subcultures as comprising states' overall political cultures: individualistic, moralistic, and traditionalistic. Individualistic subculture emphasizes the marketplace, moralistic subculture emphasizes the government's role to advance the public interest,

and the traditionalistic subculture emphasizes the government's role being limited to maintaining social order with little participation in government affairs (Stanley & French, 2005, p. 33).

Because nothing in the Constitution requires or supports funding public education, states adopting individualistic and traditionalistic cultures define education as a privilege rather than a basic right. Accordingly, their education funding formulae align with the federal government in that states which devote more of their money toward education receive more federal funding for the same. The moralistic culture, which believes government should advance the public interest, is more likely to rely on a state-sponsored lottery to help fund education (Stanley & French, 2005).

Labeling the state lottery as a regressive tax does not fully capture the entire picture. Alcohol and cigarettes are usually assessed a 30% 'sin' tax, but states tend to tax lottery play at approximately 45%. Lloyd R. Cohen offered the following:

> After decades of treating lottery play as a vice and outlawing it, legislatures across the country have now implicitly determined that not only is this activity no longer sinful, but it is actually virtuous; but… that virtue is only present when the lottery is run for profit by the state government. (Ellis, 2007, p. 320)

In fact, being run by the state seemingly cleanses lottery money when education is the beneficiary. One Georgia survey found that 68% of people surveyed would vote to end the lottery if it no longer funded education (Ghent & Grant, 2010). As for why people actually play the lottery, evidence shows that funding education does not influence the decision to play. Blalock et al. (2007) identified four primary motivations for playing the

lottery: entertainment and the opportunity to win money, the result of cognitive bias and lack of information, use of expected utility theory (risk behavior), and response to financial shock, or prospect theory (p. 551).

Policy shapes education lotteries differently in every state based on economic need and legislative intent. Language establishing state lotteries, more specifically merit-based lottery-funded scholarships, is generally revisited after a program has had time to be tested and evaluated for possible restructuring. McKinney (2009) offers four policy alternatives given the policy goals of "cost efficiency, distribution equity, and political feasibility:

1) maintain the status quo;

2) implement flat-rate award amounts;

3) introduce a blended program that provides both merit and need-based aid; and

4) transform the existing program into a predominantly need-based aid program" (p. 85).

Optimal policy solutions vary according to eligibility criteria, financial need, number of qualifying applicants, total available funds, award structure, and myriad other considerations. Utilizing sideways analysis, states can evaluate how others have performed and glean any applicable lessons for their own structure.

One interesting aspect that emerged from the research was states' efforts to improve educational performance and accountability by focusing on incentives and sanctions for school districts, individual schools, and even teachers. Lottery-funded, merit-based scholarships, on the other hand, are one public policy instrument that financially incentivize students directly. A 'pay for grades' structure as a policy lever

implies that education quality will improve as the students work harder, devote more time to their studies, and, as a result, learn more (Bishop, 1996; Henry & Rubenstein, 2002; Levin & Tsang, 1987). Research supports this as long as grade inflation—the lowering of grading standards—is not an issue.

The scholarship on grade inflation was rather divided. Henry and Rubinstein's (2002) analysis of HOPE scholarship distribution purported the claim of improved quality of education and no incidence of grade inflation—but only when grade point averages were also correlated closely with each student's SAT scores (which either remained steady or even increased). Their study did not take into account smaller incentives' effect on education quality. Another gap in their research was not accounting for a student taking less rigorous course work in an effort to achieve a higher GPA and, thus, become eligible for the scholarship.

This issue is addressed by Campbell and Finney (2005) in their research on distributional consequences of the HOPE scholarship. Their outcomes demonstrate that, in opposition to Henry and Rubenstein (2002), grade inflation is a legitimate occurrence and oftentimes results in some Georgia districts (i.e. historically African American) receiving a larger proportion of HOPE scholarships than expected. Another possible explanation for this, which remains unstudied by and large, is minority students being placed into "low tracks" (Campbell & Finney, 2005, p. 756) where they are less challenged and do not have access to rigorous courses. The outcome is an easier path to the HOPE scholarship's required B average. As a result, education policy that is not aligned with the intent of lottery scholarship legislation creates unintended consequences resulting in unpredicted allocation of funding.

Lotteries and Education Finance

The impetus for the current study is based on the dynamic growth of state education lotteries and the limited and outdated research regarding lottery impact on education, specifically postsecondary enrollment. Most state lotteries in existence fund education, whether for primary and secondary programming at the school level, or directly to students pursuing a college education. Over the last few decades, attitudes toward gambling have changed, especially given rising state and local expenditures and taxpayer resistance to higher rates and new taxes (Borg, Mason, & Shapiro, 1991; Brady & Pijanowski, 2007; Fisher, 1996).

At the same time, however, states are realizing the effects of lottery life cycles. After the first few years of a state lottery, per capita sales do not increase much, and newer lotteries outperform long-standing lotteries. Additionally, total lottery sales growth is slowing across the US and net revenues are decreasing (Mason, Steagall, Shapiro, & Fabritius, 2005). Together with the inefficiencies of administering a lottery, and the relatively small fraction of state revenues that lotteries provide, arguments against the educational advantages of a state lottery are soundly buttressed.

Leaders in the field of education lottery research, Stanley and French (2005) suggest that lotteries are insignificant methods of generating revenues for educational programs in the southern states, primarily due to fungibility—substituting lottery funding for other streams of previously earmarked funding resulting in a net zero effect. Unlike Georgia, which specifies in its legislative language that lottery revenues are to "supplement" and not supplant existing education funding, states that don't specifically word lottery legislation earmarks as funds meant to "add" to current levels have found the

tendency toward substitution quite common. The lack of transparency and accountability in how states earmark lottery revenues can result in fungibility, thus decreasing available money for lottery scholarships and, subsequently, students.

Of course, Stanley and French admit to a small sample size, limited independent variables, and shallow work on the fungibility factor within state lotteries. Nonetheless, fungibility of lottery funding is well documented in the literature and is significant in the context of growing scholarship programs to increase postsecondary enrollment (Borg & Mason, 1990; Erekson, Deshano, Platt, & Ziegert, 2002; Jones & Amalfitano, 1994; Pantuosco, Seyfried, & Stonebraker, 2007; Stark, Wood, and Honeyman, 1993).

Even though states earmark funding for education from lottery revenues, a general lack of accountability in state legislatures can result in a significant shift in how programs are funded. Possible reasons for this include states failing to commit to a constant ratio of education to general revenue expenditures, competition among state agencies for "free" tax monies, and the fact that the public is largely unaware of the specifics of education spending (Spindler, 1995, p. 60). This lack of transparency promotes fungibility and a loss for education and students.

In fact, evidence based on studies of educational funding across all 50 states found no significant difference in per capita state aid for elementary and secondary schools in lottery versus non-lottery states. Moreover, states with lotteries demonstrated lower levels of governmental aid to education than states without lottery revenues, translating into a 15% overall total expenditure rate in lottery states compared to 23% in non-lottery states (Erekson, DeShano, Platt, & Ziegert, 2002; Jones & Amalfitano, 1994).

For the lottery states in this case study, education funding levels reported on the 2014 U.S. Census Bureau website were:

- Georgia—state aid equal to 44% of total revenues;
- Florida—state aid equal to 40.1% of total revenues; and
- Kentucky—state aid equal to 54.9% of total revenues.

By comparison, non-lottery states were significantly higher:

- Hawaii—state aid equal to 87.3% of total revenues;
- Alaska—state aid equal to 67.2% of total revenues; and
- Nevada—state aid equal to 63.1% of total revenues.

Lotteries change the tax structure of a state. With the influx of 'voluntary' tax money, legislators seeking reelection often push for lowered state taxes, a dangerous trend given the aforementioned lottery life cycle. In addition to decreased standard tax revenues, citizens in a lottery state spend money on tickets that might otherwise be devoted to purchasing taxable goods and services. Thus, total tax revenues can decrease as a result of "consumption changes" elicited by a lottery (Fink, Marco, & Rork 2004, p. 2357).

Interestingly, there is quite a bit of debate on the topic of earmarking. Some researchers have found evidence to suggest that states who deposit lottery funding directly into their general funds tend to spend more on education, at least at the K-12 level, and that increases in lottery revenues are also highly correlated with increases in significant impact on K-12 spending (Pantuosco, Seyfried, & Stonebraker, 2007, p.183). More research is needed in this area as it relates to overall lottery impact.

Another study on earmarking found that highly publicized forms of education funding (lotteries) result in a "crowding out" of private, voluntary education donations. It is conceivable that when the public hears boasts of lottery revenues directed at specific education programming, even scholarships, philanthropic sources direct their charitable funding elsewhere. This crowding out is worse, according to Jones (2015), in states that passed lotteries via referenda rather than legislatively, presumably because the latter is "less salient to citizens" (p. 920).

There is a respectable body of research, however, that suggests earmarked lottery dollars promote positive educational gains. Novarro (2005) explains:

> The results suggest that a dollar of lottery profits earmarked for education increases educational spending by more than a non-earmarked dollar of lottery profits. In turn, a dollar earmarked for some specific category other than education has little, if any, leakage into educational spending. These results contradict popular political economy models that predict that earmarking is irrelevant for state budgeting and that lottery profits earmarked for education merely substitute for general funds that would have otherwise benefitted education. (p. 36)

Other researchers make a case for positive lottery-funded education outcomes. Partially contradicting Stanley and French (2005), Menifield, Clay, and Lawhead (2009) found that lotteries are significant to high school graduation rates, completed bachelor's degrees, and scores on the ACT and SAT. They argue that, generally speaking, "it is fair to say that the presence of a lottery does have a positive impact on education" (p. 52). It is important to note that they were unable to assess the level of lottery impact due to a

lack of complete data concerning specific lottery allocations to primary, secondary, and higher education.

Likewise, Moon, Stanley, and Shin (2005) provided statistical evidence that suggested that states receiving lottery revenues enjoyed increased per pupil expenditures compared to non-lottery states. Their model found that "the lottery revenue variable has had proportional influence on per pupil state expenditures for education at .01 significance level" (p. 218). This means that, according to their research, states with lotteries have experienced increases in state education spending since lottery adoptions. While their study was limited by too few independent variables, it nonetheless contributes to the scholarship on earmarking and should serve as a basis for further research.

Lotteries and Higher Education Enrollment

There is scant academic literature available assessing the impact of lottery scholarships on enrollment. The primary research reviewed for the current study, and serving as the basis for expanding the scholarship on education lotteries and higher education enrollment, is the work of Stanley and French. Their 2005 pooled time series, cross-sectional data analysis evaluated the relationship between higher education enrollment and independent variables such as gross state product, federal spending, lottery revenues, governor political party, and others. Using enrollment levels at both four-year and two-year institutions as their dependent variable, they found population to be statistically significant, while unemployment was significant on enrollment at 4-year institutions only. Additionally, they analyzed the impact of lotteries on SAT scores, but

only found a relationship with poverty level, suggesting that as poverty level decreases SAT scores increase (p. 25).

Again in 2009, Stanley and French evaluated higher education enrollment levels by looking at merit-based scholarship programs. Consistent with their 2005 study, they found state population to be the driving factor for increasing higher education enrollment. Their work also provided evidence that enrollment levels increase with per capita income and per-pupil expenditures, as well as high school graduation rates (p. 24). It is important to note that their research focused on merit-based scholarships, which some states fund with state lotteries and others fund through different mechanisms.

Merit-based student aid has been a hot topic over the last 20 years and literature on it is robust. Scholars have focused on specific elements, such as the comparison between merit-based aid and need-based aid, distribution of merit-based aid, and even retention of merit-based aid. Given that several states fund merit-based aid with lottery money, including Kentucky, Florida, and Georgia, at least a cursory review of these studies is appropriate.

Assertions that merit-based aid has come at the expense of need-based aid are present in the literature, as are claims that question evidence that indicates merit-based aid is effective. These issues are clearly researchable, as posited by Longanecker (2002). His research demonstrates that even massive increases in merit-based aid have not resulted in decreased aid for needy students, further supported by Doyle (2010), and Singell, Waddell, and Curs (2006). Longanecker's analysis of 25 states over a five-year period (1995-2000) showed that only six increased merit aid amounts more than need-based aid. He suggests that critics would perceive need-based aid increases as substantial

were they not to consider merit-based aid increases. As a result, he argues that funding trends have been misinterpreted as a result of failing to look at the national picture, focusing on programs rather than people, and studying time periods that are too narrow (p. 33).

In an article rebuking Longanecker, Heller (2002) raises the question of whether merit-based scholarships actually meet the policy goals as originally created, making a distinction between promoting academic achievement and rewarding it. Building the case for merit-based aid being awarded to students who would have attended college anyway, Heller's work suggests that moving the needle on college participation rates will only occur if merit-based aid is awarded to students who wouldn't otherwise attend (p. 7). Strong empirical evidence from a 25-state study by Sjoquist and Winters (2015) suggests that merit-based aid has "no meaningfully positive effect on individual college attendance" (p. 386), verified robustly by individual state analyses reflecting insignificant effects. A brief review of merit-based, lottery-funded scholarship literature for each of the three states analyzed in this study follows.

Georgia

Georgia's HOPE scholarship seems to be the gold standard against which other programs have been compared and created. The first of its kind, the program inspired replication among much of the southeastern United States in the 1990's and radically altered how financial aid was awarded. Anecdotal evidence suggests that the program increased total first-time freshman enrollment, increased black enrollment, reduced the number of students leaving Georgia to attend out-of-state colleges, increased the average

SAT score of Georgia college freshmen, and raised college attendance probability of 18 to 19-year-olds by 25% (Cornwell, Mustard, & Sridhar, 2006).

Most of the gains made by the HOPE scholarship program have been realized at four-year universities, as the numbers are likely impacted by reduced numbers of students leaving the state to attend college. Generally speaking, students do not cross state lines to attend two-year colleges. Conversely, Dynarski (2000) concluded that students who attend four-year institutions are eight times as likely to leave the state for their education.

It is important to note that of Georgia's four-year colleges and universities, three public and five private schools are historically black colleges (HBCs). As such, the HOPE scholarship has had a strong effect due to decreased numbers of black students attending out-of-state HBCs. Additionally, the HOPE scholarship might have increased black enrollment at in-state historically black colleges due to changes in entrance requirements at flagship institutions.

Of interest is the fact that since the creation of the HOPE scholarship, the state of Georgia has enjoyed "a 30% increase in residential construction on the Georgia side of metropolitan statistical areas that share a border with the neighboring state" (Condon, Prince & Stuckart, 2011). Supporters of the program point to this phenomenon as yet another benefit of the program to the state of Georgia.

Florida

Anecdotal evidence suggests that since the inception of Florida's lottery-funded FMS scholarship, college enrollment has increased—an increase which directly corresponds to the increased number of graduates meeting the program's eligibility requirements. The significance of this relationship did, however, vary across

demographic and economic categories, but in an unexpected manner. Harkreader, Hughes, Tozzi, and Vanlandingham (2008) found that "high school graduates who were eligible for Bright Futures and African-American, limited English proficiency, or eligible for free or reduced-price lunches had an increased likelihood of attending college than those who were not eligible for Bright Futures" (p. 13). Furthermore, their research suggested that low-income and minority high school graduates benefited disproportionately from Florida's merit-based, lottery-funded program.

These findings were echoed by Zhang, Hu, and Sensenig (2012), who reported a "large, significant increase of full-time, first-time college enrollment… after the adoption of the Bright Futures program" (p. 761). This finding was, perhaps, somewhat exacerbated by the substantial difference in tuition costs between public and private postsecondary institutions and that the award only covers partial tuition at private institutions. Another interesting variable is the program's eligibility extension to both full-time and part-time students. Such an accommodation could promote slow, but steady, progression. Lastly, the authors surmise that the out-migration of students to other states' postsecondary institutions (both 2-year and 4-year) is mitigated by the Bright Futures program, resulting in a lower net effect.

Kentucky

Researchers studying Kentucky's KEES scholarship argue that retention rates are not consistent across demographics of race and gender, that utilization rates for students with less than a 3.5 high school GPA are low, and that there are two competing goals for the merit-based program—increased access versus incentivizing the best and brightest to stay in Kentucky. As a result, students who receive and maintain KEES scholarships are

"smaller in skewed proportion of the students who initially earn the awards" (Kash & Lasley, 2010).

Kash and Lasley heavily criticize the program's award structure, noting that the maximum disbursement of $2500 per year has failed to keep pace with tuition and fees, which have more than doubled since the program's inception. Likewise, the average KEES award barely covers even 25% of Kentucky's 4-year public school tuition. The authors warn that declining purchase power will become increasingly problematic.

Nonetheless, a study from Kentucky's Office of Education Accountability (2011) reported that higher education enrollment increased after the KEES program began and that researchers had concluded that performance-based programs increase access. In fact, the 2000 US Census Bureau data showed that 47% of Kentuckians aged 18 to 24 were enrolled in degree-granting institutions—a number that jumped to 63% nine years later (p. 20). The direct relationship between KEES and postsecondary enrollment was not specifically evaluated in the study.

Summary

No research has been found which specifically addresses the impact of lottery-funded merit-based scholarships on enrollment at state 2- and 4-year public universities. Therefore, the available literature on education lotteries—their creation, policy surrounding them, and their effects on education finance—demonstrates logical progression toward evaluating state-level data on enrollment at public institutions of higher education in Florida, Georgia, and Kentucky. Inspired by the work of Stanley and French, whose research was based only on aggregated quantitative data across multiple

states, the current study will seek evidence to address the project objectives and research question for the case study's three individual states.

III: METHODOLOGY

Overview

The methodological approach for this project will be a comparative case study that examines qualitative data for Georgia, Florida, and Kentucky in which lottery scholarship program histories, implementations, and successes and failures are explored on a state-by-state basis in an effort to address the research question of whether lottery scholarships help increase student enrollment at public institutions of higher education.

Case Study

The states chosen for this case study will be based on common geographic locations, lottery scholarship program time frames, program designs, and political cultures as posited by Elazar (1984). This will be further explained in the next chapter.

The literature on lotteries and their relationship to educational outcomes, specifically by Stanley and French (2005), presents data in the aggregate—leaving a gap for addressing individual state data. As such, this case study will examine Georgia, Florida, and Kentucky lottery-funded scholarships individually, noting each state's history, implementation, and both successes and failures, in an effort to answer the research question of whether lottery scholarships help increase enrollment at public institutions of higher education in Georgia, Florida, and Kentucky. Various sources, both peer-reviewed and public, will be utilized to assess the potential impact of state lottery scholarships on enrollment at public institutions of higher education. While some states

award merit-based scholarships funded through other means, those are excluded from the research.

The current study will help to fill a gap and strengthen the available literature on individual state lottery impact, since both of the Stanley and French studies grouped states—the 2005 study combined data for 11 states and the 2009 study combined data for all 50 states. The authors note this limitation and highlight the need for state-level data study to increase reliability and to offset the generalizing and averaging of their data sets. For example, because lottery disbursement varies by state, Kentucky might spend most of its lottery revenues on merit-based scholarships, as opposed to another state that directs most of its lottery revenues toward public works and only a small amount toward scholarships. A specific study to evaluate how lotteries are perceived, on a state-by-state basis, will reveal a much clearer picture than the aforementioned aggregate studies.

Study Participants and Data Sources

The case study data will be qualitative and sourced from interviews, media coverage, press releases, articles, government reports, and other secondary data. Due to the inconsistency of data regarding student retention of lottery scholarships across multiple years, the study will present only fall enrollment numbers. The study will also draw data from various years of the *Digest of Education Statistics* published by the Federal Department of Education, the Annual NASSGAP (National Association of Student Grant and Aid Programs) Survey Reports on State-Sponsored Student Financial Aid, and individual state-level data from lottery corporations and state data centers.

Case Study Procedures and Analysis

This case study will seek qualitative data to 1) examine each state's lottery scholarship program vis-à-vis historical context, implementation, successes and failures, 2) present enrollment data, as well as total lottery dollars and number of lottery scholarship recipients, both prior to and following implementation of lottery scholarships, and 3) describe student perceptions of lottery scholarships and their effectiveness in meeting postsecondary education costs. The data will then be synthesized to identify trends and patterns common to the three case study states.

Study Limitations

The primary limitation of this study is its exclusion of state enrollment rates at private 4-year universities, private 2-year colleges, as well as vocational and technical schools, and military students. The current research will be focused specifically on the before and after effects of the lottery at state public institutions of higher education. To include all groups would broaden the study to burdensome means since lottery scholarships in the three states vary in their policies regarding private institutions.

A second limitation of this study is the difference in percentage of costs (tuition and fees) covered by each state's lottery program. For example, the average Kentucky KEES scholarship award is $1,369, which would only cover 18.3% of average in-state public tuition and fees; Georgia's average HOPE scholarship award is $4,372 and would cover 73.9% of average in-state tuition and fees; and Florida's average Medallion Scholars award is $2,124, which would cover around 43.4% of in-state average tuition and fees (*A Comparison of States' Lottery Scholarship Programs, 2012*). Therefore, the approach of conducting three analyses—studying each state singly—will result in clarity

of impact for the three individual states. It is an assumption of this case study that a program that covers a greater percentage of tuition and fees, therefore, is more likely to increase enrollment than a program that covers very little tuition.

Lastly, this study is limited by its inability to capture independent factors or anomalies impacting lottery scholarship differences between the states analyzed in the research. These can neither be predicted nor controlled for in this design.

IV: OUTCOMES

Case Study Introduction

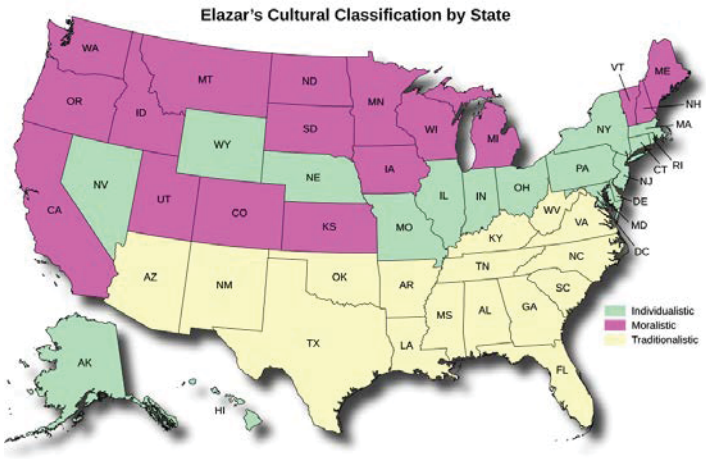
The primary research question for this project was whether lottery scholarships help increase enrollment at public institutions of higher education in Georgia, Florida, and Kentucky. While lottery scholarship programs have grown in popularity and funding, evidence that they directly impact enrollment isn't readily available. In an effort to address the research question, this case study examined four topics in each of the study's states: eligibility requirements, distribution equity, student perceptions of scholarship sufficiency and policy modifications, and challenges to sustainability.

Case Study Selection

The case study focused on lottery scholarship base programs in three states—Georgia, Florida, and Kentucky. These locations were chosen for a variety of factors, including the geographic location of southern states implementing lottery scholarships within a common time frame, similarity of program design, and availability of data related to outcomes. The classification of Georgia, Florida, and Kentucky as geographically co-located states is based on American political scientists V.O. Key, Jr.'s definition of southern states, which include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, and Virginia. Another classification factor common to the three states is their political culture. As indicated in the literature review, Elazar (1984) posited three categories of political culture—individualistic, moralistic, and traditionalistic—based on

migratory patterns of immigrants in the U.S., as demonstrated in Figure 1 below. Immigrant political and religious values influenced their beliefs regarding the proper role of government, citizen involvement in the democratic process, and the role of political parties.

Figure 1: Elazar's Categories of Political Culture



Source: Lumen Learning, n.d.

Maintaining the status quo is the priority of the traditionalistic culture, where only elites are involved in politics and public policy—all historically predicated on the prominence of slavery. The case study states share the traditionalistic culture which define education as a privilege rather than a basic right. So, on balance, while there are obvious limitations to any case study that focuses on only 3 of 50 states, there are clear and compelling reasons for creating a subset of states for closer examination, especially those with such similar history and culture.

Additionally, no research had been conducted specifically addressing state-level lottery scholarship base programs and enrollment at public institutions of higher education in the three states. This lack of research represented a gap in analyzing lottery scholarship program effectiveness; thus, an exploratory study was useful for identifying

problems and informing future research. The case study research began at each scholarship program's inception—Georgia in 1993, Florida in 1997, and Kentucky in 1999—and ran through 2012.

Questions of Inquiry

By examining available qualitative data, the researcher sought to answer the following questions of inquiry:

1. What academic eligibility requirements did each state establish for earning a lottery scholarship?
2. Did lottery program participants consider their scholarships to be adequate in meeting their postsecondary financial need?
3. What challenges did each state's policymakers face to ensure the sustainability of their lottery scholarship programs?

These questions established a framework for addressing the case study states consistently and systematically and allowed for the natural flow of information germane to the creation, development, maturity, and challenges of each state's lottery scholarship, while also providing for richness of data in addressing the question of why these states were most valuable to analyze, as well as the potential value such study might provide to future research and policy.

Preliminary Expected Outcomes

1) Research by Condon, Prince, and Stuckart (2011), McKinney (2009), and Kash and Lasley (2011) explored various mechanisms for increasing academic quality, retention of high-achieving students, financial aid funding structures, and processes for identifying characteristics of students who utilize merit-based aid.

Based on those studies, one expected outcome will be that eligibility requirements for each program will establish minimum benchmarks for earning lottery scholarships, such as GPA, standardized test scores, and required high school coursework. As each program matures, modifications will be necessary to better align scholarships with available funding and student performance.

2) Letteer's (2008) evaluation of postsecondary student incentives, Long's (2003) investigation of policy impacts on college pricing and institutional aid, and the Liang et al. (2016) analysis of lottery scholarship award levels will contribute to the outcome that original program award levels in each state will be considered adequate by students, but as the costs of postsecondary education increase and program modifications are made, lottery scholarships will no longer sufficiently fund students' expected levels of financial aid.
3) Studies on graduated award structures, scholarship demographic composition, and scholarship allocation mechanisms by Campbell and Finney (2005), Kash and Lasley (2009), and Harkreader et al. (2008) will lead to the outcome that challenges to each program will arise after implementation and will include issues such as the manner by which funding is disbursed and the extent to which diverse groups of students are represented in the award structure.

Case Study Narrative

The case study framework involved examining qualitative data to address eligibility requirements, distribution equity, student perceptions regarding the sufficiency of lottery scholarships and related policy modifications, and challenges to lottery program sustainability in Georgia, Florida, and Kentucky. These data were drawn from secondary

sources such as interviews in journals, newspapers, magazine articles, governmental data sources, and progress reports on individual state lottery programs, as well as comparative reports from NGOs and private organizations.

Georgia—HOPE (Helping Outstanding Pupils Educationally)

In 1990, three years before the Georgia HOPE scholarship granted its first awards, only 29.6% of Georgia residents over age 25 were high school graduates, while 12.9% of the same group held a bachelor's degree. The median household income was $29,021 and approximately 14.7% of its residents lived below the poverty line (*Digest of Education Statistics*, National Center for Education Statistics, U.S. Department of Education, Office of Educational Research and Improvement NCES 91–660). In an effort to combat low educational standards, Georgia was the first state to implement a lottery scholarship program, championed by Governor Zell Miller.

Simply establishing a lottery was a hotly debated issue in the public arena, though the referendum easily passed both the Georgia House and Senate. Voters, on the other hand, approved the amendment to the Georgia Constitution by a narrow margin of less than 100,000. When the first year of lottery ticket sales broke a national record, however, it set the tone for education funding possibilities. In fact, Georgia served as a model upon which several other states later based their lottery scholarship programs, as well as a tax credit that President Clinton created in a nod to HOPE's success.

Eligibility Requirements

Initially, the HOPE scholarship only covered two years of tuition, but after the lottery's windfall first year, it expanded to four years of tuition, as well as fees and a book allowance. During its first few years, several changes occurred which broadened

access to the scholarship, including removing the family income cap, expanding access to students enrolled in private colleges and universities, and establishing a path for homeschooled students to qualify for funding. Certainly, if the policy goal was to increase access, these modifications could be considered an attempt to reach more low-income and minority students. By 1996, Georgia ranked 1st in the nation in academic-based student financial aid dollars according to the National Center for Education Statistics (NCES 1999-186). By comparison, Florida ranked 12th and Kentucky 22nd, though it is important to note that neither state had implemented their lottery scholarship programs yet.

The first several years of the HOPE Scholarship were widely regarded as a mixed bag of deliverables. In an examination of the HOPE Scholarship Program on its 20th anniversary, Betsy Riley reflected the sentiments of many parents by describing the conditions that faced her son's efforts to net the coveted scholarship:

> For my family, all the HOPE Scholarship did was put our state's flagship school just out of reach. Admission had gotten so competitive that last year, the average UGA freshman had a high school GPA of 3.8 and a two-part SAT score of 1273… As a taxpayer, I think the program should exist primarily to help Georgians go to college who wouldn't have been able to attend otherwise... For more than fifteen years, there was enough money for both the haves and the have-nots. However, as state tuitions rose and enrollments continued to climb, lottery revenue couldn't keep up. (Burns & Riley, 2014, p. 59)

Another perspective on the HOPE Scholarship's beginnings, identifying frustrating changes in eligibility requirements after the scholarship gained popularity, was offered by Selingo (2003):

> In many ways, the HOPE Scholarship program is a victim of its own success. Today's award bears little resemblance to the original scholarship: It had an income cap of $66,000 and paid only for tuition at public colleges and $500 toward tuition at private institutions. As the scholarship caught the fancy of voters in the 1990's, the General Assembly removed the income cap, added an allowance for fees and books, and increased the private-college grant to $3,000, among other changes. The result? The cost of the program increased by $100-million just between 2000 and 2002 (p. A1).

The two quotes above speak to the shifting focus of eligibility requirements for the HOPE scholarship and the stakeholder dissatisfaction that accompanied those modifications.

The scholarship's financial reserves soon became a target—the statutorily-mandated backup pool held in case the program struggled to fully fund its obligations and a potential release valve for funding differentials. Georgia State Rep. Stacey Evans began campaigning for procedural change to the HOPE program. In a 2011 op-ed piece to the Atlanta Journal Constitution (AJC), she warned that "by fiscal year 2013, the state is expected to wipe through reserve funds and be expected to make even larger cuts to the HOPE program" (Stirgus, 2011). Four years later, she penned this essay:

> Higher education has never been so expensive. Nationally, tuition has increased well over 300 percent since 1988, while inflation has increased roughly 85

> percent…Georgia has a rich history of playing a vital role in national education policy, as well as a rich history in finding solutions that fit our very unique set of problems. And I think it's time to address that distinct set of issues facing our students and their families…Twenty-three years ago, Georgia voters approved the lottery because that money would go to students. Since the 2011 alterations to the HOPE program, the lottery has saved over and beyond what they intended and that number grows every day…roughly twice what they're required to save statutorily. (Downey, 2015)

Evans' '2011 alterations' statement speaks to the modification of eligibility requirements after an announced budgetary shortfall and the creation of a two-tier system—the Zell Miller Scholarship (full tuition) and the base program HOPE Scholarship (based on leftover lottery funds). Following the 2011 changes, the number of students receiving full tuition awards (102,311) dropped 89% in one year to 10,809 students (p. 5).

Despite eligibility requirement changes over the course of several years, enrollment before and after implementation of the HOPE scholarship continued to rise according to the *Digest of Education Statistics.* Figures 2 and 3 below represent this trend graphically, demonstrating total fall enrollment at Georgia public universities for the ten years preceding HOPE (1983–1992) and the latest ten-year period for which official data is available (2003–2012). This trend could mean that other factors, beyond the implementation of HOPE, help to drive enrollment numbers.

Figure 2: Before HOPE

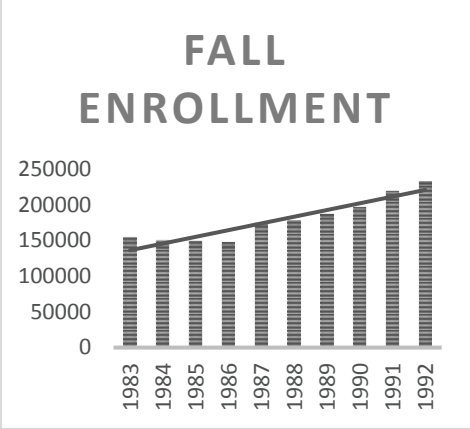
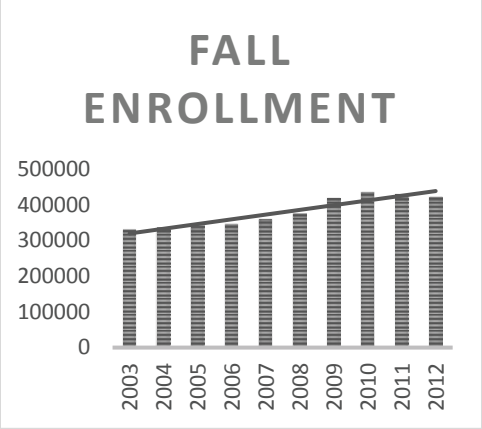


Figure 3: After HOPE



National Center for Education Statistics, U.S. Department of Education, Office of Educational Research and Improvement

Distribution Equity

Rep. Evans, currently running for governor, urged the 2011 Georgia General Assembly to adopt a sliding income scale to ensure that poorer students could still earn full tuition scholarships. She lost that battle and, instead, a new scholarship was formed (the Zell Miller Scholarship) that would cover students' full tuition if they met a high standard with respect to GPA and SAT/ACT scores. What is left over funds the base program HOPE scholarship.

Several state reports indicated that low-income and minority students were underrepresented in the demographics of HOPE awards. Specifically, a 2016 report from the Georgia Budget & Policy Institute found that less than half of in-state students benefit from the Zell Miller and HOPE Scholarship awards. The demographics cited in the report paint a troubling picture:

- "The HOPE and Zell Miller Scholarships only reach about 36 percent of students in Georgia's university system—just under 31 percent of students

received HOPE Scholarships and 5.5 percent received Zell Miller Scholarships

- About 30 percent of low-income students in the university system received the HOPE or Zell Miller scholarships while 42 percent of middle-income and high-income students received the scholarships
- Just 20 percent of black students and less than 36 percent of Hispanic students within the university system received either the HOPE or Zell Miller scholarships. That compares to 46 percent of Asian-American students and nearly 45 percent of white students" (p. 1).

The demographics of the scholarship program and distribution equity concerns have led many students, advocates, and policymakers to debate the vacuum of need-based aid, even though the HOPE program has always been merit-based. Robert Kelchen, a Seton Hall assistant professor in higher education explained that "These are issues in many states, because quite a few states have copied Georgia's model for merit aid. Georgia is one of the states that has scaled back the generosity of merit aid in recent years. To come up with additional money for need-based aid would be difficult, but getting rid of the politically popular merit-based program would be exceedingly difficult" (Seltzer, 2016). It is interesting to note that Georgia and New Hampshire are the only two states without need-based aid programs for public postsecondary school students.

The current state of Georgia's HOPE scholarship program is no less tenuous. Even though the program still sits atop the list of states with generous merit-based aid programs, thousands of Georgia students don't qualify for aid because of eligibility requirements or face difficulties retaining scholarships once awarded. Jensen (2013)

reports that some parents insist that parental support is key—pushing students to do better in an effort to earn and keep lottery scholarships, while others insist that Georgia needs a highly educated workforce and that need-based aid will help achieve that goal by graduating more first-generation college graduates. Policy analysts argue that low-income students face more difficulties than their middle-class counterparts—poverty is associated with poorer health, less academically rigorous schools, and fewer role models for navigating high school on through college matriculation (Gray & Thompson, 2004; Basch, 2011; Irvin, Meece, Byun, Farmer, & Hutchins, 2011).

The suggestion that poor students qualify for more free state and federal funding is a specious argument, as "Georgia is ninth in the nation for students with loan debt… ranked second in the amount of debt per student…and the maximum Pell (Grant) is only $5,775 a year" (Downey, 2016). The cost of postsecondary education continues to rise, meaning low-income students are burdened when evaluating college options.

The Zell Miller Scholarship has created several visible issues that contribute to distribution inequity. First and foremost, the majority of recipients attend the most expensive colleges and universities, meaning less funding is left over for HOPE scholarships. This also translates into a shift of money away from low-income students:

> In 2013, 58 percent of HOPE scholarships went to middle-and upper-income families, while 79 percent of Zell Miller scholarships went to this group, according to state data compiled by the Georgia Budget and Policy Institute. And although black students make up about 30 percent of Georgia's university system, only 5 percent of Zell Miller scholars are black. White students, who make up 54

percent of university students, receive about 78 percent of Zell scholarships. (Butrymowicz & Kolodner, 2017)

The National Association of State Student Grant and Aid Programs (NASSGAP) releases data each year reporting total dollars distributed by each state for postsecondary financial aid, including both merit-based and need-based awards. For the period 2003–2012, Georgia's total HOPE scholarship funding trended upward while recipients trended downward, as seen in Figures 4 and 5 below. The decrease in recipients could speak to challenges in distribution equity.

Figure 4: HOPE Awards/Year

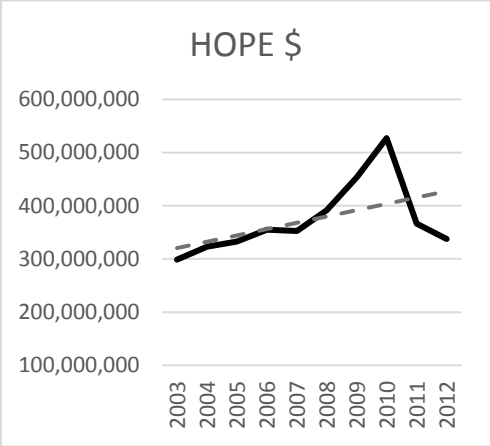
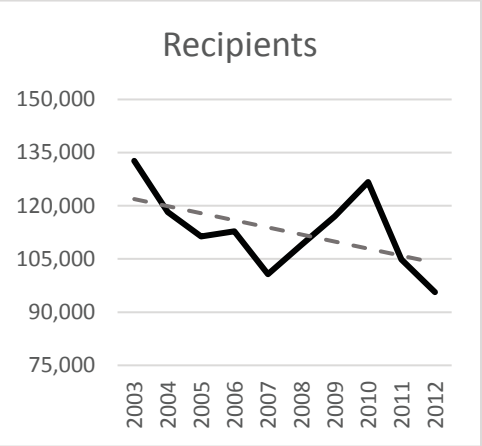


Figure 5: HOPE Recipients/Year



NASSGAP Annual Surveys, 2003–2012

Scholarship Sufficiency and Policy Modifications

As tuition rose through the years following HOPE's adoption, the scholarship's value declined for many students—higher tuition rates ate through more of the dedicated HOPE funding and decreased the total scholarship dollars available to Georgia students. This led to scholarship awards being based on available lottery dollars rather than a blanket award that covered full tuition.

UGA junior Elizabeth Griffith told *USA Today*: "The HOPE Scholarship pays for part of my tuition…around 78% of my tuition this upcoming year. In past years it paid

around 90%, so it's decreasing," while UGA graduate Emily Salerno addressed the 2011 HOPE program eligibility changes: "The minute that they changed the law it was too late for me… I couldn't even try to up my GPA. I couldn't fix the situation. I was just stuck. There was no grandfathering me into the old rules. There wasn't anything" (Goodstein, 2015).

The claim that two thirds of students struggle to retain the HOPE scholarship is well supported in the literature and provides context to the assessment of both eligibility requirements and student perceptions of scholarship adequacy. University of Georgia sophomore Griffin Dangler said, "HOPE is a funny thing. I have spent so much more time stressing about finances than academics, which doesn't really make sense… If I lose HOPE, I would have to question whether I need to be in school right now at this point in my life," while Morgan Attebery, who lost her HOPE scholarship after her freshman year, stated: "I was pretty disappointed in myself and knew that my parents wouldn't be disappointed but that they would be let down… I thought college was not for me and talked to my parents about coming home" (Simon, 2016).

Challenges to Sustainability

The Georgia General Assembly and Governor Nathan Deal are reluctant to change their lottery reserves policy in an effort to secure future scholarship funding, despite a current (2017) combined $1B in restricted and unrestricted reserves, and further argue that the merit-based aid eligibility requirements are reasonable. A spokesman for the Governor advised that "HOPE is not an entitlement, it's a reward… The beauty of it is that each student is in command of his or her destiny" (Diamond, 2011).

Jesse Saffron with The James G. Martin Center for Academic Renewal in North Carolina concurred with the entitlement culture surrounding HOPE, but stated that myriad problems are associated with it, including program cost, the low retention rate, potential increases in tuition costs, and the program's reliance on low-income people to fund scholarships. Even though "the HOPE scholarships have had a profound impact on enrollment—from 2000 to 2010, Georgia had the highest increase in full-time equivalent (FTE) college enrollment in the nation, 69 percent"—he added that "the scholarships also appear to have had an effect on tuition. A recent five-year analysis of state tuition rates conducted by the College Board revealed that Georgia had the fifth-highest percentage increase in public four-year college tuition in the country, 63 percent" (Saffron, 2013). These problems are a primary example of challenges that states face in the sustainability of lottery programs.

In summary, the legislative intent of the HOPE Scholarship remains unchanged—reward students with B average grades or better and continue funding those scholarships as long as the B average is maintained in college. Even though eligibility requirements have changed through the years, potentially creating distribution equity issues, enrollment of first-time freshmen at Georgia's public postsecondary institutions grew from 43,744 in 1992 (the year before implementing HOPE) to 71,093 in 2012 (U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, 2013).

Florida—FMS (Florida Medallion Scholarship)

In 1990, seven years before the FMS granted its first awards, only 30.1% of Florida residents over age 25 were high school graduates, while 12.0% of the same group

held a bachelor's degree. The median household income was $27,483 and approximately 12.7% of its residents lived below the poverty line (*Digest of Education Statistics*, National Center for Education Statistics, U.S. Department of Education, Office of Educational Research and Improvement NCES 91-660). Inspired by the success of Georgia's HOPE Scholarship program, the Florida Legislature created the Bright Futures Scholarship Program, a combination of two existing programs—the Florida Undergraduate Scholars' Fund (merit-based) and the Vocational Gold Seal Endorsement Scholarship Program. The Bright Futures Program was divided into three award levels – the Florida Academic Scholars (FAS), the base program Florida Merit Scholars (FMS), and the Florida Gold Seal Vocational Scholars (FGSV). The names of each program changed in 2002 to the Florida Academic Scholarship (FAS), Florida Medallion Scholarship (FMS), and the Florida Gold Seal Vocational Scholarship (GSV). The scholarships were good at over 300 participating Florida public, private, or vocational institutions, but were capped at the equivalent of public postsecondary rates.

Although inspired by HOPE, the Florida lottery is not dedicated solely to education like Georgia's lottery. Because of this, comparisons between the two programs have been rejected by many detractors of Bright Futures. A report by NBC station Miami 6 stated that "in Bright Futures' first year, 70 percent of recipients demonstrated little to no financial need, and more than three-quarters were white. The lottery players who funded the scholarships tended to be low-income minorities— "a reverse Robin Hood effect," one researcher called it (Florida Bright Futures Program Could Aid Scholars, 2017). Because of this phenomenon, research aimed at comparing applicant versus recipient numbers could yield useful information.

Yet both states demonstrated top marks nationally in merit-based financial aid in the early years of their programs. According to the 1998 National Association of State Student Grant and Aid Programs (NASSGAP), "Florida ranked second nationally in the percentage of state undergraduate grant aid dedicated to non-need-based programs. In 1997–98, 73% of state grant aid to undergraduates came from non-need-based programs. Only Georgia awarded a higher percentage of its state grant funds to undergraduates on a non-need basis" (Florida's Bright Futures Scholarship Program: A Baseline Evaluation, 1999).

Eligibility Requirements

In creating the Bright Futures Program, the FAS had the highest standards, much like Georgia's Zell Miller Scholarship, while the base program FMS was created to reward students who held a minimum high school 3.0 GPA/B average, mirroring Georgia's HOPE scholarship, but added a minimum SAT or ACT requirement. Students had only to maintain a postsecondary 2.75 GPA to keep FMS. The remaining GSV provided scholarship money for students pursuing technical or vocational education.

Early critics argued that the program was too generous and that scholarships went to students whose families could already afford to pay for their education. Charles Cobb, Jr., chairman of the Florida Business/Higher Education Partnership, posited "the better off you are, the better your chance of winning one of these scholarships…we have engineered a popular wealth transfer from low and mid-income people to the well-to-do" (Pommereau, 1998, p.3). Some critics even argued that merit-based funding betrays Florida statutes that require aid to be awarded 'primarily' to needy students (McNeill, 2017).

While Florida's eligibility requirements also changed over the course of several years, enrollment before and after implementation of the FMS scholarship continued to rise according to the *Digest of Education Statistics.* Figures 6 and 7 below represent this trend graphically, demonstrating total fall enrollment at Florida public universities for the ten years preceding FMS (1987–1996) and the latest ten-year period for which official data is available (2003–2012). As with Georgia, this trend could mean that other factors, beyond the implementation of FMS, help drive enrollment numbers.

Figure 6: Before FMS

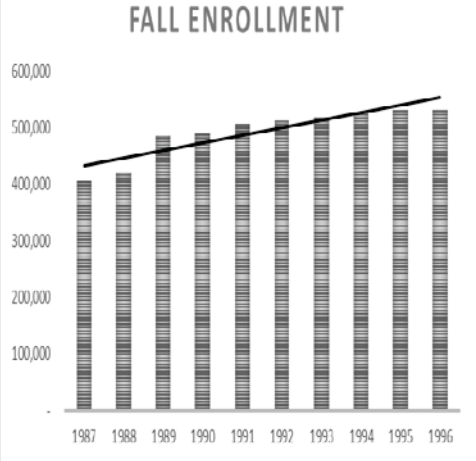
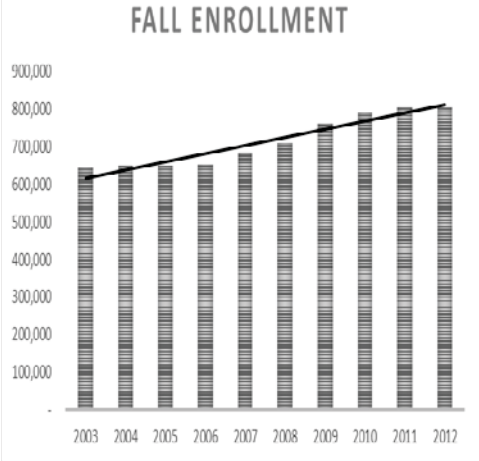


Figure 7: After FMS



National Center for Education Statistics, U.S. Department of Education, Office of Educational Research and Improvement

Distribution Equity

The FMS originally covered 75% tuition and fees, though the total award was based on the number of credit hours taken. Within a few years, as with HOPE, the program underwent changes, the most impactful of which was the increase in funding levels for those students attending community colleges. This move essentially split the FMS into two categories—75% funding of tuition and fees for students pursuing a bachelor's degree and 100% funding of tuition and fees for students pursuing associate

degrees. This split likely expanded access or at least encouraged students to consider community colleges. Other changes took place, such as minimum test scores, but more incrementally.

In August of 2002 minority groups cried foul. The U.S. Department of Education's Office for Civil Rights (OCR) received a complaint filed by the National Center for Fair & Open Testing, the Hispanic Coalition of Florida, the Florida State Conference of NAACP Branches, the League of United Latin American Citizens, the League of United Latin American Citizens of Florida, the Jacksonville Urban League, and the Hispanic American Alliance through their attorneys at The Mexican American Legal Defense and Educational Fund against the Florida Department of Education alleging discrimination by the Bright Futures Program based on race and national origin (National Center for Fair & Open Testing v. Florida Department of Education, 2014). Specifically, the complaint alleged that the minimum SAT and ACT scores for Bright Futures were discriminatory against black and Hispanic students. To properly and legally address the complaint, and determine the validity of a disparate impact claim, the Office for Civil Rights sought a three-part inquiry to answer the following:

1) Do the recipient's policies and practices result in an adverse impact on students of a particular race, color or national origin as compared with students of other races, colors, or national origins?
2) Are the policies and practices necessary to meet an important educational goal?
3) If so—even in situations where a recipient can demonstrate that its policies and practices are necessary to meet an important educational

> goal—are there equally effective alternative policies and practices available that would meet the recipient's educational goal with less adverse impact, or is the recipient's proffered justification a pretext for discrimination? (p. 2)

The investigation began in 2003 and wrapped up in 2014, with the OCR finding no evidence to support any claims of legal violation on the part of Florida's Department of Education, though the investigation did reveal a disproportionate burden on disadvantaged students. Despite the finding, this revealed the state's potential challenge with distribution equity of lottery scholarships. What the analysis did effectively demonstrate was that the primary criterion for eliminating eligibility for Bright Futures, particularly by black and Hispanic students, was failure to successfully complete required courses. The report showed that between 2005–2010, almost 40% of applicants had not taken the required courses (p. 7).

NASSGAP data for the period 2003–2012 illustrates that Florida's FMS scholarship funding trend was non-linear, while recipients trended upward, as seen in Figures 8 and 9 below. The effect of the recession could account for plateaus in both awards and recipients.

Figure 8: FMS Awards/Year

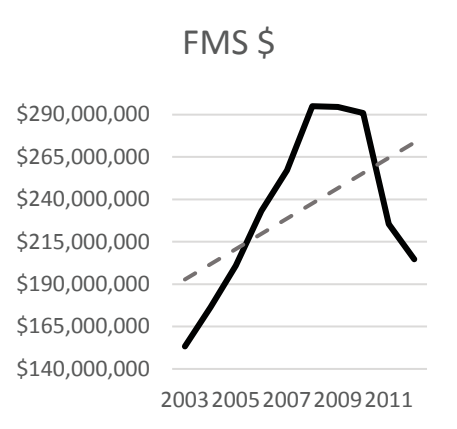
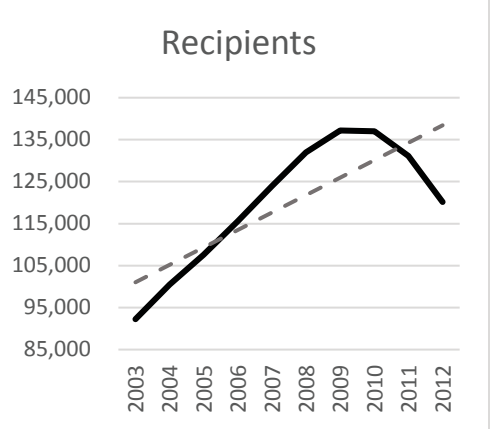


Figure 9: FMS Recipients/Year



NASSGAP Annual Surveys, 2003-2012

Scholarship Sufficiency and Related Modifications

In 2009, the entire Bright Futures Program changed its funding structure, reverting from a fixed percentage of costs to a per-credit hour award. Additionally, all three levels of merit aid were further divided into a higher rate category for 4-year institutions and a lower rate category for 2-year institutions, thus removing the previous incentive of 100% funding for community college students. One last round of changes in 2011 required students to submit a FAFSA (Free Application for Federal Student Aid) to receive awards, instituted community service requirements, increased minimum SAT and ACT scores, and reduced per credit hour rates marginally.

Much like Georgia, students in Florida have struggled as the rules for lottery scholarships have changed: University of Florida student Aviela Weltman described her frustration: "One of the reasons I stayed in state was because of how cheap my tuition was supposed to be… It's kind of a disappointment. You work hard all of your high school career and then they said, 'Oh yeah. We said you could go here for free... And it's just not what we said,'" while Florida State junior Katherine Estrella, who had to take out loans and work part-time at Panda Express since cuts were made, stated: "At this point, it

isn't worth much at all... I'm here to study. I'm not here to cook Chinese food. So it's really hard balancing both, and it takes away from my study time, and I feel like my grades are suffering" (Rutland, 2014).

While some have placed blame for Bright Futures' perceived problems on Republican Governor Rick Scott, others have pointed to Democratic Governor Charlie Crist. The truth is that the Florida Legislature, during terms for both Scott and Crist, created more stringent eligibility requirements that resulted in fewer scholarship recipients and that those modifications were approved by both governors (Sherman, 2014).

The bipartisan cuts to Bright Futures also garnered the attention of numerous newspapers, including Drumm's 2015 article in *The Ledger* entitled "What's the Future for Bright Futures? State Cuts, Changes Have Shrunk the Popular Long-Time Florida Scholarship Program," Buzzacco-Foerster's 2014 article in the *Tampa Bay Times* entitled "Scott, Crist Both Face Criticism for Changes to Bright Futures Program," Postal's 2014 article *in The Orlando Sentinel* entitled "Bright Futures Cuts Prompt Call for More Tuition Aid," and DuPuy's 2014 article in the *Bradenton Herald* entitled "Gov. Scott Ripped for Cutting Florida's Bright Futures Program." Each article explains how cuts to the program have crossed party lines and resulted in hardships to students.

The current state of the Bright Futures Program does not exhibit the same funding concerns as HOPE in Georgia. In fact, the state is considering returning to 100% tuition funding for the top FAS students. This move has been widely criticized on behalf of students in the FMS base program. As noted in a recent article, the Bright Futures scholarship program was created for B average students, who tend to represent a larger

cross section of the state demographics and also require greater assistance in meeting postsecondary education expenses. Shifting the focus and funding toward the top-tier scholarship might result in fewer college-educated Floridians:

> When you pour most of your money into your top-tier scholarship, you are giving that money to upper-middle-class white kids…the children of the powers that be. Historically, far more white students qualify for the top-tier award. Of 51,200 eligible students statewide in 2015, less than 4 percent were black. About 20 percent were Hispanic. Research shows that affluent students are a near-lock to graduate, regardless of financial incentives. Investing in needy students, however, helps raise enrollment and graduation rates. (McNeill, 2014)

Challenges to Sustainability

In a 2004 report from the Florida Legislature's Office of Program Policy Analysis and Government Accountability, which maintained that recipients in the Bright Futures Program performed well in college and demonstrated high levels of retention, it was noted that program costs in the early years of Bright Futures were attributed to increased recipient numbers, but that tuition and fees soon became a major cost factor:

> For example, in 1998-99, the increase in program expenditures was due almost entirely to the growth in recipients, while in 2003–04, tuition increases and number of recipients equally influenced program costs. In the future, projected tuition increases may become the most important factor driving the growth in Bright Futures expenditures. If this shift occurs, tuition levels will be the prevailing issue to consider when identifying alternatives for controlling costs. (OPPAGA Program Review Report 04–23, 2014)

This report highlighted challenges for the FMS program in looking to its future sustainability.

A bill filed in the Florida Legislature at the end of August 2017, if passed, would permanently return funding levels to the former structure of 100% tuition and fees for the FAS program and 75% tuition and fees for FMS. The changes would take place for the 2018–2019 academic year. Looking forward, it appears that tuition levels would be the primary driver of cost for the FMS. *The Orlando Sentinel* reports that Republican Senator Bill Galvano proposed the bill, which would require universities to convert to "block" tuition policies in which undergraduates would pay a flat rate for tuition each semester rather than per credit hour:

> The controversial plan, part of a multipronged higher education bill that [Governor] Scott vetoed last year, is intended to encourage students to take an average of 15 credit hours per semester, which is required to graduate within four years. It also would expand a matching grant program for first-generation college students to include the state colleges, establishes a program to help universities recruit faculty and increases access to internships and jobs. (Martin, 2017)

The advocacy group Florida College Access Network issued a policy brief in April 2014 that urged strong leadership in both the Florida Legislature and the Governor's Office. The brief succinctly summarizes their political charge: "Because higher education has a major impact on the economic and social well-being for individuals and the state as a whole, affordable tuition is a warranted priority of our

state's lawmakers. Indeed, Florida will be at a competitive disadvantage if our next generation of young people are undereducated" (Martin, 2017).

In summary, Florida has faced distribution equity challenges, much like Georgia, especially after the establishment of a top-tier program. While eligibility requirements have fluctuated, enrollment of first-time freshmen at Florida's public postsecondary institutions grew from 64,791 in 1997 (the year before implementing Bright Futures) to 117,827 in 2012 (U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, 2015).

Kentucky—KEES

In 1990, nine years before the Kentucky Educational Excellence Scholarship (KEES) granted its first awards, only 31.8% of Kentucky residents over age 25 were high school graduates, while 8.1% of the same group held a bachelor's degree. The median household income was $22,534 and approximately 19.0% of its residents lived below the poverty line (*Digest of Education Statistics*, National Center for Education Statistics, U.S. Department of Education, Office of Educational Research and Improvement NCES 91–660).

Eligibility Requirements

Much like Georgia at inception, only one program was created to award merit-based aid to Kentucky students. The primary component was based on high school GPA, with the ability to earn bonus awards based on ACT/SAT scores and, for free or reduced-priced lunch students, qualifying scores on AP/IB exams. The design of KEES demonstrated some innovative thinking:

1) No applications—GPAs would be tracked each year of high school and reported to the state automatically. At the end of each year, students would receive notification of their total KEES award to date.
2) GPA calculation—KEES awards are not based on a single, cumulative GPA like many other programs. KEES uses GPA's at the end of each year of high school, allowing students a clean slate over each of their four years. This amounts to basically earning four KEES awards that are combined for a grand total.
3) No paperwork—Once students were enrolled at a postsecondary institution, scholarship funding would be sent directly to the financial aid department.
4) Sliding scale—Awards would be tied to performance. The higher the GPA and ACT, the more a student would earn up to a maximum cap of $2,500 per year.
5) Moderate renewal requirements—Many programs have an all-or-nothing approach to scholarship renewal. KEES provided for more than one opportunity to renew benefits, if lost, in an effort to support retention of disadvantaged students (Delaney, 2011, p. 8).

While the Kentucky General Assembly intended to make good on a promise that lottery proceeds would be directed toward education, citizens were caught off-guard at the award cap—the lowest average among the southeastern states. This should have come as no surprise given that minimum eligibility criteria for KEES were also among the least rigorous in the southeastern U.S.

While eligibility requirements for KEES have not changed over the years, enrollment before KEES implementation was flat compared to increased enrollment after KEES implementation as reported in the *Digest of Education Statistics.* Figures 10 and 11

below represent this trend graphically, demonstrating total fall enrollment at Kentucky public universities for the ten years preceding KEES (1989–1998) and the latest ten-year period for which official data is available (2003–2012) It is important to note that the increasing trend after KEES implementation should not be interpreted as inferential in any way.

Figure 10: Before KEES

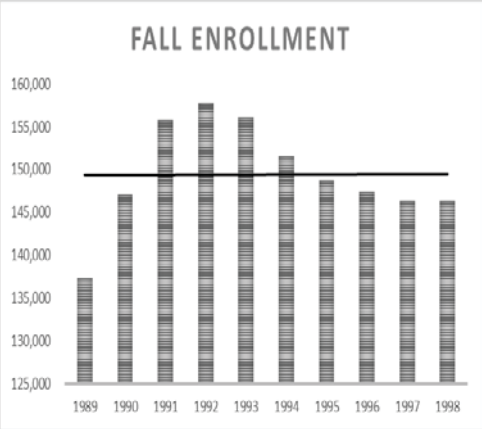
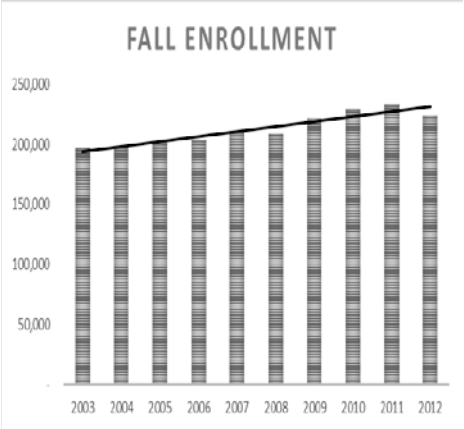


Figure 11: After KEES



National Center for Education Statistics, U.S. Department of Education, Office of Educational Research and Improvement

Distribution Equity

Senate Bill 21 created the KEES Scholarship, but also created two need-based grants to be funded by lottery proceeds—the College Access Program (CAP) and Kentucky Tuition Grant (KTG). After the mandatory $3 million is set aside for literacy programs, 45% of the remaining lottery proceeds is dedicated to KEES and 55 percent is dedicated to CAP (for low income students) and KTG (which helps pay for private colleges). The latter programs have been the subject of controversy regarding lottery funding.

Even though the 1998 Kentucky General Assembly legally outlined how lottery proceeds are to be spent, some of that funding nonetheless has been allocated for general

budget needs. In a 2014 report, the author describes how Kentucky lawmakers have diverted more than $100 million from the CAP and KTG programs since 2009. The KEES program is always funded at 100%, even slightly above the statutory requirement, but Blackford explains that "the legislature's decision to spend the money on other priorities further hurts an already fragile and inadequate financial aid system… it's part of why the state denied need-based aid to 86,000 qualified students in 2013;" she further notes that "financial struggles appear to be having a major impact on the graduation rates of low-income students, particularly adult students." According to information from the Council on Postsecondary Education, the bachelor's degree graduation rate for low-income Kentuckians fell to 34.5 percent in 2012 from 46.2 in 2009 (Blackford, 2014).

Kentucky high school senior Eliza Jane Schaeffer, who chairs the Prichard Committee Student Voice Team's School Governance Committee, issued an op-ed piece which accused the Kentucky General Assembly of illegally underfunding the CAP and KTG programs by $28 million between 2012 and 2016, and further compromising the state's integrity by passing a law in 2014 that permits the Kentucky Lottery Corporation to advertise the lottery as the 'key' funding source for higher education financial aid. She interviewed students in the Commonwealth about the shortfalls: high school junior Kyla Lockett stated that because of reduced need-based funding, "I have no idea how I'm going to afford college," while senior Jack Porter noted that "The lack of financial aid is already crippling to some, and we don't need to make it worse" (Schaeffer, 2016).

The Commonwealth of Kentucky isn't the only state that has reallocated lottery money away from its intended purpose. A study in 2007 revealed that in almost all of the 42 lottery states studied, a review of documents showed diversion of funding from their

original purpose. Also of importance is the fact that many states blend lottery money with other types of funding, making it difficult to determine exactly how much the lottery is benefiting students (Stodghill & Nixon, 2007). In Michigan, Texas, and Illinois, for example, state legislatures create education budgets in advance of lottery transfers. If lottery funding falls short or budgeted amounts, the states might augment the shortfall with general funds or even choose to award less money—the net result unclear to the public. Without state legislation strictly prohibiting fungibility of lottery revenues, as is done in Georgia, Oklahoma, and South Carolina, states use their own discretion in how or if financial obligations are met (Erekson, Deshano, Platt, & Ziegert 2002; Dale 2005).

Critics such as University of Kentucky President Eli Capilouto and University of Kentucky Provost Timothy Tracy argue that protecting merit-based aid, while allowing need-based aid to languish, is especially unfair given that so much of the KEES money goes to students whose families could afford to pay tuition and fees anyway (Seltzer 2017). Given that tuition in the state has increased at least 200% in the last 15 years, low-income families struggle even more. An additional buffer for the KEES program is unclaimed lottery prizes—an average of $9 million each year is placed in a reserve KEES account to maintain the stability of the program. To date, that account has received $126.5 million since 2003 (Kentucky Lottery Proceeds, 2017).

Much like Georgia and Florida, the objectives of the KEES program are to award student achievement and to keep high performing students in state for postsecondary education. Awards and retention rates mirror much of what Georgia and Florida struggle with: “From the latest study available by the Legislative Research Commission (LRC), about 88 percent of Kentucky high school students earn some amount of KEES money…

but about 40 percent of students lose their KEES eligibility after their first year of higher education" (Legislative Research Commission, 2011).

NASSGAP data for the period 2003-2012 illustrates that Kentucky's KEES scholarship funding trended upward, while recipients also trended upward, as seen in Figures 12 and 13 below. It is possible that awards and recipients have continually increased because eligibility requirements have remained constant since KEES implementation, as well as the comparatively small maximum award of $2,500.

Figure 12: KEES Awards/Year

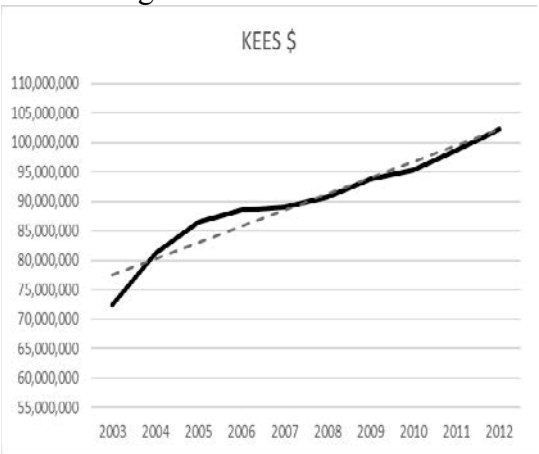
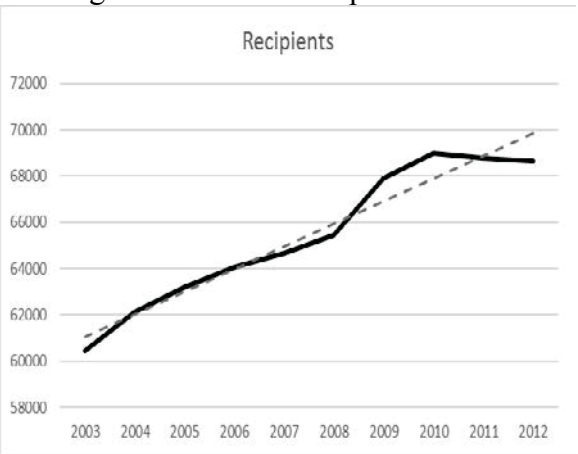


Figure 13: KEES Recipients/Year



NASSGAP Annual Surveys, 2003-2012

Scholarship Sufficiency and Policy Modification

The KEES base program has not experienced the same disruptive changes that HOPE and Bright Futures have battled. The only real modification came in 2010 when the Kentucky General Assembly changed the retention GPA from 3.0 to 2.5, as long as a student was on track to graduate. Otherwise, the program has operated without much incident and has enjoyed consistent funding year after year. Critics argue that since the KEES scholarship cap is so little, it doesn't go far in paying for postsecondary education, even though by law, all but $3 million of lottery revenue must be diverted to college

financial aid—the $3 million is dedicated to literacy programs (Letteer 2008; Kash & Lasley 2009).

Challenges to Sustainability

As for keeping the best and brightest students in state, a 2015 research project by Clark at the University of Kentucky reflected similar results on KEES and high-performing students as Zhang and Ness (2010), noting that:

> Kentucky was one of the states that experienced little change in the percentage of high performing students going out-of-state for higher education after implementation of a merit-based scholarship program. Kentucky's Legislative Research Commission has also reported little change in the percent of Kentucky high school graduates going out of state for higher education over the past seventeen years. (p. 20)

The current status of KEES in Kentucky is one of expansion—Governor Matt Bevin recently signed HB 206 which will allow students who earn a KEES scholarship to use the money toward workforce training, such as registered apprenticeship training programs. This expansion will serve many students for whom a 4-year degree is not the ultimate goal. He has been quoted as saying that he believes many of the students who qualify for existing need-based scholarships and grants will be eligible for aid through the proposed workforce scholarship funding Additionally, the governor has proposed ending the legislative practice of diverting lottery funds to the general budget, as well as establishing a fund for helping National Guard members attend college, but has left the CAP and KTG programs flat.

A January 2016 article citing data obtained from the Kentucky Center for Economic Policy indicated that "the Kentucky Lottery provided $221 million to state government. Under state law, 55 percent of that money is supposed to go to need-based college aid. Instead, lawmakers took $28 million and diverted it to the General Fund. That year, 62,000 eligible students were denied need-based scholarships because the funds ran dry, the center estimated" (Blackford, 2016).

In summary, the KEES program appears to be stable and secure for now, not having faced challenges arising from policy modifications or distribution equity, as experienced in Georgia and Florida. As a result, enrollment of first-time freshmen at Kentucky's public postsecondary institutions grew slowly, but steadily, from 23,260 in 1998 (the year before implementing KEES) to 32,450 in 2012 (U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, 2015).

Case Study Synthesis

While the three states examined in the case study are unique and possess state-specific qualities, there are certain trends that emerged upon researching them as a group. First and foremost is the common context of why and how state lottery scholarships were implemented, followed by trends in legislative policy modification and, lastly, inequality of funding distribution. These trends are addressed below and further interpreted in the final chapter.

Each of the lottery scholarships were created to address the low educational standards of its citizenry. Based on postsecondary data/statistical reporting in 1990 by the Department of Education, all three states reflected low population numbers (less than

32%) of residents over age 25 who were high school graduates. Likewise, none of them boasted higher than 12.9% of that same population with bachelor's degrees. Combined with low average household incomes and high poverty rates, each state's legislative body created scholarships to be funded by their state lottery.

Unlike Florida, which administers its lottery scholarship program through its own Department of Education, Georgia and Kentucky administer their lottery scholarships through established higher education assistance authorities. The establishment of these quasi-private corporations to run state lotteries differs substantially from state agencies. Within this type of structure, the lottery corporation transfers portions of revenues from sales to the higher education assistance authority, which then administers scholarships. When a state administers its own lottery, its processes and functions are subject to state statutes and bureaucracy, while lottery corporations operate largely outside of state government (Douglas, 2001). Though these corporations are owned by the state, they are not considered state agencies per se. Because of this distinction, much of their operating decisions fall to their own discretion rather than being regulated by state government.

Since lottery corporations are technically an arm of the state government, they are also not subject to Federal Trade Commission regulations. This means they have latitude when it comes to advertising and promotion. Additionally, the ethical question arises as to the appropriateness of a state promoting or having a vested interest in citizen gambling (Heberling, 2002; Boyd, 2013; Lebioda, 2014).

Scholarship Implementation

Georgia led the way by creating a scholarship that would reward scholastic achievement, but also incentivize staying in state for college. There is support in the

literature that merit-based aid increases resident enrollment and decreases out-of-state enrollment (Liang, Shouping, Liang, & Shi 2016; Zhang, Hu, & Sensenig 2013; Zhang & Ness 2010; Dynarski 2004). Florida and Kentucky followed suit in creating similar programs, though all three states established different funding levels for their base programs. Common to the three programs was an initial eligibility GPA (3.0 for Georgia and Florida, 2.5 for Kentucky) and the stipulation that the same GPA be maintained to renew the base scholarship each year of postsecondary work. Kentucky would later drop its renewal GPA to 2.5 as long as the student was on track to graduate.

One difference in the three programs was the initial eligibility requirements. Georgia and Kentucky allowed either an ACT score or high school GPA to qualify for their base programs, while Florida required both. All three established provisions for home-schooled students to qualify and none of the three allowed students to pursue their education on a part-time basis (this changed later in all three states). Additionally, both Kentucky and Florida required completion of core courses at the high school level to be eligible for their scholarships.

All three states saw increases of eligible students in the first few years—outperforming estimates and, more importantly, budgeted funding. This factor was the primary impetus for policy changes to the Georgia and Florida programs. The establishment of more elite awards—Georgia's Zell Miller and Florida's FAS—most certainly impacted base programs in both states. The end results were, of course, lower total base awards and fewer students able to utilize them. Georgia's HOPE scholarship also modified its awards from full tuition, fees, and books to a percentage of tuition only based on credit hours (up 15 hours), established each year by the Georgia Student

Finance Commission, its administrator. Florida's FMS scholarship graduated through several iterations of funding levels; first, it covered 75% of tuition and fees, then split into two tiers—75% of tuition and fees for those pursuing a bachelor's degree and 100% pursuing an associate degree—before finally landing on a per credit hour fee structure. As stated earlier, Kentucky has maintained the same sliding scale based on GPA and/or ACT/SAT scores with the possibility of adding bonuses to the base program, not to exceed $2,500 total per year of postsecondary education. It is worth noting that the KEES program added another bonus for low-income students who pass AP exams.

Scholarship Policy

As a result of policy changes, lottery scholarships have failed to keep pace with tuition increases. This is especially true for Kentucky's continued maximum award of $2,500 regardless of tuition rates. During the years that the HOPE scholarship covered 100% of tuition and the FMS scholarship paid for 75% of tuition, this issue was not problematic—as tuition increased, so did the HOPE and FMS scholarships. Changes in funding structures, however, created situations in which students struggled to meet rising tuition costs. Georgia converted to a structure based on percentage of tuition as set each year by the state's finance commission, Florida converted to a flat maximum rate per credit hour, and Kentucky maintained its rates based on GPA and ACT/SAT scores, up to a cap of $2,500.

As reflected in the National Center for Education Statistics' *Digest of Education Statistics*—released by the Department of Education each year on their website nces.ed.gov—average in-state tuition rates at public 4-year postsecondary institutions have increased precipitously since the implementation of state lottery scholarships—

Georgia's rose 250% from 1993 to 2013, Florida's rose 131% from 1997 to 2013, and Kentucky's rose 220% from 1999 to 2013. This disparity has potentially affected students' abilities to afford a college education.

Scholarship Distribution

The final and most persistent theme for all three states in the study was inequality of funding distribution. In reviewing the evidence presented in this study, such as interviews, newspaper articles, government reports, magazine exposés, and other non-peer reviewed sources, the general increase in complaints about lottery scholarship programs appears to have coincided with modifications to those programs, including the creation of another, more rigorous layer in Georgia and Florida. Though Kentucky has only the one merit-based program, the need-based component of student lottery grant aid has a history of being underfunded despite state legislation to protect such programs. As politicians underestimated both the necessary minimum funding for, and future popularity of, lottery programs, it was reform that generated the most negative stakeholder feedback.

While lottery funding awarded each year is advertised and promoted ubiquitously, over $6 billion spent in the U.S. in 2016 alone (Isidore, 2017), recipient numbers tend to be highlighted rather vaguely, most often in aggregate form since the inception of the scholarship. Because of budget numbers made public, stakeholders watch with interest to assess exactly how much money is going toward education, while the number of scholarship recipients themselves is harder to ascertain without some investigation.

Actual program cuts are well documented, as are the numbers of students who were eligible for awards, but unable to earn them due to budgetary shortfalls. Myriad

solutions have been proposed—most of which involve changing funding formulae, which includes allocating more lottery and/or general state dollars. One interesting proposal for Georgia was posited by Burns (2014):

> Why not abolish the Zell Miller Scholarship? The days of a true "full ride" are gone anyway, as the Zell doesn't cover fees either. Holding on to a faded promise reduces funds available to other HOPE recipients—and creates a widening gap between those who receive full tuition and those who don't. Given the SAT's undeniable correlation with family income, it is not an appropriate benchmark for disbursing public funds—even for a merit-based scholarship. Let's cut our losses quickly, before the Zell starts eating up a disproportionate amount of the GSFC's budget. (p. 63)

Suggestions of this type are of little use unless politicians endorse them. In examining legislation that actually has occurred, policymakers try not to stray too far from a program's legislative intent unless evidence points to needed reform. Many scholars, however, support Burns' proposal as a solution to lottery scholarship programs' negative and unintended consequences (Selingo, 2001; Heller, 2002; Ellis, 2007; McKinney, 2009). These researchers cite a conflict between policy goals and program implementation. As such, they suggest policy alternatives that include at least some portion of need-based aid to best balance "cost efficiency, distribution equity, and political feasibility" (McKinney, 2009, p. 93).

Summary

The inspiration for this project was the work of Stanley and French (2005) in which lottery scholarships were measured to determine significance on public

postsecondary enrollment within an aggregate group of southern states. The research question was whether lottery-funded scholarships help to increase enrollment at public institutions of higher education in Florida, Georgia, and Kentucky. Again, these states were chosen because of their proximity to each other, similar years of lottery scholarship implementation, and shared political culture. This study revealed important outcomes from answering the questions of inquiry and evaluating the preliminary expected outcomes.

By utilizing a framework for addressing the case study states consistently and systematically, the researcher was able to address each state's academic eligibility requirements, assess recipient perceptions, and identify challenges in each program. Likewise, research confirmed and expounded upon preliminary expected outcomes:

- Eligibility requirements for each state program established minimum benchmarks for earning lottery scholarships, including GPA, test scores, and prerequisite coursework, while modifications were employed to better align scholarships with available funding and student performance. Additional data for all three case study states showed increasing trends in enrollment after lottery scholarship implementation, which may or may not have been aided by those scholarship programs, but moreover, the case study states demonstrated trend increases in both recipients and total awards for the years 2002–2012, indicating overall program growth.
- Program award levels in each state were initially considered adequate by students, but, following program changes, no longer sufficiently met students' expected

levels of financial aid. This problem has been exacerbated by tuition increases not indexed to those award amounts.

- Challenges to each program arose after implementation and included issues such as the manner by which funding is disbursed and the extent to which diverse groups of students are represented in award structures. This was especially true for Georgia and Florida, where there are two tiers of scholarship awards based on different sets of criteria.

Each of the outcomes above are discussed further in the last chapter, as well as interpretations of their importance in the context of financial aid moving into the future.

V: DISCUSSION

Introduction

This chapter explores the interpretation of noteworthy outcomes of the study and potential solutions to lottery scholarship program challenges. To briefly restate, the research question for this study was whether lottery scholarships help increase enrollment at public institutions of higher education in Georgia, Florida, and Kentucky. Other questions in the study included how the states in the study established eligibility requirements, whether recipients considered their scholarships to be adequate in meeting postsecondary financial need, and the potential challenges to program sustainability. Employing a case study approach, sources included the National Center for Education Statistics and the National Association of State Student Grant and Aid Programs, an examination of student and parent interviews from various peer-reviewed journals and non-peer reviewed articles, reports and interviews on state programs by university officials and scholars, as well as articles published in numerous newspapers and magazines.

Outcomes

The primary outcomes of the study include the 1) inequitable distribution of awards, 2) failure to index awards, 3) low retention rates of lottery scholarships, and 4) the effects of mercurial legislative changes. Each of these outcomes is addressed individually in the section below.

The project yielded useful information on lottery scholarships and the role they have played in postsecondary education at public institutions of higher education for the years prior to and following lottery scholarship implementation. The study also produced the preliminary expected outcomes, in addition to others not anticipated. Lastly, qualitative outcomes met the project objectives, addressed the questions of inquiry, and enhanced the existing research by comparing the three state lottery scholarship programs with state specific trend information.

Interpretation of Outcomes

Inequitable Distribution of Awards

Historically, financial aid has focused on students who demonstrated need. The implementation of lottery-based scholarships, however, has shifted that focus to merit-based criteria. Interviews about lottery scholarship distribution, especially with parents, revealed that there is a perception of inequality. Comments indicated that, even though these awards were established to help B-average students meet the financial need of attending postsecondary institutions, top tier students from more affluent families seemed to receive preference in scholarship awards. If this is the case, it is possible that lottery scholarships widen the gap between low-and high-income students, as well as between racial groups, who enroll for college.

The case study noted several students who addressed their reliance on lottery scholarships even though they struggled with the total cost of attending college—changes in funding formulae notwithstanding. Indeed, the students who reported struggling the least were those whose families could afford their postsecondary education with or without lottery funding (Heller, 2002; Harkreader et al, 2008; Kash and Lasley, 2009)).

The existing research on eligibility supports the assertion that top-tier students, relatively wealthier and with higher test scores, disproportionately receive lottery scholarships. These students, researchers note, are more likely to attend institutions of postsecondary education regardless of receiving lottery scholarships or any other form of merit-based aid (Dynarski 2000; Wright 2001; Downey 2011; Monroe 2013; Stewart 2013; Burns & Riley 2014). This translates into decreased funding levels, and reduced college access, for lower income and minority students (Bowden & Elrod 2004). Since lottery scholarship increases are not directly tied to postsecondary tuition and fees, the more successful these programs become, the less lottery revenues cover costs of awards and, in turn, the less affordable college becomes. This can impact lower socioeconomic students more profoundly and decrease enrollment for these groups (Heller & Marin 2002, 2004; Kash & Lasley 2009).

Another perceived factor of distribution equity involves the growth of merit-based lottery funding versus growth of need-based programs, though the literature does not reflect the assertion that merit-based aid "crowds out" need-based aid. Research by Longanecker (2002), Doyle (2010), and Singell et al (2006) failed to find a statistically significant relationship between funding changes in merit-based aid and funding changes in need-based aid. Longanecker analyzed NASSGAP (National Association of State Student Grant & Aid Programs) data over a five-year period and reported that "despite the precipitous increase in merit-based aid, need-based aid also grew substantially" (p. 32). Additionally, he evaluated 25 states that provide the highest levels of need-based aid and found only six that increased merit-based funding more than need-based. Singell et al went further by stating that "needy students seem to have benefited with the introduction

of merit aid in a similar way as more financially able students" (p. 95), while Doyle's analysis "fails to find any relationship between changes in funding for merit-based aid programs and changes in funding for need-based aid programs" (p. 412).

One possible explanation for the disparity between availability of need-based aid compared to merit-based aid is the funding mechanisms used to award types of aid. For example, the states in the study fund their merit-based aid programs with lottery revenue while very little of that lottery revenue is dedicated to need-based aid. Needy students often rely on Pell Grants and other state and federal funding dollars, often financed through tax dollars.

The focus on the "best and brightest," identified in the introduction chapter as a primary reason for establishment of lottery scholarships, was overwhelmingly evidenced in the literature and is a possible easy win for states when considering how to award lottery dollars. Legislators strive for results that fulfill campaign promises and provide to their constituencies a justification for election to their office—perhaps top-tier student success is simply low-hanging fruit that reinforces the argument that lottery scholarships drive educational outcomes. If, however, top-tier students are likely to attend postsecondary institutions anyway, the argument could be made that lottery scholarships can only increase enrollment levels if they are awarded to students who wouldn't attend otherwise.

Failure to Index Awards

Student and parent interviews from the three case study states cited in chapter four overwhelmingly indicated that tuition increases affected the ability to afford postsecondary education. The rate at which tuition and fees has risen since the

implementation of lottery scholarships could be a rather straightforward explanation for why these scholarships might not help to increase enrollment, especially if lottery awards do not keep pace with tuition increases and inflation. While this possibility would certainly impact those students who have already received a lottery scholarship, it might be even more critical to those who cannot earn a lottery scholarship because the higher costs of tuition eat through more of the available lottery revenue and reduce the number of available scholarships—a simple matter of cost and demand. This was demonstrated in a recent study that argued that tuition increased more than it would have if lottery scholarships did not exist (Upton, 2016).

While lottery scholarships in the three case study states are legislatively mandated, those programs with more than one tier have specific protocols in place to fully fund the top tier first. This allows those students to better cover rising tuition costs than students in subsequent tiers or other programs that might be funded by lottery revenues, such as grants that receive leftover lottery dollars. Scholars have studied the negative effects of tuition increases on the impact of lottery scholarships (Monroe 2003; Selingo 2004; Shearer 2014) and their relationship to decreased enrollment numbers. Selingo (2004) reports that Georgia tuition and fees have increased more than even state officials anticipated: "In the last decade, tuition increased 73 percent, on average, while fees shot up an average of 124 percent…each time tuition and fees rise, so does the cost of HOPE" (p. A1). Likewise, McKinney (2009) points out that Florida legislators passed a bill in 2008 that permitted universities to "raise tuition significantly over the next several years" and that "this 'tuition differential' will not be covered" by the Bright Futures Scholarship program (p. 93). Obviously, any increases in Kentucky tuition rates

mean less coverage by KEES since the maximum award of $2,500 has never been adjusted for inflation or increases in the cost of postsecondary education.

As noted in chapter four, average in-state tuition at public 4-year universities in Georgia, Florida, and Kentucky have risen 250%, 131%, and 220%, respectively, since their implementation years (*Digest of Education Statistics, 2012)*. During Georgia's and Florida's early years, when lottery scholarships paid a percentage of tuition rather than a flat rate, the significance of these awards was more readily illustrated. However, any increases in tuition meant more out-of-pocket cost, despite lottery scholarships. This is consistent with Liang, Shouping, Liang, and Shi's (2016) suggestion that "the effect of financial aid may not be proportional to the magnitude of aid" (p. 143).

This finding could mean that students cannot attend their school of choice due to varying cost by institution. Schools with higher tuition rates might be out of reach for these students when calculating their ability to pay. As such, the argument could be made that lottery scholarships reduce access to postsecondary education for students who must choose from a limited set of affordable options.

Low Retention Rates of Lottery Scholarships

Another important outcome of this study was the surprising number of students who fail to retain their lottery scholarship. In all three case study states, lottery scholarship retention after the first year of postsecondary education averaged 50% or less (Dee & Jackson, 1999; Resch & Hall, 2002; Henry, Rubenstein, & Bugler, 2004; Condon, Prince, & Stuckart, 2011; Diamond, 2011; Kash & Lasley, 2011), though each of the three states do offer students an opportunity to regain their scholarship. This is problematic, however, since the primary variable for retaining lottery scholarships is

GPA—a low GPA results in a student losing their scholarship, while the ability to regain that same scholarship is also based on GPA. Increasing a student GPA, with the goal of regaining a lottery scholarship, takes time. Some students cannot take the time to work on their GPA without a lottery scholarship to aid in financing such an endeavor. Given this dilemma, it is not surprising that poor lottery scholarship retention could negatively affect enrollment levels.

This element is more pronounced for students who are on the GPA borderline (3.0 for Georgia and Florida and 2.50 for Kentucky) for retaining lottery scholarships. The literature suggests that these students fare even worse, with average retention rates of only 8–15% (Henry et al, 2004; Condon et al, 2011; Kash & Lasley, 2011). Unfortunately, very little research exists with respect to lottery scholarship retention across student socioeconomic status (SES), likely due to the majority of studies controlling for SES variables rather than assessing them as predictor variables (ASHE Higher Education Report, 2007; Choy, Horn, Nunex, & Xianglei, 2000; Trant, Crabtree, Ciancio, Hart, Watson, & Williams, 2014).

A potential explanation for this outcome is students pursuing academic studies that are more difficult, such as STEM majors in mathematics and engineering. Classes in these majors are quite rigorous and can make maintaining a B average an arduous task. Additionally, students who carry a heavier load of credit hours may struggle to keep their GPAs up. This researcher is familiar with students who have dropped classes just to maintain their lottery scholarships, which can lead to problems down the road in meeting major requirements in a timely fashion. Students often fail to utilize resources designed to mitigate issues like difficult classes and heavy course loads, such as tutoring, study

groups, seminars on study skills, and individual assistance from professors. Taking advantage of these resources could make a difference in retention rates of lottery scholarships.

Effects of Mercurial Legislative Changes

Of all the financial aid difficulties cited by students in chapter four, changes in both lottery scholarship eligibility and requirements for retention appeared to be the strongest common thread. While state legislative bodies have seemingly pursued avenues to extend the life of lottery scholarship programs, they have done so by tightening program requirements (Condon et al, 2011; Dilonardo, 2012; Turner, 2012). For example, the basic HOPE Scholarship began as a funding mechanism that covered 100% of tuition and fees as long as the student maintained a 3.0 GPA. After various modifications throughout the years of the program, however, eligibility now requires rigorous coursework to be completed in order to qualify for an award, in addition to retaining a 3.0 at the end of every spring term. For the top-tier Zell Miller Scholarship, students must have a minimum 3.7 GPA and score a minimum combined math and reading of 1200 on the SAT or a minimum composite score of 26 on the ACT. Similar changes have transpired for Florida's Bright Futures Program, while Kentucky's KEES Scholarship requirements have remained flat.

These changes have been particularly challenging for students who began receiving awards under one structure, but then were held to different standards following relevant legislation. Policymakers have pointed to program growth and insufficient lottery funding as justification for altering program structure, though no evidence exists that states opted to finance the changes through utilization of other state funding

(Duffourc, 2006). As mentioned in chapter four, states maintain lottery reserves to ensure the viability of scholarship programs. These reserves, however, are not earmarked to cover the difference after program requirements are modified. As presented, the only guaranteed funding mechanisms are the top tier scholarships—Georgia's Zell Miller and Florida's FAS. Kentucky guarantees its KEES scholarships regardless of lottery funding changes, but that may change if the Kentucky lottery ever faces significant financial problems. Likewise, further modifications are possible in Georgia and Florida depending on lottery revenues.

A potential explanation for how this outcome affects enrollment could be the inability of students to pay the differential between anticipated costs before policy modifications and actual costs afterward. Students who cannot afford the extra charges may withdraw from school. This can be particularly true for low-income students.

Another explanation could be the pronounced effect of changes between top tier programs (Zell Miller and FAS) and base program scholarships. The decision by state legislatures to create two levels of scholarships may have forced students in the base program to drop out since it doesn't cover as much of the costs of attending postsecondary institutions.

Postsecondary Officials' Perceptions

In an effort to enhance the case study's findings, public postsecondary school officials—specifically, directors of financial aid and admissions—were contacted in each case study state to discuss lottery scholarships. Officials from large universities and mid-sized/regional universities in each of the three study states were interviewed and asked for their perceptions about lottery scholarships. The researcher made clear that their

expected answers should not be quantitative in nature, but rather perspectives and opinions. Responses were transcribed, and respondent names and corresponding universities were deleted to ensure anonymity. Each official was asked the following questions:

Please describe:

1) Your role/position at your institution.

2) Your knowledge of your state's lottery scholarship program.

3) Your perception of lottery scholarships as they relate to enrollment impact.

4) What you feel to be the strengths and the weaknesses of lottery scholarships.

5) How you predict lottery scholarships will change in the future.

Additionally, respondents were asked:

6) One of my findings suggests an inequality of distribution of lottery scholarships—that they are more often awarded to students who would receive other scholarships anyway. Can you speak to this?

7) Another of my findings suggests that lottery scholarship retention is low. Can you speak to this?

Officials' comments did support the study's outcomes, with the majority asserting that: 1) lottery scholarships increase enrollment, 2) there is an inequality of distribution of these scholarships, and 3) retention issues are prevalent, especially after the first year. Additionally, officials agreed that grade inflation was a legitimate concern and that the future impact of lottery scholarships will be threatened by increasing costs that dilute the strength and effectiveness of lottery scholarship awards.

Identified strengths of lottery scholarships included keeping students in state, helping keep students on track, rewarding academic success, and promoting school choice. Weaknesses included the increasing number of "hoops" or changing eligibility requirements, the penalizing of more rigorous majors, and lottery scholarships' diminishing role in meeting total educational cost. One unexpected finding from the interviews was agreement that eligibility requirements should not be changed to consider student need when awarding lottery scholarships. Officials felt that adequate resources exist—specifically, federal funding—to assist low income students and that merit-based awards are the original intent of lottery scholarships.

Overall, the interviews provided a practical application of research literature findings, as well as qualitative depth to the study. Individual responses, as noted in Figure 14, are consistent with the study's preliminary expected outcomes and may serve as keen observations for school officials' future interactions with politicians and legislatures, potentially informing lottery scholarship structures going forward.

Figure 14: Interview Responses of Postsecondary Officials

Official	A	B	C	D	E	F
School size	Large	Regional	Large	Regional	Large	Regional
Increases enrollment	Yes	Yes	Maybe	Yes	Yes	Yes
Inequality of distribution	Yes	Yes	Yes	Yes	Yes	Yes
Retention problems?	Yes	Yes	Maybe	Yes	Yes	Yes
Grade inflation a problem	Yes	Yes	Yes	Yes	Maybe – GPAs and ACTs don't align	Maybe
Change eligibility for needy students	No	Yes	No	No	No	No
Strengths	Keeps students in state; important in covering costs	Students can regain the scholarship; Scholarships help keep students on track	Scholarships address a need; scholarships award academic success	Two tier system awards top students while helping B-average students	Gives good students an advantage; promotes school choice	Without the scholarship, more students would attend community college
Weaknesses	Recipient income gap; encourages reduction of other awards	Too many hoops/changing requirements; diminishing role in meeting costs	Grade inflation has become a form of affirmative action	None	Rigorous majors are penalized	Maximum award is small in relation to cost of attendance
Future	Look at income caps; emphasize high school course rigor; weight STEM major course grades	If legislation remains steady, scholarships will continue to do their job	Need to support career pathways	As cost of attendance increases, might see a drop in enrollment due to insufficient coverage	Proposed legislation endangers scholarships; might become an attendance scholarship rather than an academic scholarship	Lottery sales have plateaued, so scholarships won't meet future needs

Potential Solutions to Lottery Scholarship Program Challenges

As cited in the literature, lotteries have life cycles and tend to smooth out after a few years (Heberling, 2002; Mason, Steagall, Shapiro, & Fabritius, 2005; Daberkow & Wei, 2012). States with lotteries attempt to craft new games and funding vehicles to increase lottery sales and maintain total sales revenues. For example, Kentucky recently adopted online purchasing in order to drive traffic toward ticket sales. While the number of students applying for, or being eligible for, lottery scholarships remains steady, or even increasing, states recognize that more changes could be required to preserve their scholarship programs.

There are several possible avenues to increase the success of lottery scholarship programs as measured by enrollment levels. These are addressed below and include legislative changes geared toward need-based aid, policies separating and safeguarding earmarked lottery revenues for scholarships, and changing eligibility requirements. Ultimately, awarding these scholarships must be "cost effective and politically acceptable" (McKinney, 2009, p. 94).

Legislation for Need-Based Aid

The literature reflects a small but growing body of research suggesting that modifying lottery scholarship programs to include more low-income students could result in greater program success and, potentially, higher enrollment (Borg & Stranahan, 2000; Heller & Rasmussen, 2001; Selingo, 2001; Emerson, 2007; McKinney, 2009). Studies mentioned in chapter four provided strong evidence that the majority of lottery scholarships are awarded to students who would likely attend college anyway and that

these students come from more affluent families. Therefore, a variety of possibilities exist for including low-income students.

First, state lottery scholarship programs could create a need-based bonus that would increase a student's total scholarship award (Ellis, 2007). This might level the playing field for students who don't come from more affluent families and could increase access to a postsecondary education for this group. Second, states could establish a standalone state program for need-based aid above and beyond federal funding such as Pell grants. This type of program would specifically identify the low-income target population and clearly delineate the exact dollar figure set aside to promote increased access. Third, mirroring early HOPE criteria, states could cap family income levels for students seeking lottery scholarships. If, as the literature indicated, students from wealthier families will attend regardless of lottery scholarships, a shift in funding focus might promote enrollment of lower-income students. Lastly, states could convert existing merit-based programs to blended merit- and need-based programs (Ness and Nolan, 2007). Again, if the focus is driving total enrollment, states might see a greater number of students qualifying for scholarships.

The first two options would likely increase the overall costs of a lottery scholarship program while the latter two could reduce the total number of scholarships awarded each year, thus reducing total costs. If, as it is argued by scholars, top-tier students will enroll in college without receiving a lottery scholarship, marketing to lower income students could theoretically drive enrollment numbers up (McKinney, 2009; Kash & Lasley, 2011; McNeill, 2014).

Earmarking Lottery Revenues

The literature review in chapter two addressed how lottery revenues are directed to various causes in states scholarship programs. One similarity among these states was the fungibility of revenues, the "substitution of the revenue for other monies previously allocated for education" (Allen, 1991, p. 305). Even if funding is earmarked for education, existing funding might be transferred to another area of state need once lottery dollars arrive, leading to a zero-net effect. Specifically defining the total amount and procedures for spending lottery revenues in a transparent manner does not appear to be the goal of all legislatures. As such, there are options for states seeking this type of transparency.

First, state legislatures could stipulate that all lottery revenues are to supplement other types of education funding, rather than supplant them, and budget accordingly. Preventing fungibility could ensure that lottery dollars are applied in the manner voters perceive them to be. Second, states could prohibit the blending of lottery revenues with general funding or other asset categories so that those dollars are easily identified (Ellis, 2007). While some states may fund lottery scholarships regardless of the pools from which they are drawn, creating specific line item asset categories would make it easier to track lottery revenues. Third, states could mandate bright-line rules in budgets for all costs and expenses associated with administering the state's lottery. If lottery overhead isn't reported and monitored, inefficiency could whittle away dollars best served as scholarships. Lastly, a controversial option would be to allocate lottery scholarship dollars by university.

According to the Georgia State Finance Commission, approximately 50% of HOPE program dollars are awarded to students attending five research and comprehensive universities in the state of Georgia. Adding to that restriction, Zell Miller recipients, who receive full tuition awards, attend the most expensive universities in the state. The result of these two factors is a smaller pool of available funding for the 3.0 HOPE scholarship student. By allocating funding by school, top-tier students and parents alike would likely vehemently protest because it would limit school choice and dramatically increase competition at the larger more expensive universities, even though it might also mean that students who want to attend smaller, private, or historically-black schools could receive a larger share of funds. This option could potentially reach more low-income students, as well as a more diverse body.

While states cannot legislate away the regressive nature of lottery sales, they can "strive to link lottery proceeds to programs that impact the poor" (Ellis, 2007, p. 8). These linkages have the potential to boost enrollment levels while assisting low-income students in meaningful ways.

Redefining Eligibility

The manner by which states identify students who meet requirements for lottery scholarships is fairly consistent across states with these programs, utilizing some blend of high school GPA, standardized test scores, completed rigorous coursework, and even community service. To reach more students, there are a few legislative changes to eligibility requirements that states could implement to increase enrollment. First, states could eliminate the standardized test score criterion. The literature review indicated that higher scores are significantly correlated to race and income. By utilizing other criteria,

more low-income and at-risk students could benefit from lottery scholarships. Second, states could link scholarship distribution to GPA alone. Ellis (2007) argues that "high school GPA is relative…ideally students at typically lower-achieving high schools would qualify for the award at the same rate as students at typically higher-achieving high schools" (p. 8). This modification could promote greater access to higher education and potentially increase enrollment. Lastly, states could opt to award lottery scholarships to students in the top 3-5% across the board in each high school. This would have the potential to reach a more diverse population, since some students excel academically by taking harder coursework leading to advanced diplomas while others take classes outlined for a standard diploma. Either way, top GPAs would be eligible regardless of course rigor.

Limitations

Limitations for this study include the lack of information regarding students who regain lottery scholarships after losing them, the number who apply for versus receive scholarships, the percentage of students who qualify for lottery scholarships but do not accept them due to financial constraints, demographic variances of scholarship recipients, and the number of students who choose to attend college out of state even though they qualify for a lottery scholarship in their home state. These limitations could be readily addressed by researching quantitative data at the institution level.

Conclusion

After examination of evidence and outcomes, this researcher discovered numerous potential problems associated with lottery-funded scholarships aimed at helping to increase enrollment at public institutions of higher education in Georgia,

Florida, and Kentucky based on student and scholar assessments alike. This begs the question of why states award these scholarships at all if they aren't increasing enrollment.

The primary defense for these programs are that they are statutorily mandated in each of the case study's three states and residents expect them to remain so. In fact, Ghent and Grant (2010) found that in the state of Georgia, 68% of voters specifically approved the lottery only because it supported education and that if that was no longer the case, they would vote to end it. Like many entitlement programs, voters perceive benefits that may not justify continued funding—such as social security or Medicare—because they anticipate being beneficiaries someday. In this case, the perception that students need and deserve such programs can drive voter behavior and expectations of state legislation, much like the popular DARE program, which is popular with funders even though evidence suggests it is cost prohibitive and might actually accelerate drug experimentation and use in younger students.

While this case study did not quantitatively seek to demonstrate a correlation between lottery scholarships and enrollment, the outcomes did speak to their impact on students' pursuit of higher education. Moon, Stanley, & Shin (2005) and Menifield, Clay, & Lawhead (2009) found evidence that indicated states with lotteries had higher 1) per pupil expenditures, 2) high school graduation rates, and 3) scores on the ACT and SAT than states without lotteries. Based on these outcomes, it is possible that lottery scholarship states do enjoy direct positive gains in enrollment but are canceled out by factors such as retention and attrition due to rising costs of education, ultimately resulting in little net gain.

One purpose of this study was to help fill a gap in the literature on lottery scholarship impact. The importance of this query stems from the need to assess both access to and effectiveness of lottery dollars in the larger scheme of postsecondary education. The researcher identified several challenges to lottery scholarship programs as they currently exist and outlined potential solutions to these problems which could affect the future of these programs.

The case study soundly illustrated the complexity of these funding mechanisms and highlighted the need for further research on state-level efficacy of lottery scholarship programs, specifically as they relate to enrollment. The aggregate research of Stanley and French is now dated and doesn't evaluate individual state results. Academically rigorous studies that quantitatively address data on enrollment levels and lottery scholarship funding, as well as other related factors, could help inform policymaking and promote efficiency of lottery scholarship programs. Because of the potentially expanding gaps between income and racial groups who receive lottery scholarships, future research should concentrate on the question of whether lottery scholarship programs are accomplishing their policy goals of increasing access to postsecondary education and improving education outcomes across the spectrum of students.

BIBLIOGRAPHY

A Comparison of States' Lottery Scholarship Programs. (2012). *A report from the Policy, Planning, and Research Division of the Tennessee Higher Education Commission*. Retrieved from http://thec.ppr.tn.gov/THECSIS/Lottery/pdfs/SpecialReports/.

Allen, P. J. (1991). The allocation of lottery revenue to education in Florida, California, Michigan, and Illinois. *Educational Policy*, *5*(3), 296.

Berry, F. S., & Berry, W. D. (1990). State Lottery Adoptions as Policy Innovations: An Event History Analysis. *The American Political Science Review*, (2). 395.

Bishop, J. H. (1996). Signaling, incentives and school organization in France, the Netherlands, Britain and the United States in E. A. Hanushek & D. W. Jorgenson (Eds.), *Improving America's schools: The role of incentives*. Washington, DC: National Academy Press.

Blalock, G., Just, D. R., & Simon, D. H. (2007). Hitting the Jackpot or Hitting the Skids: Entertainment, Poverty, and the Demand for State Lotteries. *The American Journal of Economics and Sociology*, (3). 545.

Bobbitt, R. (2003). The Tennessee Lottery Battle: Education Funding vs. Moral Values in the Volunteer State. *Public Relations Quarterly*, *48*(4), 39.

Borg, M. O., & Mason, P. M. (1990). Earmarked Lottery Revenues: Positive Windfalls or Concealed Redistribution Mechanisms? *Journal of Education Finance*, *15*(3), 289–301.

Borg, M. O., & Mason, P. M. (1988). The Budgetary Incidence of a Lottery to Support Education. *National Tax Journal*, *41*(1), 75–85.

Borg, M. O., Mason, P. M., & Shapiro, S. L. (1991). The Incidence of Taxes on Casino Gambling: Exploiting the Tired and Poor. *The American Journal of Economics and Sociology*, (3). 323.

Borg, M. O., & Stranahan, H. A. (2005). Does Lottery Advertising Exploit Disadvantaged and Vulnerable Markets? *Business Ethics Quarterly*, *15*(1), 23–35.

Brady, K. P., & Pijanowski, J. C. (2007). Maximizing State Lottery Dollars for Public Education: An Analysis of Current State Lottery Models. *Journal of Educational Research & Policy Studies*, *7*(2), 20–37.

Burns, R. (2014). HOPE Glass Half-Full. *Atlanta*, *54*(1), 62–63.

Burns, R., & Riley, B. (2014). HOPE at 20. *Atlanta*, *54*(1), 57–61.

Campbell, N., & Finney, R. Z. (2005). Mitigating the Combined Distributional Consequences of the Georgia Lottery for Education and the HOPE Scholarship. *Social Science Quarterly (Wiley-Blackwell)*, *86*(3), 746–758.

Clark, R. (2015). Does KEES Help Retain High-Performing Students In-State for Higher Education? Retrieved from http://martin.uky.edu/sites/martin.uky.edu/files/Capstone_Projects/Capstones_2015/Clark.pdf.

Combs, K.L., Kim, J., & Spry, J.A. (2008). The Relative Regressivity of Seven Lottery Games. *Applied Economics, 40*(1), 35–39.

Condon, J. V., Prince, L. H., & Stuckart, E. B. (2011). Georgia's HOPE Scholarship Program after 18 Years: Benefits, Unintended Consequences, and Changes. *Journal of Student Financial Aid*, *41*(1), 18.

Constantine, D., & Lighthiser, M. A. (2011). Education. *Georgia State University Law Review*, *28*(1), 193.

Cornwell, C., Mustard, D. B., & Sridhar, D. J. (2006). The Enrollment Effects of Merit-Based Financial Aid: Evidence from Georgia's HOPE Program. *Journal of Labor Economics*, *24*(4), 761.

Cosgrave, J, & Klassen, T.R. (2001). Gambling Against the State: The State and the Legitimation of Gambling. *Current Sociology 49*(5):1–15.

Cosgrove, M. (2011). Chapter 13: More Money to Players, Brighter Future for Schools. *McGeorge Law Review*, *42*(3), 583–619.

Daberkow, K. S., & Wei, L. (2012). Constructing a Model of Lottery Tax Incidence Measurement: Revisiting the Illinois Lottery Tax for Education. *Journal of Education Finance*, *37*(3), 267.

Delaney, J.A. (2011) State Merit-based Aid and Enrolling in Graduate Study: Evidence from the Scholarship. *Journal of Student Financial Aid*, *41*(2), 5–21.

Diamond, L. (2011). Few Hold onto HOPE for Whole Time in College. *Atlanta Journal Constitution, May 11*.

Digest of Education Statistics, National Center for Education Statistics, U.S. Department of Education, Office of Educational Research and Improvement NCES 91-660.

Doyle, W. (2010). Does Merit-Based Aid "Crowd Out" Need-Based Aid? *Research in Higher Education, 51*(5), 397–415.

Duffourc, D. (2006). State-Funded College Scholarships: General Definitions and Characteristics. *Review of Policy Research*, *23*(1), 235–248.

Dynarski, S. (2000). Hope for Whom? Financial Aid for the Middle Class and Its Impact on College Attendance. *National Tax Journal*, *53*(3), 602.

Elazar, D. J. (1984). Introduction. *Publius*, (4). 1.

Ellis, K. A. (2007). Finding the Winning Numbers: State Lotteries for Education and Their Impact on the Poor. *Georgetown Journal on Poverty Law & Policy*, *14*(2), 317–338.

Erekson, O. H., Deshano, K. M., Platt, G., & Ziegert, A. L. (2002). Fungibility of Lottery Revenues and Support of Public Education. *Journal of Education Finance*, (2). 301.

Fink, S. C., Marco, A. C., & Rork, J. C. (2004). Lotto nothing? The budgetary impact of state lotteries. *Applied Economics*, *36*(21), 2357–2367.

Fisher, S. E. (1996). *Gambling and Problem Gambling among Casino Patrons*. Prepared for a consortium of the British casino industry. Plymouth, England: University of Plymouth: Centre for Research into the Social Impact of Gambling.

Garibaldi, S., Frisoli, K., Ke, L., & Lim, M. (2015). Lottery Spending: A Non-Parametric Analysis. *Plus ONE*, *10*(2), 1–11.

Garrett, T. A. (2001). Earmarked Lottery Revenues for Education: A New Test of Fungibility. *Journal of Education Finance*, *26*(3), 219–238.

Georgia Student Finance Commission, Fact Sheet. Retrieved from https://gsfc.georgia.gov/hope.

Georgia's HOPE Scholarship: A Victim of its Own Success. A Special Report from The Committee to Preserve HOPE Scholarships, August 2016.

Ghent, L. S., & Grant, A. P. (2007). Are Voting and Buying Behavior Consistent? Evidence from the South Carolina Education Lottery. *Public Finance Review*, *35*(6), 669.

Ghent, L. S., & Grant, A. P. (2010). The Demand for Lottery Products and Their Distributional Consequences. *National Tax Journal*, *63*(2), 253.

Harkreader, S., Hughes, J., Tozzi, M. H., & Vanlandingham, G. (2008). The Impact of Florida's Bright Futures Scholarship Program on High School Performance and College Enrollment. *Journal of Student Financial Aid*, *38*(1), 5.

Heberling, M. (2002). State Lotteries. *Independent Review*, *6*(4), 597.

Heller, D. E. (2002). Is Merit-Based Students Aid Really Trumping Need-Based Aid? Another View. *Change*, *34*(4), 6.

Henry, G., & Rubenstein, R. (2002). Paying for grades: Impact of merit-based financial aid on educational quality. *Journal of Policy Analysis and Management, 21*, 93–109.

Henry, G. T., Rubenstein, R., & Bugler, D. T. (2004). Is HOPE Enough? Impacts of Receiving and Losing Merit-Based Financial Aid. *Educational Policy*, *18*(5), 686.

Herring, M, & Bledsoe, T. (1994). A Model of Lottery Participation: Demographics, Context, and Attitudes. *Policy Studies Journal* 22(2): 245–58.

Jones, D. B. (2015). Education's Gambling Problem: Earmarked Lottery Revenues and Charitable Donations to Education. *Economic Inquiry*, *53*(2), 906–921.

Jones, T. & Amalfitano, J. (1994). America's Gamble: Public School Finance and State Lotteries. Lancaster, Pa.: Techonomic Publishing Co.

Karcher, A. J. (1989). *Lotteries*. New Brunswick, U.S.A.: Transaction Publishers.

Kash, J.P. & Lasley, S. (2010). Defining Merit: The Impact of Award Structure on the Distribution of Merit Aid. *Journal of Student Financial Aid, 39* (1), 30–40.

Kingdon, J.W. (1995). *Agenda, alternatives and public policy*. Boston: Little, Brown.

Koza, J.R. (1982). The Myth of the Poor Buying Lottery Tickets. *Public Gaming, January:* 31–40.

Legislative Research Commission (2011). A Study of the Kentucky Educational Excellence Scholarship. Research Report No. 386. Retrieved from http://www.lrc.ky.gov/lrcpubs/RR386.pdf.

Levin, H. M., & Tsang, M. C. (1987). The economics of student time. *Economics of Education Review, 6*, 357–364.

Liang, Z., Shouping, H., Liang, S., & Shi, P. (2016). The Effect of Florida's Bright Futures Program on College Choice: A Regression Discontinuity Approach. *Journal of Higher Education*, *87*(1), 115–146.

Longanecker, D. (2002). Is Merit-Based Student Aid Really Trumping Need-Based Aid? *Change*, *34*(2), 30.

Mason, P. M., Steagall, J. W., Shapiro, S. L., & Fabritius, M. M. (2005). Evaluating the Life Cycles of Education-Supporting Lotteries. *Public Finance Review*, *33*(2), 255.

McAuliffe, E. W. (2006). The State-Sponsored Lottery. *Public Integrity*, *8*(4), 367.

McCrary, J., & Condrey, S. E. (2003). The Georgia Lottery: Assessing Its Administrative, Economic, and Political Effects. *Review of Policy Research*, *20*(4), 691–711.

McKinney, L. (2009). An Analysis of Policy Solutions to Improve the Efficiency and Equity of Florida's Bright Futures Scholarship Program. *Florida Journal of Educational Administration & Policy*, *2*(2), 85–101.

Menifield, C. E., Clay, J., & Lawhead, C. (2009). State Lotteries and Education: Do They Really Fix the Education Quagmire? *Journal of Public Budgeting, Accounting & Financial Management*, *21*(1), 42–57.

Mikesell, J.L. (1989). A Note on the Changing Incidence of State Lottery Finance. *Social Science Quarterly 70*(2), 513–21.

Miller, D. E., & Pierce, P. A. (1997). Lotteries for Education: Windfall or Hoax? *State & Local Government Review*, (1). 34.

Moon, S., Stanley, R. E., & Shin, J. (2005). Measuring the Impact of Lotteries on State per Pupil Expenditures for Education: Assessing the National Evidence. *Review of Policy Research*, *22*(2), 205–220.

Novarro, N. K. (2005). Earmarked Lottery Profits: A Good Bet for Education Finance? *Journal of Education Finance*, *31*(1), 23–44.

Oster, E. (2004). Are All Lotteries Regressive? Evidence from the Powerball. *National Tax Journal*, *57*(2), 179–187.

Pantuosco, L., Seyfried, W., & Stonebraker, R. (2007). The Impact of Lotteries on State Education Expenditures: Does Earmarking Matter? *Review of Regional Studies*, *37*(2), 169–185.

Perez, L., & Humphreys, B. (2013). The 'Who and Why' of Lottery: Empirical Highlights from the Seminal Economic Literature. *Journal of Economic Surveys*, *27*(5), 915–940.

Pommereau, I. d. (1998, April 28). Florida helping too many teenagers pay for college? *Christian Science Monitor*. p. 3.

Price, D.I. & Novak, E.S. (1999). The Tax Incidence of Three Texas Lottery Games: Regressivity, Race, and Education. *National Tax Journal 52*(4), 741–751.

Pugel, D. (2016). Fact Sheet: Need-Based Financial Aid Dollars Being Diverted to General Fund. (http://kypolicy.org/need-based-financial-aid-dollars-being-diverted-to-general-fund/).

Rubenstein, R., & Scafidi, B. (2002). Who Pays and Who Benefits? Examining the Distributional Consequences of the Georgia Lottery for Education. *National Tax Journal*, *55*(2), 223.

Rychlak, R.J. (1992). Lotteries, Revenues, and Social Costs: A Historical Examination of State-Sponsored Gambling. *Boston College Law Review, 34*(1), 11–81.

Saffron, J. (2013). The Pitfalls of HOPE. https://www.jamesgmartin.center/2013/07/the-pitfalls-of-hope.

Selingo, J. (2003, November 21). Hope Wanes for Georgia's Merit-Based Scholarships. *Chronicle of Higher Education*. p. A1.

Simon, J. (1997). State Lotteries Pander to Dreams. Washington, D.C.: Cato Institute, April 7. Retrieved from https://www.cato.org/publications/commentary/state-lotteries-pander-dreams.

Singell, Jr., L., Waddell, G. R., & Curs, B. R. (2006). HOPE for the Pell? Institutional effects in the intersection of merit-based and need-based aid. *Southern Economic Journal, 73*(1).

Sjoquist, D. L., & Winters, J. V. (2015). State Merit-Based Financial Aid Programs and College Attainment. *Journal of Regional Science*, *55*(3), 364–390.

Spindler, C. J. (1995). The Lottery and Education: Robbing Peter to Pay Paul? *Public Budgeting & Finance*, *15*(3), 54–62.

Stanley, R. E., & French, P. E. (2005). Enrollment Levels in Institutions of Higher Education: Are State Lotteries Making a Difference in Dixie? *Journal of College Admission*, (188), 21–27.

STANLEY, R. E., & FRENCH, P. E. (2009). Evaluating Increased Enrollment Levels in Institutions of Higher Education: A Look at Merit-Based Scholarship Programs. *Public Administration Quarterly*, *33*(1), 4.

Stanley, R. E., & French, P. E. (2004). The Lottery, Education, and the Southern States: A Measure of Utility in Per Pupil Expenditures Among Lottery States in the South. *Journal of Public Budgeting, Accounting & Financial Management*, *16*(4), 534–553.

Stanley, R. E., & French, P. E. (2005). The Lottery, Southern States, and the Federal Government: A Formula for Perpetual Success or Inevitable Destruction in Education Policy? *Public Administration Quarterly*, *28*(4), 403–429.

Stark, S.R., C. Wood, and D.S. Honeyman. (1993). The Florida Education Lottery: Its Use as a Substitute for Existing Funds and Its Effects on the Equity of School Funding. *Journal of Education Finance* 18, 231–242.

Stearns, J. M., & Borna, S. (1995). The Ethics of Lottery Advertising: Issues and Evidence. *Journal of Business Ethics*, *14*(1), 43–51.

Stimson, J.A. (1985). Regression in time and space: A statistical essay. *American Journal of Political Science, 29*(4), 914–947.

Stodghill, R., & Nixon, R. (2007). For Schools, Lottery Payoffs Fall Short of Promises. *New York Times*. Retrieved from http://www.nytimes.com/2007/10/07/business/07lotto.html?_r=0.

Suggs, C. (2016). Troubling Gaps in HOPE Point to Need-based Aid Solutions. Policy report to The Georgia Budget & Policy Institute. Retrieved from https://gbpi.org/wp-content/uploads/2016/09/Troubling-Gaps-in-HOPE-Point-to-Need-based-Aid-Solutions.pdf.

Thomas, S. B., & Webb, L. D. (1984). The Use and Abuse of Lotteries as a Revenue Source. *Journal of Education Finance*, (3). 289.

U.S. Department of Education, National Center for Education Statistics. (2016). *Digest of Education Statistics, 2015* (NCES 2016-014), Chapter 3. Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=76.

U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, 1992–1995.

Welte, J. W., Barnes, G. M., Wieczorek, W. F., Tidwell, M., & Parker, J. (2002). Gambling participation in the U.S.—results from a national survey. *Journal of Gambling Studies*, *18*(4), 313.

Wisman, J. D. (2006). State Lotteries: Using State Power to Fleece the Poor. *Journal of Economic Issues*, (4). 955.

Zhang, L., Hu, S., & Sensenig, V. (2013). The Effect of Florida's Bright Futures Program on College Enrollment and Degree Production: An Aggregated-Level Analysis. *Research in Higher Education, 54*(7), 746–764.

Zhang, L., & Ness, E. (2010). Does state merit-based aid stem brain drain? Educational Evaluation and Policy Analysis, 32, 143–165.

APPENDIX

Institutional Review Board (IRB)
for the Protection of Human Research Participants
PROTOCOL EXEMPTION REPORT

PROTOCOL NUMBER:	**03558-2017**	**INVESTIGATOR:**	**Ms. Kristel Fitzgerald**
		SUPERVISING FACULTY:	**Dr. Greg Rabidoux**
PROJECT TITLE:	***Money and Matriculation: A Comparative Study of Lottery-Based Education Funding and Enrollment at Public Institutions of Higher Education in GA, FL, & KY.***		

INSTITUTIONAL REVIEW BOARD DETERMINATION:

This research protocol is **Exempt** from Institutional Review Board (IRB) oversight under **Category 2.** If the nature of the research study changes such that exemption criteria may no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before instituting any changes.

ADDITIONAL COMMENTS:
Valdosta State University's IRB has received Letters of Cooperation from the institutions listed below. This Protocol Exemption Report authorizes your research study to begin effective, 03.23.2018.

- *Morehead State University*
- *University of Louisville*
- *East Georgia State College*
- *& Houston Community College (Florida University former employee)*

☒ ***Should the nature of this approved research study change in a manner that the exemption criteria may no longer apply, the researcher must consult with the IRB Administrator (irb@valdosta.edu) before implementing any changes. Please submit all revised documents to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your IRB.***

Elizabeth W. Olphie *03.23.2018*
Elizabeth W. Olphie, IRB Administrator Date

Thank you for submitting an IRB application.
Please direct questions to irb@valdosta.edu or 229-259-5045.

Revised: 06.02.16