



5-2021

Impact of Tuition Resets on Student Enrollment at Private Four-Year Not-For-Profit Colleges and Universities: A Quantitative Analysis of IPEDS Data

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IMPACT OF *TUITION RESETS* ON STUDENT ENROLLMENT AT PRIVATE
FOUR-YEAR NOT-FOR-PROFIT COLLEGES AND UNIVERSITIES:
A QUANTITATIVE ANALYSIS OF IPEDS DATA

by

Brian T. Dietz

A dissertation submitted to the Graduate College
in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
Educational Leadership, Research and Technology
Western Michigan University
May 2021

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IMPACT OF *TUITION RESETS* ON STUDENT ENROLLMENT AT PRIVATE
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Brian T. Dietz, Ph.D.

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The high price of a college education can be a topic of interest, discussion, and at times, distress, for students, families, and higher education leaders alike. Research reveals cost is an important consideration for most students as they decide if and where to enroll in higher education. In recent decades, annual increases to the published price of tuition have often been followed by subsequent growth in financial assistance at many colleges and universities. One result of this reciprocal relationship has been a swift upward spiral in tuition prices, rising at a rate that prompts angst about the affordability of a college education.

A growing number of college and university leaders have decided to address this pattern of rapid price increases by implementing an intentional, planned reduction in their published price of tuition. This strategy, commonly referred to as a *tuition reset*, is not completely new to higher education; however, a marked increase in the implementation of the practice has occurred in recent years. The practice has also gained the attention of several scholars who have conducted research to investigate and better understand several facets of this growing trend.

This study builds upon previous research to further explore tuition resets and the impact they have on student enrollment at private four-year not-for-profit colleges and universities in the

United States. Specifically, the study investigates how the amount of a tuition reset, and the length of time since a tuition reset, impact student enrollment related to race, gender, and socioeconomic status. Findings suggest a significant relationship between tuition resets and the enrollment of women, as well as between tuition resets and the enrollment of students of color. The implications of these findings are exciting and may provide new insight into the complex process of college choice and the growing literature on tuition resets.

A goal of this study was to expand the conversation about tuition resets beyond one focused on broad enrollment and net tuition revenue gains, to one that also considers the students behind those numbers. The findings of this study can help both researchers and institutional leaders better understand tuition resets and their potential place in institutional planning and decision-making.

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ACKNOWLEDGEMENTS

I am so happy to have finished this study as well as my doctoral program. I know many people were supporting and rooting for me throughout this process, and I would like to thank several of them for their help in getting me to this point in my academic career.

To begin, I want to thank my parents, Tom and Donna Dietz, who have always encouraged me to pursue my interests, wherever they took me. Growing up, they instilled a high value for education and a deep respect for educators, both of which shaped who I am today both personally and professionally.

I would also like to thank my wife and partner in everything, Andie. She is always supportive and proud of anything I do, and although my unique timeline for getting things done has often been more stressful to her than it was to me, she consistently had faith I would eventually finish. As she does not enjoy the spotlight, even one to thank her, I will not belabor this point any longer. Andie, thank you – you know what you mean to me and I could not have done this without your support.

In addition to support from my family, I have several friends and colleagues I want to thank. First, Dr. Sarah B. Westfall - from numerous conversations about concepts and ideas in various classes, to ongoing updates about my dissertation, you have been nothing but supportive and engaged in my doctoral work. Your support, interest, and advice is appreciated more than you know. Thank you.

Acknowledgements – Continued

I also want to thank Dr. Tara Webb who provided fantastic support throughout the writing of this study. Tara, you provided extremely helpful and always well-timed positive reminders about how doable this work was, and you shared excellent insights and technical support for several drafts of this study. Thank you.

Additionally, I want to thank all the ELRT faculty and staff, many of whom I know as both a colleague and a student. You have helped me question and understand much over the past several years, and I want to thank each of you for sharing your time, talents, and expertise in the classroom as well as the hallways of Sangren and the offices of the ELRT suite.

And now finally to my committee... To begin, I want to thank Dr. Fen Yu for providing excellent feedback and support for this study. The resources you shared and the direction you provided were invaluable. I am also especially thankful that you continued with this work even with so many changes over the past year. Your advice and direction were instrumental in getting me to the finish line.

From my admissions interview, to my final defense, Dr. Andrea Beach has been part of my doctoral education from start to finish. I clearly remember your positive feedback regarding how interesting and timely this study could be during very early discussions, and since then, you have continued to provide good questions as my study evolved, pushed me to look at different angles, and always supported where I ended up.

Acknowledgements – Continued

And finally, Dr. Donna Talbot - thank you! Although this has taken longer than I had hoped and planned, you have been the epitome of the perfect doctoral advisor. Throughout my rambling and winding path toward a topic, and then through my long-extended time to get this study completed, you provided a perfect balance of support, motivation, understanding, and accountability. I promised you I would get this done, and it finally happened, although not without your unending support. Thank you for being an awesome advisor, Dr. Talbot!

Brian T. Dietz

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CHAPTER I

INTRODUCTION

The affordability of higher education is an ever-present concern for many current and aspiring college students and their families (Goldrick-Rab, 2016). Likewise, the financial stability of institutions and enrolling a talented and diverse student body are key issues on the minds of today's college and university leaders (Immerwahr et al., 2008; Wilson, 2015). Just as the financial conditions and public perception of higher education have changed over time, so too have the strategies institutions use to attract and enroll students. A common strategy currently employed by many colleges and universities is tuition discounting (Martin, 2002; National Association of College and University Business Officers [NACUBO], 2019). This practice has rapidly expanded in recent decades and involves providing financial assistance to students in an effort to reduce the price of attendance, resulting in the net cost to students being less than the published tuition rate. Tuition discounting is currently practiced by nearly all private four-year colleges and universities (Behaunek & Gansemer-Topf, 2019). The National Association of College and University Business Officers' (NACUBO) *2019 Tuition Discounting Study*, which analyzed data from 366 institutions, indicates the average tuition discount rate for first-time freshmen passed the 50% mark for the first time during the 2017-18 academic year; it increased again in 2018-19, and is expected to be 52.6% when 2019-20 data is released (Redd, 2020). The wide-spread use of tuition discounting and its continued growth are indicative of its

support by many in higher education. However, there are some who question the continued wisdom, effectiveness, and sustainability of this practice (Davis, 2003; Redd, 2000; Wu, 2017).

In recent years, several colleges and universities have decided to intentionally and strategically reduce their published tuition price (Lapovsky, 2019; NACUBO, 2019), a practice often referred to as a *tuition reset*. Such resets, although not an entirely new course of action (Hamm, 1995; Puyear, 1987), appear to have gained increased popularity in the past decade. More colleges have considered such a move in the past few years (Brock, 2020; Morris, 2017; Seltzer, 2017), and several institutions have actually implemented a tuition reset during the past decade. Kottich (2017) identified 45 private colleges and universities that implemented a tuition reset between 2007 and 2017, and Lapovsky (2019) reported that at least 19 institutions had plans to implement tuition resets between Fall 2018 and 2020. These tuitions resets are happening despite a limited amount of published research on the strategy to help guide decision makers. I embarked on this study to explore this important topic and help expand the depth and type of research on tuition resets. Specifically, I wanted to understand how tuition resets impact the enrollment of specific student populations at private four-year not-for-profit colleges and universities in the United States.

Background

The cost of a college education, as well as questions about the value of a college degree are topics of discussion for many in today's society. From stump speeches on the campaign trail, to news stories and academic studies, higher education's cost and its role in people's lives is often a topic of much scrutiny and conversation (Archibald & Feldman, 2018; Davidson, 2015; Eagan et al., 2017). The seemingly ever-increasing cost of college tuition and its impact on students, as well as ways to address high tuition prices, are topics frequently discussed and

debated among those within, as well as outside of, higher education. As increased public and political pressure push colleges and universities to more specifically define and demonstrate their value to students and other stakeholders (Carnevale et al., 2019), the high cost of a college education is often under attack (Ripley, 2018). Private colleges and universities may be viewed as especially problematic due to their generally higher published tuition costs when compared to other types of higher education institutions (Ma et al., 2020).

Historic data reveal that college tuition rates have increased over time and have generally outpaced overall inflation rates and the Consumer Price Index (Archibald & Feldman, 2018; Baum, 2017). This is true for all segments of higher education, including both two-year and four-year institutions, as well as private not-for-profit, public, and for-profit institutions. The cause of these cost increases is often understood and explained in very different ways, depending upon one's position, perspective, and data source. However, a consistent conclusion is that the cost of higher education is a concern for students and their families (Sallie Mae, 2020). This can be especially true for students of color and students from lower socioeconomic backgrounds (Hearn & Rosinger, 2014; Paulsen & St. John, 2002; St. John et al., 2005).

In response to concerns about high tuition prices and students' (in)ability to pay, many colleges have increased the amounts of financial aid awarded to individual students rather than flattening or reducing annual tuition increases. This strategy can help individual students better afford college; however, it has not slowed the rise in tuition costs. The result of this continued growth in tuition prices along with subsequent increases in financial aid is sometimes described as the high tuition-high aid (HT-HA) model (Turner, 2018), a concept detailed by Breneman (1994), and one currently used by most private colleges and universities by way of tuition discounting (NACUBO, 2019). At its core, this approach to pricing incorporates the concept of

price discrimination (Baum, 2017), and in essence concedes that not all students can, or are willing to, afford the full published tuition price of an institution. In response, institutions can provide financial assistance to help students better afford tuition and pursue a college education. In this model, the tuition price and financial aid awards generally continue to grow with each other, resulting in an institution's published price steadily increasing year after year. Reasons for, and implications of, this HT-HA model will be discussed in more detail in Chapter Two.

Many calls from within, as well as beyond, higher education have called into question the continued effectiveness and sustainability of the HT-HA model. Some see the model as increasingly problematic, especially among private four-year private colleges and universities, where the average discount rate for new students has surpassed the 50% level since the 2017-18 academic year (Redd, 2020). Concerns about transparency, equity in student access, and long-term financial sustainability of the process have been raised in recent years. These concerns have prompted leaders at some institutions to search for another way to make college more affordable (Brock, 2020; Seltzer, 2017).

Finding an alternative to tuition discounting is not a problem easily solved. Some institutions have enacted alternative pricing and enrollment strategies; however, most institutions have avoided major changes to their pricing strategy, often for fear of unknown consequences and the potentially grave impact on their institution if such changes negatively impact enrollment. Alternative strategies have varied greatly and included concepts such as tuition freezes, four-year graduation guarantees, and tuition matching (National Association of Independent Colleges and Universities [NAICU], n.d.). Another strategy some institutions have tried is that of a tuition reset, which involves the intentional reduction of an institution's published tuition rate (Kottich, 2017; Lapovsky, 2019).

Although still relatively rare, recent years have provided a noticeable uptick in the number of institutions implementing a tuition reset, along with more industry discussions regarding the merits and challenges of such a strategy (Goebel, 2021; Seltzer, 2017). Tuition resets are also an expanding area of focus for researchers. Recently, a growing number of scholars have investigated this topic, including Casamento (2016), who conducted a study to better understand the decision-making process of institutions that implemented a tuition reset, and Kottich (2017), whose study developed a detailed inventory of private colleges and universities that recently implemented a tuition reset. Research has also explored the financial and enrollment outcomes of tuition resets (Lapovsky, 2015, 2019). All of this work has expanded the understanding of tuition resets; however, more research is needed, including a look beyond the general financial and enrollment implications of tuition resets, which has been the focus of much research to date. I designed this study to further explore the impact tuition resets have on colleges and universities; specifically, I wanted to investigate the impact tuition resets have on the enrollment of some specific student populations as a proportion of an entire student body.

Problem Statement

Each year, the cost of a college education continues to climb, making it both in perception, and in reality, further out of reach for more and more students. At the same time, some in society question the value of higher education and its return on investment for those paying tuition. While many college and university leaders are working to address concerns about the rising cost of tuition, they must also often defend the value of higher education and a college degree. Recently, the HT-HA model has come under increasing scrutiny, and some institutional leaders are looking for ways to respond to critiques of this wide-spread practice.

Today, colleges and universities compete for a shrinking number of college-going students, while their costs of operation continue to climb. One result of fiercer competition for fewer students, a shrinking world created by increased digital connection, and louder critiques of higher education's value proposition, is that some colleges, especially private institutions, are looking for ways to address the HT-HA model. A problem with finding alternatives is that many institutions have generally had success with this model, so it can be challenging to envision, let alone implement, alternative strategies when institutional leaders believe that although it may not be perfect, the HT-HA model has generally worked for many years. Additionally, if other options are identified, but few institutions have tried them, or limited information is published about those attempts, institutional leaders may understandably hesitate to try something which could endanger the financial health of their institution. Administrators and institutional leaders need to know more about possible alternatives to the HT-HA model in order to fully engage in good decision-making, creating an urgent need for more research on this topic.

Existing Research on the Problem

A large amount of past research in higher education finance and pricing has focused on tuition discounting (Davis, 2003; Martin, 2002), as well as how pricing impacts access and persistence to college for different student populations (Paulsen & St. John, 2002; St. John et al., 2005). This likely stems from the fact that tuition discounting is arguably practiced by nearly all private institutions (NACUBO, 2019), as well as a number of public institutions (Hillman, 2012). As discussed earlier, the HT-HA model is a widely implemented practice. And although it is generally promoted as a tool designed to help provide access to higher education, some research indicates those students often cited as the most targeted and sought after by institutions, may not be the ones benefiting most from the practice (Davis, 2003). Expanding beyond what is known

about tuition discounting, some recent studies (Casamento, 2016; Kottich, 2017; Lapovsky, 2015, 2019; Wells 2020) have investigated tuition resets.

Although tuition resets are less common than tuition discounting, they have been gaining attention lately, and have been the subject of a growing body of research. Specifically, Casamento (2016) studied the decision-making process of tuition resets through a case study of four institutions. This work provided insights into common factors related to the successes and challenges of the strategy. It also promoted the practice as an unexplored phenomenon in need of more study and research. Kottich (2017) expanded the understanding of the tuition resets in a study which included creating an inventory of private four-year institutions that recently conducted a tuition reset. In addition to creating an up-to-date list of tuition reset schools, Kottich's work also provided several insights into the financial impact the strategy had on institutions, as well as individual students. Each of these researchers called for more study of this topic, and Kottich (2017) specifically expressed the sentiment that additional research was needed to understand the impact of tuition resets on various student populations as academic leaders consider whether tuition resets are a viable strategy for their institution.

Significance of Study

My study is significant because of its broad focus on two critical issues in higher education – namely the affordability of higher education and the enrollment of a diverse student population. Furthermore, it builds upon current research investigating the use of tuition resets by colleges and universities. My study explored the topic of tuition resets to better understand the impact they have on student enrollment at institutions that implemented the strategy. The findings add to the broad understanding of this phenomenon and may be especially important as more administrators consider tuition resets as a potential path forward for their own institution.

As discussed earlier, how to make higher education more affordable and more accessible to students is a topic of growing concern and research within higher education. Research has helped better understand the impact of tuition discounting (Davis, 2003; Martin, 2002, 2004), as well as tuition resets on institutional finances and general enrollment (Kottich, 2017; Lapovsky, 2015, 2019). However, there is more work to be done because information regarding the impact tuition resets have on specific student populations is not widely available. Some researchers have called for this topic to be investigated further (Kottich, 2017). A deeper understanding of tuition resets is important because it can help move conversations about the strategy beyond broad enrollment and financial concerns. Such conversations are important because many institutions pride themselves in providing an excellent learning experience for students and are moving toward a broader definition of diversity which includes differences in gender, race, and socioeconomic status. If schools are *crafting* (Duffy & Goldberg, 1998) their classes to intentionally bring together a diverse student population to benefit students, as well as society, then knowing the impact tuition resets can have on specific student populations is an important, but yet to be explored, topic in the literature.

Conceptual Framework

This study was guided by a conceptual framework which centered around college choice and the impact financial decisions can have on student enrollment. Specifically, I wanted to explore how and if the introduction of a tuition reset – an institutional factor which can influence student choice – impacts the enrollment of certain student populations. Examining tuition resets from this perspective is important to colleges and universities because most previous research has looked at the impact of tuition resets related to finances and overall enrollment; however, understanding the impact of a tuition reset on specific student populations can prompt decision-

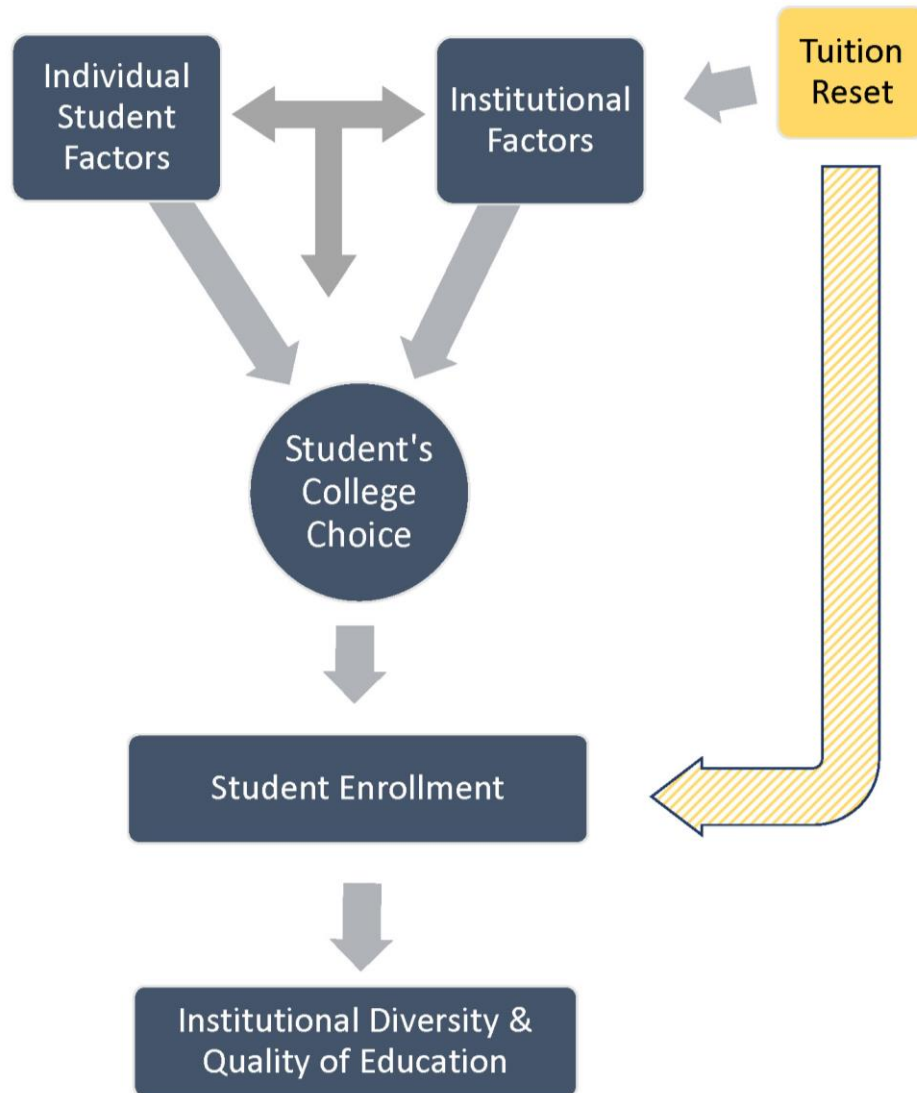
makers to look at this strategy from a more detailed perspective. If tuition resets are found to impact certain student populations, such knowledge is important to understand and include in their decision-making process.

At the heart of my study was the assumption that colleges want a diverse, motivated, and engaged student body because it helps foster effective learning on campus. It also assumes most institutions use pricing strategies, such as tuition discounting and the HT-HA model, to attract and enroll an engaged and diverse student body. Students make a choice to enroll in a specific college or university, at least in part, because of institutional factors such as price and financial aid. The ultimate decision of where a student enrolls is the end result of a college choice process which has been studied by several researchers (Hossler & Gallagher, 1987; Ilho, 2018; Skinner, 2019). The heart of my study explores the interaction between the actions and choices of an institution and the decisions of prospective students by investigating how an institutional factor – in the form of a tuition reset – may interact with the college choice process of individual students and impact the ultimate outcome of that process by means of student enrollment.

The conceptual model shown in Figure 1 illustrates how the interaction between individual student factors and institutional factors impact a student's college choice. The enrollment choice of each student then ultimately impacts the demographic composition of an institution's enrolled student body. My study investigated how and if the introduction of a new institutional factor – a tuition reset – impacts the enrollment of certain student populations. As detailed in later chapters, the tuition reset factor was investigated at different levels related to both the timing and the amount of the reset.

Figure 1

Investigating the Impact of Tuition Resets on Student Enrollment



College Choice

How students choose *if* and *where* to attend college, and what factors influence that choice, have been the subjects of research for several decades (Chapman, 1981; Hossler & Gallagher, 1987; Hoyt & Brown, 2003; Munsch, 2019). Understanding the college choice

process and the relative influence of related factors is of keen interest and importance to many higher education leaders because it can help them better understand and address issues of access in higher education. Such access is important because higher education has been repeatedly shown to enhance several aspects of people's lives and well-being (Mayhew et al., 2016; Pascarella & Terenzini, 1991). For instance, college graduates earn more annually and over their lifetime, are more likely to be happy, and have a longer life expectancy than those without a degree (Trostel, 2015). As research suggests, graduating from college can dramatically improve one's life in a number of ways; however, none of these benefits can be realized if a person does not attend college, a process which begins with the college choice process.

Hossler and Gallagher's (1987) model of college choice is often cited in higher education research (Cartledge et al., 2015; Han, 2014; Kim, 2004; Teranishi et al., 2004), and viewed as a well-developed and a widely applicable model to understand the phenomenon of college choice. This model posits that college choice is essentially a three-stage process wherein students move from *predisposition* (an attitude indicative of wanting and planning to attend college), to *search* (the process of surveying and comparing institutions and opportunities and applying to a given number of institutions), and finally to the *choice* stage (choosing among viable options and enrolling in a specific institution). Hossler and Gallagher explain this three-stage process as a multi-year endeavor which often begins in late middle school or early high school and extends through the final year of high school when the choice of a college is generally made. The concept of college choice being a *process* influenced by *factors* is a key assumption of this study.

Choice Factors

Higher education research indicates that students weigh several factors and considerations during their college choice process (Chapman, 1981; Han, 2014; Hoyt & Brown,

2003). These factors can vary depending on the unique characteristics, values, context, and background of an individual student. However, there are some broad categories which appear to be pertinent to most college-going students, these are: *financial* (cost of education, amount of aid, opportunity cost of education versus entering the work, military, etc.), *academic* (reputation and strength of the institution, variety and type of academic majors and minors, faculty/student ratios, etc.), and what I group as *other* (this is a wide ranging group of factors which includes varied concerns such as distance from home, housing options, variety and access to sports – both as athlete and fan, status of various campus facilities, geographic area of campus, etc.). Although the individual weight and attention of any single factor can vary between students and student populations, financial concerns are important to most students. Findings from a nationwide study indicated the majority of first-year students had concerns about their ability to pay for college (Eagan et al., 2017), and other research indicates four out of five students eliminate institutions from their search based on cost (Sallie Mae, 2020).

A closer look at the financial factor indicates some demographic characteristics of a student may weigh into the decision-making process in uneven ways. For instance, concerns about the cost of a college education weighs more heavily in decisions for first-generation students, low-income students, and women, than it does for continuing generation students, moderate- and high-income students, and men (Eagan et al., 2017). Likewise, research indicates tuition cost also has a bigger role in choice and persistence for African American students than it does for White students (St. John et al., 2005). Additionally, Kim (2004) found that different types of financial aid can impact college choice related to race. These varying impacts are important and are further discussed later in the study.

Purpose Statement and Research Questions

The purpose of this study was to explore the impact of tuition resets on the enrollment of specific student populations. Using the framework of college choice as a process in which several factors are weighed by students to help determine *if* and *where* they will attend college, this study explored the impact tuition resets have on the enrollment of certain student populations at reset institutions. This was accomplished by exploring the relationship between two independent variables related to the implementation of a tuition reset and several dependent variables related to enrolled student demographics.

Research Questions

The purpose of this study was to explore the relationship between tuition resets and student enrollment. The overarching research question for this study was: ***To what extent, and in what ways, does a tuition reset impact student enrollment related to race, gender, and socioeconomic status?***

Three specific research questions guided this study, including:

1. How does a tuition reset impact the enrollment of Pell-eligible students?
 - a. What impact does the level of a tuition reset have on the enrollment of Pell-eligible students?
 - b. What impact does the length of time since a tuition reset have on the enrollment of Pell-eligible students?
2. How does a tuition reset impact the enrollment of women?
 - a. What impact does the level of a tuition reset have on the enrollment of women?

- b. What impact does the length of time since a tuition reset have on the enrollment of women?
- 3. How does a tuition reset impact the enrollment of students of color?
 - a. What impact does the level of a tuition reset have on the enrollment of students of color?
 - b. What impact does the length of time since a tuition reset have on the enrollment of students of color?

Methodology Overview

This study utilized a quantitative research approach to address the research questions. Using a quantitative approach was appropriate because, as the researcher, I wanted to understand the relationship between a tuition reset and any observed differences in the variables of interest. This was best accomplished through statistical models which could determine if significant differences in mean percentages of specific demographics were detected among the institutions in the study. The use of variables, statistical tests, and a large dataset are all hallmarks of quantitative research (Creswell, 2014; Fraenkel & Wallen, 1996; Gall et al., 2007).

This study utilized Integrated Postsecondary Education Data System (IPEDS) data pulled from several institutions that implemented a tuition reset, as well as a matched set of similar institutions that did not implement a tuition reset. The tuition reset institutions were identified through the work of Kottich (2017) whose research and rigorous selection process identified a comprehensive list of private four-year not-for-profit colleges and universities that implemented a tuition reset between 2007 and 2017. The matched set of institutions was randomly selected from a group of colleges and universities matched to the reset institutions on key variables including institution type, location, Carnegie classification, and enrollment size.

This study looked at three dependent variables related to demographic factors within the student body of each institution. Specific variables of interest included gender, race, and Pell-eligibility of students. By using these variables as indicators of *structural diversity* (Harper & Antonio, 2008), studying them in relationship to tuition resets can provide insight into the impact such a reset may have on the diversity and related demographics of an institution's student body.

Chapter Summary

As tuition prices continue to rise at colleges and universities across the United States, and numerous students, parents, and politicians contemplate how future students will pay for college (Goldrick-Rab, 2016; Eagan et al., 2017), higher education leaders continue to look for ways to keep college affordable and institutions financially healthy (NAICU, n.d.). As leaders at private colleges determine the sustainability and feasibility of current budget models, understanding alternative options and approaches is critical. Although research may not be conclusive, nor can it create a one size fits all approach to pricing strategies, increased knowledge of potential strategies, such as tuition resets, is critical to provide institution leaders with information they need to make decisions for their institutions. This study adds to the knowledge base by providing more information about the impact tuition resets may have on student enrollment.

This study aimed to advance existing research and better understand the potential impact of a tuition reset on student enrollment. Can tuition resets become a tool to help expand the diversity of an institution? Do resets attract more students from historically underrepresented populations? Do more women, students of color, or Pell-eligible students enroll after a reset? Finding the answers to these and other questions may help administrators and researchers looking for ways to improve the diversity and learning outcomes of their institutions, and this study will help answer some of these questions.

The next chapter discusses the history of financial aid in U.S. higher education, including its evolution and the growth of merit-based aid. Additionally, I review some basic financial details for institutions of higher education including common expenses and revenue streams as well as changes in those areas and the resulting impact on tuition in recent decades. The next chapter also discusses the widespread use of tuition discounting and the impact on enrollment and institutional goals. The chapter then ends with a deep dive into existing research on tuition resets, including how they have been studied to date, what has been found in that research, and what is yet to be understood.

CHAPTER II

LITERATURE REVIEW

As discussed in the previous chapter, this study was designed to explore the impact of tuition resets on select variables of interest related to student enrollment. I wanted to investigate this phenomenon to better understand the growing number of tuition resets within the private four-year not-for-profit sector of U.S. higher education. As institutional leaders look to address concerns over rising tuition costs and determine effective pricing and enrollment strategies, the debate over the merits of tuition resets has surfaced at professional conferences (Seltzer, 2017) and in industry media (Goebel, 2021). Recent research has provided information about the potential financial impact of tuition resets, as well as information on the broad impact on student enrollment (Kottich, 2017; Lapovsky, 2015, 2019). The study in this paper was conducted to take a closer look at the impact tuition resets can have on some specific areas of student enrollment. To better contextualize this study, in this chapter I look at some broad facets of higher education finance, as well as the history and evolution of financial aid, including the path toward tuition discounting and the high tuition-high aid (HT-HA) model. Additionally, the concept of college choice and factors influencing that process are also discussed in this chapter. Finally, I take an in-depth look at the existing and emerging literature focused on tuition resets before I outline the methodology for this study in Chapter Three.

Higher Education Finance

Higher education finance is a topic of frequent discussion, debate, and intrigue in American society. From political stump speeches to industry publications, as well as scholarly books, academic articles, and mainstream media coverage, higher education finance and cost is a frequently discussed topic in the United States (Archibald & Feldman, 2011; Jones & Wellman, 2010; Ostrowski, 2015). Often bemoaned in these discussions, is the seemingly ever-increasing cost of college tuition, and the resulting financial burden placed on college students and their families. However, often missing from many of these discussions is a detailed and accurate understanding of higher education finances including essentials about where colleges and universities spend their money and how they generate revenue. Instead, much of the discussion includes flashy, but often cursory, claims and soundbites regarding administrative bloat and wasteful spending by institutions (Woodhouse, 2015) at the expense of taxpayers and overburdened college students. A detailed look at several common cost categories for colleges and universities reveals a much more complex picture of higher education finance than what is often heard via public outcry for fewer rock-climbing walls and lazy rivers, or demands for more productivity by professors.

Costs and Expenses

Colleges and universities have several cost categories ranging from instructional costs, to areas beyond the classroom such as campus infrastructure, services for student mental health and academic support, and healthcare costs for employees. Identifying all the cost categories for higher education is a somewhat difficult proposition because the numerous and wide-ranging focuses, formats, and missions of thousands of different colleges and universities in the United States create a complex and diverse system which can be difficult to categorize and understand.

However, the American Institutes for Research (AIR) and their Delta Cost Project have identified cost categories common to most institutions of higher education. These categories include instruction, research, public service, student services, academic support, institutional support, scholarships and fellowships, plant operation and maintenance, and auxiliary enterprises (American Institutes of Research [AIR], 2016). These categories roughly match other databases such as the National Center for Education Statistics (NCES), and other publications about higher education finance (Barr & McClellan, 2011).

Instruction

Instruction is the largest cost category for both public and private not-for-profit colleges and universities (Hussar et al., 2020). This category includes costs directly related to the instruction and teaching of students, including salary and benefits for faculty, as well as related support, including administrative costs for academic departments and office supplies (AIR, 2016). Although this is the largest cost category for most institutions, there is some variance between types of institutions, including the fact that private not-for-profit institutions tend to spend more per student in the instruction category than do public institutions (Hussar et al., 2020). This may be explained by understanding that many private not-for-profit institutions have undergraduate teaching as their primary focus and mission, whereas many public institutions also have a strong research component, which draws significant financial resources.

Student Services

Student services is a category which includes “noninstructional student-related activities” (AIR, 2016, p. 8). This can include a range of activities including student recruitment, student organizations, counseling centers, admissions and financial aid, and several other areas of activity which support students outside of the classroom. This category has seen growth in recent

years, much of it driven by external forces ranging from student needs and expectations, to government mandates and legislation. Though often an area of great criticism when media, politicians, or other critics point to excessive salaries and administrative bloat as the cause of increasing college tuition, spending in this category is an intriguing topic.

Research has shown increased spending in this category improves graduation and persistence rates. In a national study, Webber and Ehrenberg (2010) found increases in spending on student services improved the persistence and graduation rates of students. These findings were confirmed in another study which looked at the same concept in Ohio colleges and universities (Webber, 2012). Webber and Ehrenberg (2010) even proposed that reallocating some funding from *instruction* to *student service* categories could improve persistence and graduation rates at some institutions.

Auxiliary Enterprises

Auxiliary enterprises include institutional components such as residence halls, meal services, bookstores, hospitals, and other services and amenities which often produce revenue for the institutions (AIR, 2016). Although spending in some of these areas can be significant when building a facility such as new a dining or residence hall, the income produced by user fees can often be structured to provide revenue for the institution. Additionally, some of the items in this category are expected to be top notch by students (Jacob et al., 2013), and in an ever-increasing competitive market for college students, many institutions are investing in this area as both a marketing strategy and an income producer.

Plant Operations and Maintenance

Most traditional colleges and universities are housed primarily in brick and mortar buildings, and institutions must maintain those buildings and grounds in good working condition.

The cost of this upkeep is included in the plant operation and maintenance category, a cost category which can vary quite a bit in size from institution to institution, as the scope and scale of facilities and infrastructure varies widely among institutions. However, all colleges and universities with a physical campus must pay to maintain, repair, and upgrade buildings, insure such facilities, and pay utility costs, etc. (AIR, 2016).

Cost Drivers

Many of the increasing costs for institutions of higher education come from external forces which mandate actions or programs that drive up institutional costs, or create an atmosphere where institutions decide they must invest or spend in certain areas for the health of the organization. These external forces can come from local, state, and federal governments, in the form of policy mandates or legislative statutes. Additionally, students can often drive up spending in some cost categories as well; for example, through high utilization of campus services such as mental health counseling and academic advising, or the continually growing demand for technology and additional wireless bandwidth.

Government Mandates

In recent years, several mandates have impacted institutions with increased requirements for providing services to students or reports to government agencies. These often require additional or new functions to be completed by an institution which may necessitate additional staff. An example of this is the U.S. Department of Education's (ED) increased focus and expectations related to Title IX enforcement. Although the law has been in effect for over 40 years, in the last decade, ED expressed an expectation for institutions to have a dedicated staff member who can address issues related to the law. Because of the scale and scope of this work, and because of the potential fines and damage to institutional reputation non-compliance can

cause, many institutions have responded to this initiative by hiring dedicated staff to ensure compliance with the law. These new positions at institutions increase the cost of doing business and add to the expense in non-instructional categories; however, they are something which most institutions do not think they can avoid.

Student Needs and Expectations

The images of fancy rock-climbing walls, opulent dining facilities, and plush residential accommodations are often part of criticisms related to the increased cost of a college degree. Media and others often discuss the great deal of money institutions invest in such areas, which are seen by some as wasteful and unnecessary amenities for higher education. And it is true, many institutions have invested a good deal of money into campus facilities including renovations and additions to parts of campus which are not related to instruction or the academic mission of colleges and universities, a focus often cited as the most important task of higher education. However, when studied, these expenses are often undertaken as a response to the market demands of college students and as a way for institutions to meet student demand and attract students to their institutions (Jacob et al., 2013). Students often have a base level of expectations for certain things on a college campus, which include appropriate, often connotated as *new and shiny*, residential accommodations, as well as modern recreational and dining facilities. The irony is that building such facilities costs money and raises institution spending, resulting in a need for increased revenue, and in today's atmosphere where most of the institutional revenue comes from tuition and fees, meeting student demand for new facilities can mean increases to the tuition students pay.

Beyond the desire for what can be viewed as elective components of a higher education, the change in student demographics and needs has also spurred cost increases for colleges and

universities in other cost categories. More students require additional resources to succeed, and those resources require additional funding and financial support. For instance, the number of students who require mental health counseling nearly doubled between 2007 and 2017 (Lipson et al., 2019). Supporting these increased mental health needs of students often comes in the form of additional counseling staff and expanded hours and services for health services. Although necessary and beneficial, these additional services have increased costs for institutions.

Another area of increased cost for institutions has recently been in the area of career and job placement. Many concerns and criticisms of higher education bemoan the high cost of a college degree with the concern that graduates do not get high paying jobs and cannot repay student loans and the high debt they accumulated. Inherent in this concern is the idea that a main goal of a college education is for a better job. This concern can be understood when an average college education now has a sticker price of \$36,000 to \$124,000 for four years, *not* including room, board, books, and other related expenses (The Chronicle of Higher Education, 2015, p. 49). Again, students, parents, and state lawmakers have questioned the value of college citing job placement rates. The response of many institutions is to increase student services related to career preparation and job placement, which in turn often creates additional costs to the institution.

Finally, as will be discussed, more students need more financial support to fund their college education. As more students from lower socioeconomic backgrounds are heading to college, the sticker price of tuition is a big barrier for more students. Many institutions have engaged in funding these students through institutional dollars; this action adds additional costs to the operating budget of most campuses, especially private institutions.

Compensation and Benefits

Another cost driver for institutions has been the cost of employee compensation, especially related to fringe costs. Higher education has many highly educated employees serving in the ranks of faculty and staff, and although compensation is not the only driver for deciding where to work (Cohen & Kisker, 2010), it is a factor. And a highly credentialed workforce demands a higher salary cost. In addition to salaries, and perhaps of more importance, the cost of health care has dramatically risen in recent years (Jones & Wellman, 2010). This cost is beyond the control of institutions, and most employees expect to have it covered by their employer, or an increase in wages to compensate, so the dramatic rise in health care costs has increased the cost of business for colleges and universities.

Revenue and Income

As an industry, higher education has several categories of revenue and income. These categories often differ slightly between types of institutions, as well as individual institutions of a given category. However, revenue and income can be broadly categorized into six areas for most institutions, including tuition and fees, grants and contracts, government funding, donations and gifts, investments, and auxiliary enterprises.

Tuition and Fees

For most institutions of higher education in the United States, tuition and fees is the largest single category of revenue and income (Hussar et al., 2020). This revenue category consists of the tuition dollars colleges and universities collect from students who attend classes. For many undergraduate students, tuition is comprised of a flat comprehensive dollar amount which includes payment for what is considered a normal course load for full-time students.

In addition to tuition, most institutions charge several fees to students. The *fee* category can be very diverse related what is included or categorized as a fee at any given institution. The fees charged to students may be slightly different between institutions; however, some common types and categories of fees are charged by most institutions. Room and board charges include fees which generally cover housing and food for students, and is a common fee category for residential institutions. Other types of fees charged by institutions can include student activity fees, technology fees, parking fees, and lab/equipment fees for certain classes. The number and variety of fees often differs between institutions, and this difference can be attributed to the varying needs of institutions, as well as the imagination and inclination of administrators to use fees to meet institutional revenue needs. Additionally, fees may be introduced and charged to students to meet evolving student demands or institutional needs (Carrns, 2020).

Grants and Contracts

This is a category of revenue which most colleges and universities have, although the flat dollar amount and overall percentage/portion of revenue can vary widely between institutions. Grant sources can include federal, state, and local governments, as well as foundations, corporations, and other organizations. For some institutions, grants provide a large amount of income to the institution, while for others it is a much smaller portion of their revenue. Grants are often highly valued by institutions and faculty members alike because of the prestige, resources, and additional funding they can bring to campus. Each year the United States government awards billions of dollars in grants to colleges and universities through its federal agencies, including nearly 25 billion dollars in federal research grants awarded in 2013 (The Pew Charitable Trusts, 2015). The funding of federal research is a trend which began after World War II and continued to grow through the 1970s, having a big impact on the growth of some colleges

and universities (Thelin, 2004). These grants can provide a wide range of funded items for institutions, including salaries and wages for faculty and staff, equipment, and even buildings or other facilities.

In addition to research grants, other contracts and arrangements can be a source of income for institutions. These may be contracts to provide services for a fee and can be awarded by federal or state agencies, or even private firms and non-profit organizations. Institutions of higher education are often resource rich, because they have a variety of talent and capabilities in their faculty who are experts in many areas. This expertise has a financial value which can be utilized to engage in contracted services to bring in additional funding for institutions. Contracts and grants are especially valued because they often bring in additional funding without requiring an institution to enroll more students or charge higher tuition and fees.

Government Funding

Although public institutions can receive direct support and funding from both local and state governments, private institutions do not normally receive direct financial funding for operating costs. However, students who attend private colleges can receive federal financial aid in the form of loans and grants, so there is government support to those individual students striving to access a college education at both private and public institutions.

Donations and Gifts

The history of financial, land, and other donations and gifts to institutions is as old as higher education itself in the United States. Harvard is named after an early benefactor to the newly established institution (Lucas, 2006), and Yale was named to honor an early benefactor who donated goods which established an endowment of 500 pounds (Cohen & Kisker, 2010). Additionally, an early legal decision provided institutions of higher education the ability to retain

endowments perpetually, which meant endowed gifts could last for a long time and provide financial support to institutions for many years (Thelin, 2004).

Investments

Investments are often a large component of institutional assets for institutions, though the actual revenue stream is sometimes a smaller portion of total income. Like individual people, colleges and universities use financial investments to plan for a secure future. Investments in stocks, mutual funds, and other investments provide a way for institutions to grow their endowment and draw upon the financial gains each year to provide a portion of their annual revenue and income.

In recent years, this area of higher education finance was one of great importance for many institutions. As investments in the stock market lost a great deal of value when the market dropped in 2008-09 (The Chronicle of Higher Education, 2015), this had a big impact on many institutions. As the paper value of many institutions' stock and investments dropped, so did the actual gains which institutions could spend. Not only was there concern about the future of investments including whether or when endowments would recover, but in the immediate moment, many institutions had less income to meet expenses. Problems caused by this revenue shortfall were compounded as individual students and families also experienced financial challenges in their ability to pay for college. In turn, students looked for more support from colleges and universities, which institutions were not always able to provide.

Auxiliary Enterprises

Auxiliary enterprises constitute another broad category of higher education funding and revenue. This area can include many components and often varies widely between institutions in its composition from campus to campus. Included within this category may be contracted

services which can provide income generation through ventures such as property rentals and services such as food and dining or campus vending machines. It can also include college bookstores which sell textbooks, logoed merchandise, daily essentials, and even groceries to students and others in a retail setting. These retail operations include selling items at a rate which provides profit for the enterprise and the institution. Rentals of facilities or even entire campuses for conferences, meetings, and camps are another area of revenue for many institutions which fall under the auxiliary category.

Cost Section Summary

As outlined in this section, the finances of most colleges and universities are a complex and interdependent system of costs and revenues. Although these details are not always of particular interest to many affiliated with the higher education world, understanding how so many varied factors impact the financial health of colleges and universities helps illustrate how important financial decision-making is to an institution's health and well-being. As discussed later in this chapter, financial aid has been part of most U.S. institutions for a long time (Fuller, 2014; Kimball & Johnson, 2012), and the development of tuition discounting and the related HT-HA model are established assumptions for many institutions. The complex interconnectedness of higher education finances serves as an important backdrop and base of knowledge for the focus of this study.

College Choice

The phenomenon of how and where students choose to enroll in higher education has been the subject of research and study for several decades. This topic of study is important to many higher education stakeholders, including college and university leaders who want to understand how students decide *if* and *where* they will attend college. There are several complex

and interconnected variables which ultimately culminate in any given student enrolling at a specific institution. At the heart of this research is literature focused on the process of college choice, how it unfolds, how various factors in a student's life impact the phenomenon, and how those factors influence where a student enrolls in college. The following section will discuss Hossler and Gallagher's (1987) three-stage model of college choice, as well as key factors and influences on students as they navigate that process. These concepts are important to understand for my study, because one of those factors lies at the heart of this study – financial considerations – specifically, the published sticker price of a college education.

Choice as a Process

Understanding college choice is of keen interest to many higher education researchers and administrators because it can help better contextualize issues of access and success in higher education. Access to higher education is important because years of research have shown that a college enhances the mental, physical, and financial health of peoples' lives (Mayhew et al., 2016; Pascarella & Terenzini, 1991; Trostel, 2015). In addition to gains in cognitive and critical thinking skills, higher education also helps further moral and ethical development in students. Likewise, on average college graduates' annual earnings are 134% higher incomes than those without a degree (Trostel, 2015). Additionally, college graduates are less likely to be unemployed, and job satisfaction is generally higher for college graduates. College graduates also live longer and healthier lives, and report higher levels of happiness. Taken all together, this research reveals that attending college can dramatically improve the lives of people; however, none of these benefits can be realized if a person does not attend college, a process which begins with the college choice process.

Research has evolved to understand the decision of if and where to attend college as a process. Hossler and Gallagher's (1987) model of college choice is often cited in the literature (Cartledge et al., 2015; Han, 2014; Kim, 2004; Shaw et al., 2009; Teranishi et al., 2004) and is generally seen as a well-developed and applicable model to understand the phenomenon. This model posits college choice as essentially a three-stage process wherein students move from *predisposition* (an attitude indicative of wanting and planning to attend college), to *search* (the process of surveying and comparing institutions and opportunities and applying to a given number of institutions), and finally culminating in *choice* (choosing among viable options and enrolling in an institution). This model explains this process as a multi-year operation which often begins in late middle school or early high school and extends through the final year of high school when the choice of a college is generally made.

Some recent literature has critiqued Hossler and Gallagher's (1987) model as inadequate for many of today's college students because it assumes an immediate transition from high school to college, a path not taken by all students (Ilho, 2018). It has also been criticized as making the process seem more linear and straightforward than it is for many of today's students (Perna, 2006). Although important and accurate critiques of the model, these problematic aspects of Hossler and Gallagher's model do not negate the usefulness of their work for this study. A key component of the model related to this study is that the decision to attend college and where to attend is a process which involves investigating options and weighing various factors during an extended length of time, all which factor into a final decision. The concept of college choice being an extended decision-making process influenced by several factors, as outlined by Hossler and Gallagher (1987), is a key assumption of this study.

Choice Factors

When recognizing college choice as a process with multiple factors that are considered and weighed by potential students, it is important to understand those factors. Research has indicated that students weigh several categories and factors during their college choice process (Chapman, 1981; Cho et al., 2008; Hoyt & Brown, 2003; Paulsen & St. John, 2002). The impact of these factors varies depending on the unique characteristics, values, context, and background of an individual student. These factors can be categorized into three broad groups which are pertinent to most college going students – financial, academic, and other.

Financial factors have been shown to influence the college choice process in many ways (Comeaux et al., 2020; Kim, 2004; Sallie Mae, 2020; St. John et al., 2005). As will be discussed in an upcoming section, financial aid has dramatically changed over time at U.S. institutions. Of special note for this study are the different impact and weight that college finances have on various populations of students and their college choice process. Several studies indicate that students of color, women, and lower income students are especially impacted by financial factors in the college choice process (Cho et al., 2008; Hearn & Rosinger, 2014; Paulsen & St. John, 2002). Many studies on this topic have looked at the impact financial aid has on the college choice process, but few have specifically looked at the published tuition price alone related to college choice factors.

Although not the focus of this study, several academic related factors also influence students' choice of college. This broad category includes a wide range of influences including the type of academic departments and areas of study available at an institution. It can also include academic reputation of the college or university including overall rankings, as well as rankings of specific programs of study. In addition to financial and academic factors, another

influence on students is the broad category of *other* factors. These factors may include an institution's distance from home, the ability to work while attending classes, institutional size and governance structure, as well as less tangible facets such as the feel one gets while visiting a campus. Although all of these choice factors are important and of interest to higher education scholars and leaders, this study is focused broadly on how financial factors influence college choice, and specifically how a tuition reset impacts the enrollment of students of color, women, and Pell-eligible students.

Financial Aid in Higher Education

Concern about students' financial ability to pay for college has been around for centuries (Fuller, 2014; Kimball & Johnson, 2012). For much of U.S. higher education's history, the focus was on providing need-based aid to increase access to higher education to students who wanted the opportunity to earn a college degree, but could not afford to pay. The concept of need-based aid is not a new phenomenon and can be seen through various historic initiatives including the establishment of a no interest loan program for Harvard students in 1838 (Fuller, 2014). This program, known as the Harvard Loan Program, was funded by benefactors and alumni and designed to help students afford tuition if their family wealth was not sufficient. Even before this program at Harvard, other early colleges including William and Mary, Yale, and Princeton had scholarship programs designed to help students with financial need pursue education (Fuller, 2014).

Need Based Aid

Much financial aid for students pursuing higher education is categorized as need based aid and is awarded according to the financial need of students. In most cases, financial need is determined through calculation of what costs are left after Expected Family Contribution (EFC)

is calculated through the Free Application for Federal Student Aid (FAFSA). The FAFSA is a robust document which serves as the basis for calculating eligibility for Pell Grant awards as well as federally subsidized student loan programs such as the Stafford Loan program (Federal Student Aid, n.d.-a). Likewise, many institutions base their financial aid decisions on the EFC calculated by a student's FAFSA. An important concept related to most federally funded financial aid, including Pell Grants, is that they are awarded to the student and therefore can be used at any authorized college or university degree program (Umbricht, 2016). This is important to remember in the context of this study and it connects to the college choice concept because students can apply federal aid, such as Pell-grants, to whatever institution they choose to attend.

Pell Grants

The Pell Grant program is a need-based federally funded aid program designed to provide direct funding to individual students pursuing a degree program in higher education. The program has its roots in the Higher Education Act of 1965; however, the 1972 amendment shaped the basics of the current Pell Grant program designed to provide direct aid to students. The program was renamed after Senator Claiborne Pell in 1980 (Umbricht, 2016). Pell funding is awarded to students in the form of a grant and does not need to be paid back as is the case with private bank or government student loans. During the 2017-18 academic year, the Federal Pell Grant Program provided \$36.2 billion in funding to 7.1 million students pursuing higher education (U.S. Department of Education, 2017-2018).

The program was designed to expand access to college for low- and modest-income students; during the 2015-16 academic year, 70% of Pell recipients had annual family income of under \$30,000 (Protopsaltis & Parrott, 2017). Although an initial goal of the program was to bolster access to higher education, a frequently cited concern is that the current award amounts

often fall far short of covering all college costs for recipients. As college tuition has grown over the past several decades, the proportion of costs covered by Pell Grant funding has precipitously dropped. Looking at four-year institutions, researchers found the maximum Pell Grant covered 150% of tuition and fees in 1985, but only 62% of tuition and fees in 2014 (Umbricht, 2016). As mentioned earlier, a key benefit of the Pell Grant program is its transportability which allows individual students to use the funding any authorized institution they attend.

Institutional Aid

In addition to government funded aid available to financial needy college students, many institutions also provide some financial aid based on financial need. This often comes in the form of internal grants which can be applied to tuition, room, or board. Various institutions have different levels of aid, as well as different sources and details on how much aid is awarded and any restrictions on how it can be spent. Need-based institutional aid is often paired with merit-aid at many private institutions to offset the cost of tuition, and institutional aid is considered a large component of tuition discounting.

Loans

In addition to Pell Grants, the federal government also funds student loan programs which have some qualification criteria based on financial need (Federal Student Aid, n.d.-b). These loans are backed by the government to reduce risk in lending and provide more access to borrowers. The interest on these loans is often deferred until after graduation or subsidized to reduce out of pocket expenses while students are in college. Private loans are also available to students to help cover the cost of education related expenses, but they may not have the same deferred interest benefits to students.

Other

There are many other sources of financial aid available to college students. Although not as robustly or systematically tracked or studied like Pell Grants and other federally funded programs, various civic, local, and charitable organizations often provide various grants and scholarships to support the cost of college. Some of these awards are merit-based, some may also incorporate financial need as a factor in determining eligibility or amount of the award. The U.S. Department of Education's Office of Federal Student Aid has a website (www.studentaid.gov) which provides information on where to look for potential scholarships and awards.

Merit Aid

As U.S. higher education moved from the nineteenth into the twentieth century, there was growth in student enrollment which matched a growing desire for the country to have educated citizens (Cohen & Kisker, 2010; Lucas, 2006). As higher education transformed, so did testing methods related to admissions, and along with those changes came the ability to begin looking at merit-based aid for students (Fuller, 2014). One of the earliest forms of wide-spread merit-based aid was provided by the federal government in the form of the Servicemen's Readjustment Act of 1944, commonly referred to as the GI Bill. This provided education funding for those who served in the military during World War II, and although not completely altruistic in its aims and purpose (Fuller, 2014; National Public Radio, 2011), the GI Bill can be viewed as an early example of merit-based aid because students were given financial aid for some marker of accomplishment, in this case, service to the nation (Duffy & Goldberg, 1998). This focus on merit was a departure from the prevailing focus on supporting those with financial need, as merit-based aid was available to those who could afford higher education on their own, as well as those who could not. This shift in aid becoming more available to those who could otherwise

afford tuition would have a big impact a few decades later as competition for students increased at the close of the twentieth century. The GI Bill brought about many great changes in U.S. higher education, including a great expansion of those who were participating in a college education, as well as laying the format for federal involvement in financial aid for higher education in future decades (Cohen & Kisker, 2010; Duffy & Goldberg, 1998; Fuller, 2014).

Financial aid changes cannot be separated from historical happenings within the broader U.S. society, and as the country engaged in a great expansion of civil rights for women and people of all races in the 1960s, the desire to provide more access to all citizens to all parts of society, including education, prompted the Higher Education Act of 1965 (Dynarski & Scott-Clayton, 2013; Fuller, 2014). One component of the Act (Title IV) helped remove financial need as a barrier for higher education by creating a guaranteed federal student loan program (Fuller, 2014). This federal law, and subsequent reauthorizations of it, continued to support a societal and government focus on providing widespread access to higher education.

As U.S. society moved through the 1970s and into the 80s, college tuition, especially at private colleges, continued to rise (Duffy & Goldberg, 1998), as did national concern over the size and spending of the federal government on all things, including student financial aid (Fuller, 2014). Simultaneously, tuition at private colleges continued to grow and was often used as a proxy for value, with the assumption that higher tuition cost meant more valuable degrees (Duffy & Goldberg, 1998). Throughout the 1980s, the use of merit aid steadily increased as a tactic used by many colleges to help offset the rising cost of tuition for individual students whom institutions wanted to attract to enroll in their college or university (Parrott, 2008). Expanding beyond programs such as the GI Bill, merit aid also began to include funding for desirable attributes or talents of students, such as academic ability, music ability, and even athletic ability.

During this time, the focus and purpose of financial aid also changed and moved from a way to enable students to attend the college of their choice, to being “the hook to grab in the students” (Duffy & Goldberg, 1998, p. 209). As colleges entered the 1990s, merit aid continued to grow in popularity at private institutions, and in the early parts of the twenty-first century, as state funding declined for public institutions, the use of merit aid and the resulting tuition discount rates also grew in public institutions (Archibald & Feldman, 2011; Duffy & Goldberg, 1998; Hillman, 2012). As tuition costs and financial aid awards both rose dramatically in the second half of the twentieth century, we see the growth of tuition discounting and the emergence of the HT-HA model – a model which has become arguably ubiquitous at private institutions.

Tuition Discounting

Just as a working knowledge of financial aid, including merit and need-based programs, is important to understanding today’s higher education atmosphere and issues related to affordability, so too is an understanding of tuition discounting. The concepts of sticker price, unfunded discount rate, and funded discount rate are keys to understanding the role of tuition discounting in higher education and how it impacts students, individual institutions, and the wider industry of higher education.

Sticker Price

Sticker price is generally recognized as the total advertised and publicized price for tuition and fees related to the cost of attending a given institution (Archibald & Feldman, 2011). The concept of sticker price is important because it is often used in discussions regarding higher education affordability and the rising costs of college tuition. Sticker price can be the cause of *sticker shock* for prospective students, and this can be especially concerning for private institutions, where many students and parents are discouraged from even investigating such

institutions believing they are not affordable because of the high sticker price. Research indicates that as the price of tuition rose, student applications dropped even when full need would have been met (Levine et al., 2020). An important component of sticker price with regard to college affordability is that it is the price listed, but not necessarily the price paid by some or even most students. In fact, the difference between the sticker price and the actual amount paid by students is defined as the discount rate (Archibald & Feldman, 2011; Martin, 2002).

Funded and Unfunded Discounts

As explained above, the discount rate is the difference between publicly published prices for tuition and fees and what a student actually pays for their enrollment and education. This difference is called the discount rate and is an especially important ratio and number for colleges and universities. Theoretically, the sticker price is what it costs to provide an education to a student at a given institution. This sticker price should include all the direct and indirect costs of providing education, including facilities, depreciation, and instructional costs as previously discussed. For both private not-for-profit institutions and public institutions, there is not a profit motive, so the cost of the sticker price should be set to cover all costs, without additional profit margins raising the sticker price of an institution. When looking at a discount rate and the concept of tuition discounting, both funded and unfunded discounts must be considered.

When a student receives a tuition discount due to financial need or merit-based criteria, it can be either a funded or an unfunded discount. When revenue from a specific source, such as an endowment or other funded program, funds the discount amount, and the institution actually collects and receives money equal to the discount, that occurrence is a *funded* discount. For example, if the sticker price of an institution is \$100, and an institution awards a \$50 tuition discount in the form of a scholarship for high academic achievement, if that \$50 is from an

endowed fund for smart students, then the \$50 will actually be received by the institution and thus would be considered a funded discount. Funded discounts are not of much concern to institutions, because whether it is from a funded scholarship, or student contribution, the institution actually receives funding toward meeting the cost of that student's tuition.

However, unlike the funded discount rate, the unfunded discount rate is the one of more concern for institutions and has been the growing source of concern for many private and public colleges in the past few decades. It is the unfunded discount rate which institutions need to address for financial health and sustainability (Martin, 2004). Unfunded discount rates are concerning because, as discussed above, a discount rate is the difference between the sticker price and what a student actually pays the institution. The difference between funded and unfunded discounts is that with unfunded discounts, the institution does not receive the difference in outside funding. Therefore, if a student is given a \$50 discount on a tuition bill of \$100 and the discount is unfunded, that means of the \$100 budgeted cost for education, the institution will only see \$50, or half, of the cost of that student's education. Assuming the sticker price is reflective of the actual cost of doing business and providing a quality education, the institution has a deficit of \$50 toward covering its actual costs. This reduced revenue may put a burden on the institutions to determine how to operate with half of what it costs to do business.

Reasons for Discounting

There are several motivations and reasons which drive institutions to provide tuition discounts, both funded and unfunded. These reasons weigh differently for various institutions, as related to institutional missions and priorities including (a) the desired level of institutional access for students of different financial means, (b) the goal of enrolling a class reflective of desired characteristics, and (c) a desire to create revenue in the form of tuition (Archibald &

Feldman, 2011; Duffy & Goldberg, 1998; Fuller, 2014; Martin, 2002; Parrott, 2008). Often the decision to provide tuition discounting involves more than one these factors. When looking broadly at U.S. higher education, another overarching reason for tuition discounting is related to the evolution of higher education into a more market driven industry where a college degree is seen more and more as a commodity which one can shop around for the best deal. As college admissions and enrollment have become more competitive in nature, tuition discounting has also become more prominent in both non-profit private and public institutions of higher education (Browning, 2013; Duffy & Goldberg, 1998; Hillman, 2012).

Crafting a Class. In their book, Duffy and Goldberg (1998) discuss the desire of institutions to carefully design a class of students each year as they admit and enroll students. In their preface, they discuss the intentional selection of the word *craft* for the title of their book *Crafting a Class: College Admissions and Financial Aid 1955-1995*, as the result of a thoughtful and careful choice to best describe the actions of institutions related to enrollment, financial aid, and tuition discounting. The authors detail how *craft* conveys working within a context of confined resources and using “skill, ingenuity, and care” (Duffy & Goldberg, 1998, p. xvii) to enroll each new entering class of students. The authors go on to describe how since the 1980s institutions have used merit aid to compete for highly sought-after students and entice them to enroll in their own institutions. Doing this helps raise the profile of each class, which in turn, raises the perceived quality and therefore value of an education at that institution (Mause, 2009). Additionally, these high achievers are often sought after by other institutions, so merit-based aid which lowers the out of pocket expense compared to nearby public institutions, can further entice those high achieving students to attend a private institution, rather than lower priced public institutions (Duffy & Goldberg, 1998).

Revenue Generator. Another underlying principle of tuition discounting is that it can serve as a revenue generator (Browning, 2013; Hillman, 2012; Parrott, 2008). In addition to increasing the profile and perceived value of an institution's education and resulting degree, tuition discounting is often seen as a tool designed to increase revenue through added tuition dollars. As Hillman (2012, p. 264) argues "by enticing students and their associated tuition dollars to enroll, colleges can strategically leverage aid to maximize (or at least enhance) the amount of net tuition generated per aided student." The logic to this approach is that by offering some financial incentive to lower the cost of attendance for a given student, the student is more likely to enroll, and the balance of tuition actually paid by the enrolled student is revenue the institution would not otherwise receive if the student attended another college.

Institutional Goals. Institutions may also provide tuition discounts in the form of merit aid to attract students in pursuit of other institutional mission or goals. An effort to provide access to a college education for lower socioeconomic status students, as a way to achieve an institution's social justice goals, can often result in intentional focus on discounting practices related to both need and merit-based aid. Additionally, many institutions aim to diversify their student body to provide better learning experiences for all students at the institution, so various diversity criteria can be used to award merit aid and tuition discounts. This often includes a range of interests and abilities including academic ability, as well as involvement in the arts and sports. It can also include variables related to legacy status, geographic location, and community involvement. Institutions must take care in their efforts, as some research has shown unintentional consequences of various discounting practices, some of which negate or work against stated goals (Ehrenberg et al., 2005).

Implications of Discounting

Although *funded* tuition discounting does not have many drawbacks or negative implications for institutions, *unfunded* discounts can be troublesome in several ways. One of the issues with unfunded tuition discounts is a concern about continued financial stability for the institution. As the discount rate increases, an institution must often make tough decisions about increasingly limited operating funds.

As discussed, discounting can be a way to attract students to enroll at an institution and help the admissions staff create or *craft* (Duffy & Goldberg, 1998) a class demographic which they are aiming for through a number of different criterium. Whether from merit or need-based criteria, enticing students with tuition discounts has been shown to have a positive impact and positive correlation to students enrolling at an institution, so as a strategy which accomplishes such goals, it is hard to stop doing. Related, another reason many institutions cite for continued tuition discounting even after it becomes clear that it cannot be sustained in the long term is that it is “addictive” (Duffy & Goldberg, 1998, p. 213). Additionally, institutions may be artificially blinded to other ways of attracting students.

Another reason institutional leaders are hesitant to stop discounting is because of the competitive atmosphere. Duffy and Goldberg (1998) found that many administrators interviewed for their study indicated that fierce competition between institutions makes it very difficult to stop discounting once an institution starts the practice. It is believed that if they do not provide merit-based discounts to a student, and other institutions do, they will be at a competitive disadvantage and lose the potential return on the investment of merit aid. This competitive nature has only amplified since Duffy and Goldberg’s work as evidenced by the increasing number of

applications students complete on average as well as the shrinking pool of students in some areas of the country.

Another reason for continued tuition discounting relates to the perception of quality. The scenario which may unfold is that an attractive student applies to two colleges and one offers an aid package which results in a 50% discount rate, but the other offers none or less than the 50%. The financial incentive is very strong for the student to attend the institution which offered a better discount. In the same scenario, if school A is twice as expensive than school B according to sticker price, and A provides aid of 50% and B offers nothing, the net cost to the student is the same, but other factors may still encourage the student to pick the higher priced school A. One is the fact that tuition cost is a proxy for value, and a higher sticker price means an institution is generally perceived to be higher in quality. Therefore, if a school lowers its tuition cost to eliminate or reduce discounting, its lower tuition cost may be seen not as a better deal, but rather a school of lesser quality. This approach has been tried by some institutions in recent years (Camera, 2015), and some schools have soon reversed their decision and again raised tuition to match their competitors (Rivard, 2013).

Alternative Approaches

In response to recent and ongoing concerns about college affordability and the rising price of tuition, some private institutions have implemented several different strategies in their efforts to make college more affordable to students. These strategies have included tuition freezes, graduation guarantees, tuition matching, and tuition resets among others (NAICU, n.d.). The strategies have varied in their scope, scale, and longevity, as well as in the level of any objective academic study devoted to understand their impact or effectiveness.

Tuition Freezes, Graduation Guarantees, and More

Just as there are several different types of higher education institutions, there have been many different responses to addressing concerns about the cost of higher education, as well as the HT-HA model of tuition discounting in higher education. These responses have generally focused on making college affordable to students. Even industry members have come to the conversation by discussing how much work is being done to keep college affordable. The National Association of Independent Colleges and Universities (NAICU) keeps track of creative strategies member institutions have attempted to control or lower the tuition cost for students and publishes this on its website (<https://www.naicu.edu/>).

The variety of approaches has only been limited by the creativity of the leadership at institutions. Some institutions have implemented tuition freezes which in effect lock tuition at the current rate and resist annual increases so prevalent across the industry. Alternatively, some institutions have implemented policies which lock a student's tuition rate at the level it was during their first year of enrollment and keeps it there until graduation. Unlike a tuition freeze, such an action allows the institution to raise tuition each year, yet holds the proportion of cost and aid steady for an individual student's entire time at the institution. These creative attempts at cost control are the exception to the norm, as most institutions continue to operate in the HT-HA model, despite growing concern about the sustainability of the practice and continued pressure to make college more affordable to students and their families.

Tuition Resets

Another strategy to address concerns about the cost of tuition is the planned and purposeful reduction in the published price of tuition. This strategy, often referred to as a *tuition reset*, has been the topic of recent industry discussions (Brock, 2020; Seltzer, 2017), as well as a

financial strategy employed by a growing number of private colleges and universities in recent years (NACUBO, 2019). Tuition reductions and resets have also been the subject of several recent academic studies (Casamento, 2016; Holt, 2019; Kottich, 2017; Lapovsky, 2015, 2019; Wells, 2020). This uptick in discussion, implementation, and study of tuition reductions and resets has provided more understanding about the potential impact of the strategy on institutions, as well as some of the reasons for implementation and indicators of success.

Research on Tuition Resets

Recent research on tuition resets has included both quantitative and qualitative studies. While much of this research has focused on the financial aspects of tuition resets on colleges and universities (Lapovsky, 2015, 2019; Kottich, 2017), studies have also investigated the decision-making process (Casamento, 2016) as well as evaluated the success of such initiatives (Holt, 2019). There have also been some published accounts regarding the first-hand experiences of implementing a tuition reset (Eldridge & Cawley, 2017; Hamm, 1995; Puyear, 1987). Broadly speaking, the information about tuition resets varies in its accessibility to researchers and institutional leaders, because although some has been published through sponsored reports and several recent dissertation studies, much of what is known about tuition resets is often proprietary information collected by individual institutions and consulting firms as part of internal investigation efforts to understand the phenomenon. One goal of my study was to further contribute to the growing body of research publicly available on the topic.

Enrollment and Finance. Some of the earliest published research specifically focused on tuition resets was conducted by Dr. Lucie Lapovsky. As detailed on their website (www.lapovsky.com), Lapovsky is the former president of Mercy College and an economist by training. Lapovsky is well published on the topic of higher education finance broadly, as well as

tuition reductions and resets specifically. Lapovsky's (2015) report on tuition resets found the implementation of such a strategy did increase student enrollment and raise net tuition revenue at some institutions; however, this finding was not consistent among all institutions in the study. A more recent study (Lapovsky, 2019) had similar findings, but also provided some suggestions for successful resets based on their work and study of the topic.

Lapovsky's (2015) report included the close examination of eight campuses that had implemented a tuition reset during the two decades preceding the study. Lapovsky randomly selected 12 institutions from a population of 30, and ultimately eight of them provided information and became the focus of the study. All institutions in the study were private colleges or universities with a total enrollment of less than 3,000 students. The group had a wide range of published tuition rates. Lapovsky discusses how the motivation for the resets varied somewhat among the institutions in the study; however, the themes of appearing more affordable, and increasing enrollment emerged as motivation for the resets from several institutions in the study. Lapovsky also found that many institutions reported reducing tuition was "the right thing to do" (2015, p. 10), and that a rejection of the problematic HT-HA model was cited as reasoning for the reset by some institutions as well. Lapovsky also found common concerns related to lowering tuition price, namely a worry that a tuition reset could lower the institution's perceived value in the eyes of potential students and that a tuition reset could result in less net tuition revenue.

In terms of impact of the tuition resets, Lapovsky (2015) found that 87.5% of the schools had an increase in enrollment; these increases ranged from 1% to 50%. Lapovsky also indicated these increases might be long lasting, because of the four institutions with longer term data, all showed increased enrollment several years after implementation of their reset. Additionally, three of the seven institutions which experienced an increase in enrollment, also had an increase

in net tuition revenue *per student*, and five of the seven saw an increase in overall net tuition revenue.

Lapovsky (2015) provided some broad themes in the discussion of findings, namely that tuition resets have been shown to increase both the number of applicants and the number of enrolled students for many institutions, and in some cases net tuition revenue increased as well. Lapovsky also stated some limitations of the study in that it included a very small number of institutions, and that there are multiple other variables at play which may be hard to isolate from the tuition price reduction itself. This study is one of the early widely accessible studies on the impact of tuition resets which looks at the enrollment and financial impacts of tuition resets; because of this, it is often cited by many researchers in their work on this topic (Armitage, 2018; Casamento, 2016; Kottich, 2017; Wells, 2020).

In a 2019 report, *Do Price Resets Work?*, Lucie Lapovsky looked at 24 institutions that implemented a tuition price reduction between 2010 and 2016 and used IPEDS data to consider the success of such an action. Lapovsky (2019) indicates providing a definitive answer as to whether tuition resets are successful is a difficult, if not impossible, question to answer because of several variables including the lack of a standard measure for success and each institution's differing goal(s) for the reset. In this study, Lapovsky found that 50% of the institutions increased first-year enrollment during the reset year, while 43% had an increase one year after the reset, and 67% increased enrollment in their entering class two years after the reset. Lapovsky also found that over half of the institutions saw an increase in transfer students during the year their reset was implemented and this increase was maintained at least two years after the reset. As far as net tuition revenue, Lapovsky found that a majority of institutions (80%) had lower net tuition revenue the year of the reset; however, a majority (55%) rebounded within a

couple of years. This finding seemed to indicate the delicate balance involved in changing the price structure of an institution and how it can take some time for adjustment. It also may be a sign that when implementing a tuition reset, it may take time, but many institutions can find a balance to increase both enrollment and tuition revenue through the right mix of financial aid awards.

A main contribution of Lapovsky's (2019) study was a broad discussion of how defining success for tuition resets can be difficult because of the mix of institutional goals, as well as numerous contributing factors which are part of the complex system of attracting, admitting, and enrolling a new class each year. Isolating the certainty of a tuition reset's impact is difficult. Lapovsky does provide a list of twelve suggestions for effective implementation of a tuition reset based on the findings of this study, as well as some earlier work (Lapovsky, 2015). These factors for success include the idea that the reset must be a well planned and executed strategy, which is widely understood and embraced by the campus community along with campus partners such as high school counselors. Institutions must also have a good understanding of why they are doing the reset, how it will work, what it means for incoming students. Many of these findings in Lapovsky's (2019) work are aligned with Casamento's (2016) findings as discussed later in this section.

In addition to Lapovsky's work, Dr. Sarah Kottich (2017) also focused on tuition resets in a recent study. This quantitative analysis had four main goals, all of which centered around better understanding tuition resets at private four-year non-profit colleges and universities. In this study, Kottich utilized the IPEDS data, web searches, and personal communication to identify institutions that implemented a tuition reset. The study identified 179 schools which were noted as potential reset schools through use of IPEDS data. Further culling of the data reduced the

group to 97 institutions. Kottich then found secondary sources to confirm the reductions were indeed intentional and verifiable. This work culminated in a final set of 45 institutions which had a tuition reduction of 5% or more between the years of 2007 and 2017.

Kottich's (2017) work appears to contribute one of the most complete and effectively verified lists of private four-year not-for-profit institutions that have implemented a tuition reset in recent years. Kottich's work was especially important to this study, because I utilized the set of schools to further explore the impact of a tuition reset on student enrollment. Kottich's work focused on identifying this group of institutions, as well as looking at some characteristics of schools which employ such a strategy. Kottich also investigated the financial impacts resets had for institutions and individual students. This work indicated that resets may increase enrollment and net tuition revenue for institutions; however, this is not a guarantee. This finding echoed findings of other research such as Lapovsky (2015, 2019). Kottich also found that resets can result in lower net price for students, but again this result varied depending on the context and specific factors of the reset and the student's financial situation before the reset.

Kottich (2017) conducted a descriptive and correlational study to investigate what they identified as an emerging trend of tuition resets to discover where resets are happening, what types of institutions were likely to reset tuition, and what outcomes resets have for students and institutions. Specifically, Kottich looked at the impact resets had on enrollment, net price per student, and total net tuition revenue. Kottich also looked at the impact tuition resets had on the individual net price students pay, as well as the impact a reset had on the percentage of Pell grants awarded. Kottich utilized the IPEDS dataset to compare the group of reset institutions identified in the study, with the larger segment of private not-for-profit four-year institutions

using chi-square tests to detect any differences between the group of reset institutions and the sector as a whole.

Through this study, Kottich (2017) found that tuition reset institutions tended to be relatively small institutions, with 93% of them enrolling less than 5,000 students. The median enrollment of tuition reset schools was 923, which was smaller than the average enrollment for schools within the broader sector; however, not statistically significantly smaller compared to sector. Reset institutions were fairly spread out across the country among nearly all geographic regions, and again there was no significant difference in location between reset institutions and the broad sector of like institutions. Kottich did not find any significant difference in the levels of transfer students between the group of reset institutions and the sector as a whole. Kottich did detect a significant difference in the percentage of Pell-eligible students enrolled, with the group of reset institutions showing a higher student need than the sector average. Tuition reset institutions also had lower institutional endowments, and were more likely to be religiously affiliated than those in the sector as a whole. Finally, Kottich found that the financial health of reset institutions, as measured by the composite financial index (CFI), ranged across the span of strong and weak, although on average they indicated financial health, with “the median aligning with the recommended level for financial health of 3.0” (2017, p. 67).

Kottich (2017) found no significant increase in enrollment compared to the private four-year not-for-profit sector, and the reset institutions had an overall median enrollment change of 0%. However, some reset institutions in the study did have increases in enrollment, while others decreased in enrollment even though the median change was zero. This finding was not surprising and seemed to echo those from previous studies (Lapovsky, 2015, 2019) which also found uneven results related to increased enrollment. Kottich did find that three quarters of the

schools in her analysis had an increase in retention, and the increase was statistically significantly different than that of the sector with a median increase of 3% retention. Kottich also found that reset schools had a significant decrease in net price per student, and that difference was also significantly different than the sector. Reset schools also had lower borrowing rates by their students; however, this difference was not significantly different from the sector. The number of Pell-eligible students appeared to increase at 44% of reset schools which is lower than the sector, but the difference was not statistically significant. Finally, Kottich found that net tuition revenue increased at over half (52.9%) of the reset schools. This finding is notable, but limited in the information it can provide, as this increase was not compared to that of the sector, and it also means nearly half (47.1%) of reset institutions had a loss in net tuition revenue.

Institutional Experiences. Casamento (2016) conducted research which involved case study methodology and was designed to better understand the decision-making processes used by institutions that implemented a tuition reset. Casamento looked at four institutions that had recently implemented a tuition reset and interviewed key leaders at each institution. The study centered around discovering the motivations for institutions to engage in such a strategy, as well as who was involved and how all those factors contributed to the success or failure of such a strategy. Of the four case studies, Casamento determined that two had been successful and two were not successful.

Casamento's (2016) study found that some common traits seemed to be present in successful implementations of tuition resets. These include: coming from a position of strength rather than desperation, being inclusive of the impact on returning students related to the pricing structure, communicating the strategy effectively to a broad audience, doing due diligence related to understanding the institution's position and attractiveness in the market, including the

governing board of the institution, and focusing on an overall message of uniqueness and value to students. Likewise, Casamento found certain happenings also seemed to be present in tuition resets which were not successful. These common characteristics included: limited discussion and buy-in for the decision-making process, as well as poor or limited marketing and communication with stakeholders such as students, trustees, parents, and the broader public/media. Casamento also found that although nothing can guarantee a successful tuition reset, the process of how the decision is considered and implemented can have a meaningful impact on the outcome.

Similar in some ways to Casamento's (2016) work, Holt (2019) conducted a case study of three institutions that recently underwent the process of implementing a tuition reset. This qualitative study had the goals of understanding how success was defined for a tuition reset, and whether institutions thought their resets were successful. Holt found that success is very much individually defined. Holt also found some common themes regarding goals for a tuition reset, these included increasing enrollment and improving financial conditions. The meaning and definition of improving financial conditions varied on specifics among institutions, but often included a financial situation which was less dependent on increased enrollment to continually meet costs for a higher and higher discount rate. Holt also found increasing net tuition revenue was often a goal for institutions implementing a tuition reset.

As far as factors common to schools who thought their reset was successful, Holt (2019) found robust planning for the strategy had occurred in those situations; this included broad discussions across campus as well as market analysis and working with consultants and experts outside the institution to help with the analysis and development process of the reset. An important takeaway from Holt is that institutions must define their own success because it is a broad-based concept and can have wide ranging impacts. Holt's work also found that

implementing a successful tuition reset is not a quick or light decision, but instead it takes time and research. Holt's research also echoed the finding of other research that many institutions who implement a tuition reset are focused on the financial health and well-being of their institution as well as that of students.

Wells (2020) conducted a case study of one institution's experience with a tuition reset. Wells' findings echo those of some other researchers and found implementing a tuition reset is a complex strategy with high risk and should not be entered into lightly. An interesting addition to the knowledge from Wells' study was the discussion about the potential risk that reliance on the tuition reset language could have on limiting an institution's potential success. Wells' discussion suggested that institutions may want to ensure the end result of a lower price point and final cost to students are the focal points they stress to students, rather than the amount of a reduction in cost or the act of the reset itself. This finding could help institutions focus on the value proposition they have for students with a lower starting price, especially compared to other institutions which continue to use the HT-HA model. Wells also echoed the need for diligent and extensive research and preparation by institutions considering a tuition reset, including the use of outside consultants and effective communication with all stakeholders.

In addition to Casamento (2016), Holt (2019), and Wells (2020), there have been other published works detailing the experiences of an institution's tuition reset (Eldridge & Cawley, 2017; Hamm, 1995; Puyear, 1987). However, these works are more autobiographical and narrative in format than the previously discussed studies. Importantly, the date of Hamm's (1995) and Puyear's (1987) articles reveal that although tuition resets may be discussed as a recent and emerging trend, the strategy is not unique to the current decade. Hamm's (1995) detailed reflection on their experience as a college president who implemented a tuition

reduction in the 1980s provides context and a reminder that current concerns about rising tuition and lack of students who can pay, are not exclusive to the current time – nearly forty years ago higher education leaders were facing the same concerns. More recently, the tuition reset experience of leaders at Rosemont College brings to life the current conditions and processes which are involved in a tuition reset (Eldridge & Cawley, 2017). Eldridge and Cawley (2017) explain the motivation for implementing a tuition reset was in large part due to discovering that many potential students were removing Rosemont from consideration because of their published tuition price. They go on to discuss how much time, energy, and careful consideration were put into carefully planning for the reset. The Rosemont narrative echoes many of the findings from Casamento (2016) and Holt (2019).

Summary of Tuition Reset Studies. As mentioned earlier, the publicly available research on tuition resets is somewhat limited in quantity, but continues to grow each year. Many of these studies are focused on a small number of private colleges and universities which have implemented the strategy within the past two decades. A portion of the research has investigated the more quantifiable impact of tuition resets with a focus on the financial impact the strategy can have on institutional net tuition revenue, as well as impact it can have on individual students related to the net tuition cost they experience (Kottich, 2017). Studies have also looked at the impact resets broadly have on student enrollment and retention (Lapovsky, 2015, 2019). Another branch of available research has investigated somewhat harder to define aspects of tuition resets. Much of this work has centered around the experience of institutions that implemented a reset, as well as the identification of how success can be defined and measured or identified (Casamento, 2016; Eldridge & Cawley, 2017; Holt, 2019; Wells, 2020). Although not many sweeping generalities can be found or asserted from the work to date, these studies can help both academic

researchers and institutional leaders better understand what is known about tuition resets, and importantly, what must be further explored.

Chapter Summary

As discussed in this chapter, higher education finance is a complicated and multi-faceted issue. The common cost drivers and revenue streams have changed dramatically over the past three centuries of U.S. higher education. Likewise, student financial aid and strategies for allocating it, have changed in recent decades. There can be a fundamental mismatch between those setting tuition prices and developing financial strategies, and the students and prospective students who are impacted by those decisions. At times this mismatch can lead to a loss in potential for adding diversity to student bodies and for opportunities to be seized, and these missed opportunities are often higher for some of the same groups targeted by institutions.

This chapter provided an in-depth look at the history of financial aid, including recent shifts in focus from need-based to merit-based financial aid. It also looked at the work of several researchers investigating tuition resets. I discussed how resets have been studied to date and also identified a need to understand more about the impact of such a strategy on other institutional goals. Despite this growing body of literature, tuition reductions and resets are still an understudied phenomenon in higher education, and although researchers have recently shown more interest in the area, more work still needs to be done. By investigating the impact tuition resets have on specific student enrollment, my study provided more information about the strategy and its implications for higher education. This information can be used alongside existing information to help researchers and administrators develop a more complete understanding of this strategy and better determine its potential as they contemplate how to navigate current and future financial strategies for their institutions. In the next chapter, I discuss

in detail how my study explored this issue, the appropriateness of the research design and methodology, and the statistical tests I ran for this study.

CHAPTER III

METHODOLOGY

As discussed in previous chapters, institutional finances, college choice, financial aid, and tuition resets are complex topics closely intertwined with each other and rapidly changing for both students and institutions alike. Traditional funding sources for higher education are shrinking, expenses are growing, and the sticker prices of tuition continue to climb at colleges and universities across the country. Since the 1980s, the amount of financial support institutions provide to students has increased dramatically, and much of this support has shifted from need- to merit- based aid. Together, all of these factors have contributed to the broad use of tuition discounting and a high tuition-high aid (HT-HA) model that is nearly ubiquitous among private four-year not-for-profit colleges and universities in the United States.

In recent years, several institutions have experimented with ways to simplify their pricing strategy and find alternatives to the HT-HA model. To that end, some institutions have reduced their published tuition price, a practice often referred to as a *tuition reset*. Although not a brand-new idea (Hamm, 1995; St. John, 1994), a growing number of institutions have implemented this approach during the past few years (Kottich, 2017; NACUBO, 2019). Additionally, as the approach has gained traction in both industry and popular media discussions (Moody, 2018; Seltzer, 2017), it has also garnered the attention of several researchers (Casamento, 2016; Kottich, 2017; Lapovsky, 2015, 2019). Studies have investigated the decision-making process of leaders who implemented a tuition reset (Casamento, 2016), as well as the financial impact

tuition resets have on institutions and individual students (Lapovsky, 2015, 2019; Kottich, 2017).

This study builds upon previous research by exploring the impact tuition resets have on student enrollment; doing so adds to a broader understanding of the impact of tuition resets. This study utilized Integrated Postsecondary Education Data Systems (IPEDS) data from a group of 42 colleges and universities that recently implemented a tuition reset, along with a matched set of non-reset institutions, to explore the impact tuition resets have on student enrollment related to gender, race, and Pell-eligibility.

Study Overview

In this study, I utilized IPEDS data to compare student enrollment from a set of both tuition reset and non-reset institutions. The reset institutions for this study were identified through the work of Kottich (2017), whose research and rigorous selection criteria identified a comprehensive list of 45 private four-year not-for-profit colleges and universities that implemented an intentional tuition reduction of more than 5% between 2007 and 2017. Variables of interest for my study included the gender, race, and Pell-eligibility of enrolled students.

The study I conducted was exploratory in nature and utilized a quantitative research approach to address several research questions. Specifically, the study was modeled after a causal comparative design (Fraenkel & Wallen, 1996; Gall et al., 2007), and utilized statistical data from the IPEDS dataset. For this study, I conducted statistical tests to detect differences between three different dependent variables and their relationship to two independent variables.

Quantitative Approach

This study used a quantitative research approach to address the three main research questions. Using a quantitative approach is appropriate when a researcher wants to understand the relationships between variables (Creswell, 2014). Examining such relationships is

accomplished through statistical tests which determine whether significant differences are detected and could be the result of random chance, or may be related to another factor investigated in the study, such as the independent variable(s). There are many different designs for quantitative research; for this study, I focused on a causal-comparative design (Fraenkel & Wallen, 1996; Gall et al., 2007). When choosing a methodology and design, I considered several factors. To begin, I wanted to understand how the topic was previously treated in the literature, so I analyzed how previous scholars had studied the topic. I found that both quantitative (Kottich, 2017; Lapovsky, 2015, 2019) and qualitative (Casamento, 2016; Holt, 2019; Wells, 2020) approaches had been used to study tuition resets. Additionally, I also considered data mining and exploratory data analysis as potential approaches for this study. These were considered because of the large dataset available through the IPEDS. After exploring all of these factors and considering my specific research questions, I decided a quantitative approach for this study was the best approach.

The first step toward this decision was concluding that my study was non-experimental in design. I made this determination after reviewing the research questions and related variables. In this study, I decided to look at something which already happened. Likewise, I did not have the ability to manipulate the independent variables in this study. Manipulation of an independent variable is a hallmark of experimental research, and without such ability in this study, I determined this was indeed a non-experimental study (Fraenkel & Wallen, 1996; Gall et al., 2007). Additionally, data for this study was pulled from the IPEDS dataset and all the variables of interest were numerical in nature. The use of such data is indicative of quantitative research (Fraenkel & Wallen, 1996; Gall et al., 2007).

Design of Study

After deciding that the study was both non-experimental and quantitative in nature, I then reviewed models for appropriate design. The two best fitting designs seemed to be correlational and causal-comparative (Fraenkel & Wallen, 1996; Gall et al., 2007). Further reading indicated these two methods are closely aligned, but the decision to frame this as a causal comparative study was based on a few factors.

Fraenkel and Wallen (1996) indicate that causal-comparative studies can explore consequences of an action; in essence, this study is looking at the consequences of a tuition reset, thereby matching this description of causal-comparative design. Likewise, Gall, Gall, and Borg (2007) write that causal-comparative studies are used to understand and explain phenomenon by forming groups in which an independent variable is present at varying levels and looking at the impact such presence, or absence, has on a dependent variable. Again, this is what my study did. Furthermore, they state that although causal-comparative and correlational studies are very similar, some researchers prefer a causal-comparative design because its use of categories to measure the independent variable is closely aligned with how many practitioners and stakeholders view the world (Gall et al., 2007). Because, as the researcher, I wanted the results of this study to be especially useful to practitioners and administrators in higher education, I designed levels for the independent variables as described later in this chapter – doing so aligns with a causal-comparative design. Finally, a causal-comparative design fits well with the study because it has two independent variables focused on the level, or amount, of a tuition reset and the length of time since a reset, and causal-comparative studies can work with multiple independent variables (Fraenkel & Wallen, 1996; Gall et al., 2007).

There are some recognized limitations with casual-comparative studies, the most

important of which is that, as a non-experimental design, there are limitations regarding how the results should be discussed or interpreted related to any causal affects (Fraenkel & Wallen, 1996; Gall et al., 2007). However, setting up a true experimental design study to look at the impact of tuition resets was not feasible because institutions must choose to engage in such a pricing strategy, and the financial decisions and risks involved in the strategy would not allow a researcher to randomly assign a sample to treatment and control groups. Since the study was not a strict experimental design, other interpretations and explanations of any findings may be possible. Knowing this was a limitation of the design, I reported the results of the data analysis with a focus on what they *suggest*, rather than trying to claim they *prove* anything.

Research Questions

The purpose of this study was to explore the relationship between tuition resets and student enrollment. The overarching research question for this study was: ***To what extent and in what ways does a tuition reset impact student enrollment related to race, gender, and socioeconomic status?***

Three specific research questions guided the study, including:

1. How does a tuition reset impact the enrollment of Pell-eligible students?
 - a. What impact does the level of a tuition reset have on the enrollment of Pell-eligible students?
 - b. What impact does the length of time since a tuition reset have on the enrollment of Pell-eligible students?
2. How does a tuition reset impact the enrollment of women?
 - a. What impact does the level of a tuition reset have on the enrollment of women?

- b. What impact does the length of time since a tuition reset have on the enrollment of women?
- 3. How does a tuition reset impact the enrollment of students of color?
 - a. What impact does the level of a tuition reset have on the enrollment of students of color?
 - b. What impact does the length of time since a tuition reset have on the enrollment of students of color?

Data and Analysis

Data for this study was gathered from IPEDS. This robust dataset includes wide-ranging data and information from nearly all institutions of higher education in the United States (Ginder et al., 2018). A distinct benefit of the IPEDS dataset is that it is publicly available, which was especially helpful for this study because it centers on student enrollment and financial factors, two areas of information many institutions may be hesitant to share with researchers, or anyone else. This section provides information about the IPEDS dataset, as well as a detailed discussion of the variables in this study and the collection and analysis methods.

IPEDS Dataset

The data for this study was pulled from IPEDS, which is a robust collection of data procured and managed by the National Center for Education Statistics (NCES), the federal government entity responsible for housing and distributing data important to educational institutions and researchers (Aliyeva et al., 2018). All Title IV eligible U.S. institutions of higher education must annually report their data to NCES for inclusion in the IPEDS dataset, and several thousand institutions of higher education submit data to IPEDS each year, including both two- and four-year institutions, as well as public, private not-for-profit, and for-profit institutions

(Ginder et al., 2018). This mandated reporting includes annually submitting data to each of 12 different categories through three different collection periods during the Fall, Winter, and Spring of each year (IPEDS, 2018). For this study, the data analyzed was pulled from information gathered through the Fall Enrollment (EF), Institutional Characteristics (IC), and Student Financial Aid (SFA) components of the IPEDS data collection.

IPEDS was chosen as the data source for this study because it could provide data relevant to address the research questions for this study and because the information is publicly available making it accessible to the researcher. IPEDS data is intended to be used by education researchers and administrators to support data driven decisions and research in higher education (Redd & Witters, 2016). Although there are some limitations when using a secondary data set, as detailed later this chapter, the advantages of the IPEDS data for this study outweighed any limitations.

Data Collection

Data for this study was accessed from the IPEDS section of the NCES website through the publicly accessible website (nces.ed.gov/ipeds). This website provides the ability to access data from all institutions included within the IPEDS data universe. Data can be downloaded as an entire dataset, or by individual characteristics and variables, as needed by a researcher. Data used in this study came mainly from information submitted by institutions to the Institutional Characteristics, Fall Enrollment, and Student Financial Aid components of IPEDS.

Data for the Institutional Characteristics component is collected each year during the Fall collection cycle and includes general institutional information including name, address, educational offerings, institutional type and affiliations, and other mainly descriptive pieces of information. The Fall Enrollment component includes data on the enrollment of full and part

time students by level, race, and gender, and information is due each Spring based on an institution's enrollment from the previous Fall. The Student Financial Aid component is collected during the Winter collection cycle and includes data related to the amount of financial aid awarded to students, including the number of Pell grant recipients at a given institution. The specific steps used in accessing the data for this study are included in Appendix A.

Study Variables

This study included two independent variables and three dependent variables. The independent variables were both derived from components of tuition resets and represented two different aspects of that study variable. The three independent variables were related to three different demographic characteristics of enrolled students at each institution – specifically gender, race, and Pell-eligibility status.

Independent Variables

The first independent variable (Reset Level) reflected the level, or amount, of a tuition reset based on the percentage of tuition reduction implemented by an institution. For this study, I created this as a categorical variable with three distinct levels. To determine this variable and its levels, I examined the reset levels of the schools identified in Kottich's (2017) study which provided the initial group of reset institutions I used in my study. The percentage of tuition reduction for each school was reviewed to understand the range and frequency of reset amounts within this group. The tuition reduction amount of these schools ranged from 6.7% to 53%, with a mean reset rate of 24.97%. After examining this range of reset levels, I grouped the data into three levels. I chose to create grouping levels for this variable as they can be more meaningful for practitioners reading research (Gall et al., 2007). The range of reset amounts within each level was based on the overall average reset amount (24.97%) being the determining factor

between high and low reset levels. Therefore, reset amounts below 25% were categorized as *low*, and reset amounts of 25% or more were categorized as *high*. These two levels, *low* and *high*, were created in addition to the category of *none* for those institutions from the matched set of institutions which had not conducted a tuition reset. Details of the categories for this variable can be seen in Table 1.

The second independent variable (Reset Time) reflected the time which had elapsed since the implementation of a tuition reset. After reviewing the group of tuition reset institutions in this study, I created two levels for this group identified as *new* and *old*, as well as a third level for institutions that did not reset their tuition labeled as *none*. Grouping the institutions into these three levels was designed to investigate whether the length of time after a reset impacted the dependent variables of interest in this study. Looking at the specific years since a reset in the form of a continuous variable was considered; however, I chose to create a categorical variable with three levels because from a practical standpoint I believed examining the broader categories of *old*, *new*, and *none* would be more meaningful to practitioners and better reflect the intended purpose of the study. Additionally, previous research on tuition resets indicated that the impact on enrollment sometimes varied in the immediate years after a reset (Lapovsky, 2015), so I decided grouping several years together into three levels could allow any immediate volleying to level out and better reflect results of the reset more than looking at individual years. Table 1 shows details of this second independent variable.

Table 1*Independent Variables with Levels, Description, and Cases*

Variable	Levels	Criteria	Number of cases
Reset Level			
	None	No tuition reduction	42
	Low	Tuition reduced by less than 25%	22
	High	Tuition reduced by 25% or more	20
Reset Time			
	None	No tuition reduction	42
	New	One to four years since tuition reset	15
	Old	Five or more years since tuition reset	27

Dependent Variables

The three dependent variables for this study were identified from data within the IPEDS dataset, and were examined as continuous variables reflecting the percentage of students for each variable as a proportion of an institution’s total enrolled students. In their IPEDS reporting, individual institutions submit detailed information regarding the total number of students enrolled, as well as specific numbers of students identified within certain demographic and descriptive categories, including the three investigated in this study – race, gender, and Pell-eligibility.

A goal of this study was to help understand the impact of tuition resets on student enrollment; specifically related to race, gender, and Pell-eligibility status. Underlying this was the assumption that a more diverse student body benefits institutions and is a goal for most

colleges and universities. One measure of diversity within a campus is that of *structural diversity* defined as how racially and ethnically diverse a student body is (Harper & Antonio, 2008). For this study I used three indicators from IPEDS data as measurements which spoke to some elements of structural diversity within a student body. I chose data reported on racial categories to be a marker for racial diversity, the percentage of women to be a marker for gender diversity, and Pell-eligibility to be a marker for the socioeconomic diversity of students. These do not represent the full range of diversity within an enrolled student body, and a single number for each of these categories cannot fully convey the diversity of a student body. However, these were appropriate measurements available within IPEDS data and do provide some picture of the structural diversity of student enrollment at the institutions in this study.

Pell-eligibility. The first dependent variable of interest in this study was Pell-eligibility. This information was extracted from the SFA category of IPEDS data, which contains information on the total number, as well as the percentage, of enrolled students eligible for Pell Grants at each institution. This variable was explored because the socioeconomic status of students has been shown to impact college choice process (Hearn & Rosinger, 2014; Paulsen & St. John, 2002). Specifically, research indicates the sticker price of tuition is an especially important factor to lower income students (Levine et al., 2020). IPEDS does not contain specific income data on students; however, in education research, Pell-eligibility is often used for investigating research questions linked to socioeconomic status. Although socioeconomic status involves more than income level, and although using Pell-eligibility as a proxy for lower income students is not without its critics (Delisle, 2017), because students qualify for Pell Grants based on income and Pell Grants are generally attributed to lower and moderate-income students, I still chose to use Pell-eligibility as an indicator of low socioeconomic status for this study.

Women. Gender is reported to IPEDS and students are classified as men or women. Gender was identified as a dependent variable of interest because research (Cho et al., 2008, Eagan et al., 2017) indicates differences in the amount of concern over the cost of college between men and women. With this in mind, I wanted to explore the relationship between the enrollment of women and the two independent variables related to tuition resets because a tuition reset changes the published price of an institution.

Students of Color. The final dependent variable for this study was race. As discussed earlier in this study, research has indicated relationships between race and college cost, financial aid, and college choice (Cartledge et al., 2015; Kim, 2004; St. John et al., 2005; Teranishi et al., 2004); therefore, race was a variable of interest for this study. IPEDS collects nine different racial categories and students can be reported into only one of these categories. I included six of the IPEDS racial categories into the *students of color* variable used in my analysis. The included categories were *American Indian/Alaska Native, Asian, Black or African American, Hispanic, Native Hawaiian or Other Pacific Islander, and Two or More Races*. Although collapsing individual race categories into one larger variable diminishes the unique circumstances and experience of students within these individual racial categories, the exploratory nature of this study and the relatively small number of institutions and students at those institutions made collapsing these race categories the right choice for this study. As I explain later, I hope future research in this area can explore differences in enrollment between single race categories.

Matching Set

For this study, I initially began with a set of 45 colleges and universities that recently implemented a tuition reset, and created a matched set of similar institutions that had not implemented one. Using a matched set of institutions strengthened the design of this study by

providing a comparison group and eliminating some extraneous factors, allowing for a higher probability that any observed differences could more likely be attributed to a relationship with the independent variables in the study. Using matching groups is a recognized way to strengthen causal-comparative research (Fraenkel & Wallen, 1996; Gall et al., 2007).

The initial 45 tuition reset institutions were identified through the work of Kottich (2017), whose study created a well-researched list of private four-year not-for-profit colleges and universities that implemented a tuition reset between 2007 and 2017. As I prepared to develop a matched set of institutions, I first looked at this set of reset institutions and discovered I would not be able to utilize two of them because they had either closed or merged with another institution and therefore did not have student enrollment data available for the Fall 2018 collection period in IPEDS. Removing these two institutions from the study reduced my set of reset institutions to 43 colleges and universities which implemented a tuition reset between 2007 and 2017. After removing these two institutions, I proceeded to create a matched set of 43 non-reset institutions for the study.

The matched set of institutions used in this study was ultimately randomly selected from a narrowed population of private four-year not-for-profit institutions with data in the IPEDS dataset. The complete population of this sector included 1,639 institutions which met the broad criteria of being based in the United State and being a private four-year not-for-profit institution. To better match non-reset institutions to the reset institutions in this study, I decided to narrow the parameters of this potential population. After reviewing several key institutional characteristics of the 43 reset institutions, I narrowed the population of potential match institutions by additional factors, including geographic region, institutional size, Carnegie classification, and institutional category. This narrowed the population to 1,002 institutions,

including the 43 reset institutions. I then removed the 43 reset institutions from the set, and finally then used a random number generator to choose 43 institutions from the remaining 959 institutions. Those 43 randomly chosen non-reset institutions were then combined with the 43 tuition reset institutions to complete the set of institutions used in this study. A final review of this complete set of 86 institutions revealed that two of the institutions had implemented a tuition reset in 2018, including one of the non-reset institutions, and one of the reset institutions which implemented a tuition reset in 2008 and then another one in 2018. Because the enrollment data I used for this study was based on data reported to IPEDS for Fall 2018 enrollment, these institutions could not be categorized as intended and were subsequently removed from the study and any further data analysis. This left a final group of 84 institutions, including 42 reset institutions and 42 non-reset institutions.

The complete list of the selection criteria used to generate the narrowed population of 1,002 institutions is included in Appendix A, and the list of 42 non-reset institutions included in this study is available in Appendix C. The original set of 45 institutions from Kottich (2017) is included in Appendix B, and denotes the 42 which were ultimately used in the data analysis for this study.

Statistical Tests

For this study, I ran a test of significance with a two-way Analysis of Variance (ANOVA) for each dependent variable of interest in the study. A two-way ANOVA was chosen because there are multiple institutions, or observations, in the study, and two independent categorical variables with multiple levels for each variable. A two-way ANOVA model is designed to test such conditions (Lomax & Hahs-Vaughn, 2012). A total of three ANOVA tests were run in this study, one for each of the three specific research questions and their respective

dependent variable. As detailed in Chapter Four, the results of each ANOVA test were analyzed to determine if either of the independent variables, or the interaction between them, indicated any significant differences.

A two-way ANOVA was a good test choice because it can handle two independent variables which are measured at the categorical level along with a continuously measured dependent variable. I also investigated the option of running a Multivariate Analysis of Variance (MANOVA) test in order to include all three dependent variables along with the two independent variables in one larger omnibus test. Such an omnibus test is often used to mitigate the increased chance of a Type 1 error which can occur when running multiple statistical tests; however, research indicated that for a study, which is exploratory in nature such as this one, running multiple ANOVAs could be an appropriate approach rather than running a MANOVA (Huberty & Morris, 1989). Huberty and Morris (1989) explain multiple ANOVAs can be especially applicable when investigating new treatment and outcome variables, especially when the studies are non-experimental studies. My study seemed to fit the profile Huberty and Morris described as a situation in which multiple ANOVAs could be appropriate, so I proceeded accordingly.

Validity and Reliability

Strong academic research should be concerned with both validity and reliability (Creswell, 2014). In quantitative research, these constructs have specific meanings and generally accepted standards which should be met. The research design itself, as well as the data source or instrument for data collection, should be reviewed for validity, and the data source or instrument should also be reviewed for reliability.

Research Design

When thinking about broad research design, one challenge to the validity of this study stems from the non-experimental design of the study. The participants in this study were not randomly selected or assigned to implement a tuition reset; instead, some are included because they previously made an institutional choice to implement a tuition reset at a certain time and a certain level. This lack of random assignment can limit the applicability of the study's findings to other institutions and conditions. However, one way to decrease this concern comes from guidance for effective research design in the form of matching (Fraenkel & Wallen, 1996; Gall et al., 2007; Stuart, 2010). Following this guidance, I created a matched set of institutions with characteristics similar to those in the group of colleges and universities that implemented a tuition reset. As described earlier, this set of matched institutions was randomly selected from a narrowed population of similar institutions which had not reset their tuition.

The broad matching criteria for this study was that of being a private four-year not-for-profit degree granting institution of higher education in the United States. Limiting the study to include only private four-year not-for-profit colleges and universities created a better matching set because it likely helped balance the covariate distribution between the reset and non-reset institutions (Stuart, 2010). This is important to help reduce the potential impact of factors outside the scope of the study which could influence the variables of interest. Although there are still differences between individual private four-year not-for-profit schools, as an industry sector, they are more similar to each other than they are to institutions in other sectors such as public institutions and two-year institutions. In addition to limiting the study to private four-year not-for-profit sector within IPEDS, the population of potential matched schools was further narrowed by other factors such as geographic region, Carnegie classification, and institutional size, to help

create an even more similar matching group.

Data Source

IPEDS data was selected as the data source for this study for several reasons, including the fact that it is publicly available, which allows for replication and expansion of this work by future researchers. Additionally, considering the high likelihood of non-responses to a survey created only for this study, IPEDS promised a more complete dataset than would likely be obtained through requesting data from each individual institution. That being said, the dataset is not perfect and leads to some concern related to validity and reliability; however, such concerns have been generally mitigated according to best practices, and IPEDS still provided a strong data set for this study.

The IPEDS dataset is generally seen as a valid and reliable dataset. Ginder et al. (2018) report that IPEDS has nearly 100% contribution rate by all required institutions. Likewise, related to reliability, the same report explains that several accuracy checks are instituted in the IPEDS data collection protocol. These include an initial data check which looks for deviations from expected numbers based on the previous year's data. Any discrepancies must be addressed or explained by the institution before institutions can lock the data and complete the upload. Then after data is uploaded, but before it is released for public consumption, another accuracy check is implemented by IPEDS staff to further ensure accuracy; again, any concerns are resolved through communication with the institution before the data is released to IPEDS provisional reports. Finally, once released in provisional reports, institutions have the opportunity to again review and submit changes to correct any inaccurate data before the final version of data is released by IPEDS. In this study I used data which was in the final release version to maximize the accuracy and reliability of the data.

Limitations and Delimitations of the Study

Like all academic research, this study has some limitations. These limitations are factors beyond the control of the researcher (Gay, 1996) and are identified and described in this section so readers can understand these limitations when reviewing this study and considering it for inclusion in future research or decision-making. Delimitations of this study, created by choices I made as the researcher, will also be discussed in this section.

Limitations

One limitation of this study was the result of using IPEDS data, which is self-reported data, and therefore in the context of this study, a secondary data source. Inherent in the collection of this data, there is the possibility of erroneous or incomplete data being submitted by the higher education institutions which self-report their data to IPEDS. This limitation is relatively small, and Ginder et al. (2018) indicate that in general, the IPEDS dataset is reliable and accurate. However, there can be issues due to human error when uploading the data. This risk is generally mitigated by an initial accuracy check which occurs when institutions upload their data to IPEDS, as well as a secondary check conducted by IPEDS after institutions load and lock their data, but before it is released for public use. Additionally, institutions can correct or update their data after initial submission to address bad data or fill in missing data. To minimize the risk of erroneous data for this study, I only utilized final release data which has undergone all the quality control issues described above to best ensure complete and accurate data.

Another limitation of this study is that it had a non-experimental design. By definition, such a study cannot claim to prove anything, nor does it have as strong of an ability to indicate or suggest cause like a study with a true experimental design might be able to do (Fraenkel & Wallen, 1996; Gall et al., 2007). Although not as rigorous as experimental research, non-

experimental studies, such as this one, are common in education research, especially when independent variables cannot, or should not, be manipulated (Fraenkel & Wallen, 1996; Gall et al., 2007; Gay, 1996;). Although such a design prevents the ability to confidently show cause, information gleaned from a well-designed study, which entails appropriate statistical tests and a thorough analysis, can still provide valuable information to both administrators and researchers.

These study limitations are important to keep in mind when reviewing the findings and implications of this study. However, they should not take away from the importance of the findings, but rather they should provide more context to help understand the appropriate interpretation and application of the work.

Delimitations

One delimiting factor of this study was the choice I made to look at a group of 45 private four-year not-for-profit institutions that had been identified in previous research. This choice limited the type of institutions studied and consequentially excluded several other sectors of higher education from this study, including two-year institutions, public institutions, and for-profit institutions. This choice made my findings less applicable to institutions outside of the sector studied.

Another delimiting factor relates to a previously discussed *limitation* of this study. By choosing to use a secondary data source, I accepted the limitations previously stated regarding self-reported data. I also did not have full control over some aspects of variables of interest. This delimiting factor was most pronounced when looking at the dependent variables in the study. Specifically, the gender variable was limited by how IPEDS categorizes and collects data on students, allowing for students to be reported as either men or women. Many of today's college students do not identify on a binary scale for gender and some professional associations have

described current best practices as ones which separate birth sex and gender as identifiers for students and include more than two categories for gender (The American Association of Collegiate Registrars and Admissions Officers, 2019). However, my choice to use IPEDS data limited me to looking at only those two categories of gender. Likewise, the race categories for this study are also limited to what and how IPEDS collects data. Although IPEDS recently updated the way they collect race and ethnicity data, as it is reported, students can only fit into one category (U.S. Department of Education, n.d.) which may not fully match how they identify. For instance, because of the way IPEDS data is reported, a student can be White or Hispanic, but not both, even though some students may identify as both. This way of collecting data on race and ethnicity can limit some of the potential analysis and prevent more detailed breakdowns of race on campus due to limits in how IPEDS allows institutions to report.

Another choice I made for this study was to create the independent variables – related to the time since a reset and the percentage of a tuition reset – into categorical variables with three levels each. This choice impacted the type of analysis I could perform and also collapsed a wide range of tuition reset amounts with 42 unique percentages, into three broadly-grouped categories of none, low, and high. Similarly, the choice to group the time since a reset into collapsed levels of none, new, and old meant the data was analyzed as a categorical variable with three levels, rather than a continuous variable with different years. This also impacted the type of statistical analysis I was able to conduct. All of these delimiting factors are conditions to be aware of when reading and understanding the findings from this study.

Chapter Summary

This study was designed to add to the understanding of tuition resets and the impact they have on private four-year not-for-profit colleges and universities. Tuition resets are a financial

strategy more institutions are utilizing to navigate current economic and enrollment challenges of higher education (Lapovskysy, 2019; NAICU, n.d.; Seltzer, 2017). As an emerging strategy which has industry attention (Brock, 2020; Goebel, 2021), more must be understood about the impact such a strategy has on college campuses broadly, and student enrollment in particular. This study provided insight into the impact two independent variables (Reset Level and Reset Time) had on several dependent variables related to student enrollment, by specifically looking at the race, gender, and Pell-eligibility of those who enroll after a tuition reset. The report and analysis of this study's findings in subsequent chapters provide insights into this growing strategy in a timely fashion for administrators and decision-makers at institutions who may be considering alternatives to their current pricing strategy, or for those who have been asked to investigate the implementation of a tuition reset at their own institution. It will also add to the growing body of literature focused specifically on tuition resets (Casamento, 2016; Kottich, 2017; Lapovsky, 2015, 2019), and more broadly on tuition discounting and related financial issues at private non-profit institutions.

CHAPTER IV

FINDINGS

As discussed in previous chapters, I designed this study to better understand the impact tuition resets may have on student enrollment at colleges and universities. Specifically, I investigated if and how two independent variables related to the amount, or level of a tuition reset, and the time since a tuition reset impacted the percentage of enrolled Pell-eligible students, women, and students of color. The previous chapter described how the tuition reset institutions for this study were based on Kottich's (2017) work, and it also detailed the procedures used to identify a matched set of 42 institutions through the Integrated Postsecondary Education Data System (IPEDS) dataset. In this chapter I discuss the detailed findings from statistical tests I ran; a more detailed discussion of implications will be provided in Chapter Five.

Research Questions

The purpose of this study was to explore the relationship between tuition resets and student enrollment. The overarching research question for this study was: *To what extent, and in what ways, does a tuition reset impact student enrollment related to race, gender, and socioeconomic status?*

Three specific research questions guided this study, including:

1. How does a tuition reset impact the enrollment of Pell-eligible students?
 - a. What impact does the level of a tuition reset have on the enrollment of Pell-eligible students?

- b. What impact does the length of time since a tuition reset have on the enrollment of Pell-eligible students?
- 2. How does a tuition reset impact the enrollment of women?
 - a. What impact does the level of a tuition reset have on the enrollment of women?
 - b. What impact does the length of time since a tuition reset have on the enrollment of women?
- 3. How does a tuition reset impact the enrollment of students of color?
 - a. What impact does the level of a tuition reset have on the enrollment of students of color?
 - b. What impact does the length of time since a tuition reset have on the enrollment of students of color?

Descriptive Statistics

The dataset for this study came from 84 institutions of higher education, including 42 which implemented a tuition reset between 2007 and 2017, and 42 that were randomly selected from a narrowed population within the IPEDS dataset as detailed in Chapter Three. All institutions included in this study were private four-year not-for-profit colleges or universities. Student enrollment ranged from 21 students to 5,020 students, with an average enrollment of 1,376 students. Ninety-two percent of the institutions had endowments reported in IPEDS; the value of endowments ranged from approximately \$33,000 to \$860,000,000, with a mean endowment value of just under \$62,000,000. Tuition prices ranged from \$7,560 to \$61,212 with an average tuition price of \$29,127.

Inferential Statistical Test Results

Analysis of Variance (ANOVA) is a statistical test which can be used to detect differences between the means of two or more groups (Gravetter & Wallnau, 1995). Two-factor ANOVA models look at the impact of two independent variables on a dependent variable. The independent variables can have more than one level, and in this study, the two independent variables (Reset Time and Reset Level) each had three levels. Both independent variables in this study were categorical in nature, and the dependent variables were each measured at a continuous level by representing the percentage of the entire student body for the specific variable of interest (gender, race, or Pell-eligibility). Two-way ANOVAs have three assumptions which should be met when used in a research study. These assumptions include the expectation that the data is normally distributed, has homogeneity of variance, and that there is independence of observations (Lomax & Hahs-Vaughn, 2012); I tested the data for each of these assumptions during this study.

Pell-eligible Students

The first research question of this study focused on exploring the impact tuition resets have on the enrollment of lower socioeconomic students. As discussed in Chapter Three, although not a perfect proxy, Pell-eligibility was used as an indicator of lower socioeconomic status in this study. To address this first research question, I conducted a two-way factorial ANOVA to determine if the average percentage of Pell-eligible students was statistically significantly different related to either of the two independent variables or any interaction effect of those two variables.

Assumptions

Before running the ANOVA procedure, I first analyzed the data to determine whether it met the three assumptions for two-way ANOVA models (Lomax & Hahs-Vaugh, 2012). Three of the institutions in my dataset did not have the percentage of Pell-eligible students in their dataset from IPEDS, so they were not included in this analysis, leaving a total of 81 institutions for this particular test. The first assumption of independence of observations was met, because each observation was independent from others both within and across levels. Next, I ran Levene's Test for Equality of Variances to see if the data met the assumption for homogeneity of variance. The results of this statistical test were not significant ($F(4,76) = .923, p = .455$), meaning the null hypothesis was not rejected and the assumption for homogeneity of variance was therefore satisfied. Finally, I investigated the assumption of a normal distribution of data by running the Shapiro-Wilk Test for Normality. The assumption of normality was *not* met because the Shapiro-Wilk test indicated a significant result ($W(81) = .947, p = .002$). However, skewness (.760) and kurtosis (.486) were both within the acceptable range of +/- 2.0 (Lomax & Hahs-Vaugh, 2012), and the histogram appeared relatively normal. Therefore, although normality was not met according to the statistical test, I still proceeded with the ANOVA test because they are generally robust to non-normality in data (Lomax & Hahs-Vaughn, 2012).

Findings

The average percentage of Pell-eligible students at all institutions in this study was 40.33%. Institutions which had not reset their tuition had an average of 37.58% Pell-eligible students, whereas institutions in the *Low Reset* level had an average of 40.71% Pell-eligible students, and *High Reset* level institutions had an average of 45.45% Pell-eligible students. Table 2 contains the full set of breakdowns for Pell-eligible students by the three levels of each group.

Results of the ANOVA indicated the main effect for the Reset Level variable was not significant ($F(1,76) = .896, p = .347$), meaning the amount of the tuition reset (None, Low, or High), did not appear to impact the percentage of Pell-eligible students enrolled. The main effect for Reset Time variable was also not significant ($F(1,76) = .000, p = .985$), meaning the time since the tuition reset (None, New, or Old) did not significantly impact the percentage of Pell-eligible students enrolled. Additionally, results of the ANOVA test indicated there was not a significant interaction effect ($F(1,76) = .415, p = .521$), meaning there was not a significant difference in the mean percentage of Pell-eligible students due to an interaction between the level of reset and the time since a tuition reset. Since neither of the main effects, nor the interaction effect were statistically significant, no post hoc analysis was conducted for this test.

Table 2*Means, standard deviation, and ANOVA results for Pell-eligible students*

Independent Variables							
	Level	M	SD	n	<i>F</i>	df	<i>p</i>
ResetLevel					.896	1,76	.347
	None	37.58	20.190	40			
	Low	40.71	16.553	21			
	High	45.45	15.477	20			
ResetTime					.000	1,76	.985
	None	37.58	20.190	40			
	New	43.80	15.298	15			
	Old	42.58	16.698	26			
ResetLevel*ResetTime					.415	1,76	.521

Gender

The second research question of this study focused on exploring the impact tuition resets have on the gender of enrolled students. To address this question, I conducted a two-way factorial ANOVA test to determine if the average percentage of women was significantly different because of either of the two independent variables (Reset Level and Reset Time), or any interaction between those two variables.

Assumptions

Before running the ANOVA procedure, I reviewed the data to confirm it met the three assumptions for two-way ANOVAs (Lomax & Hahs-Vaugh, 2012). The first assumption of independence of observations was met because each observation was independent from others both within and across levels. Next, I ran tests to confirm a normal distribution of the data; this assumption was *not* met because the Shapiro-Wilk Test for Normality indicated a significant result ($W(84) = .853, p = .000$). A careful review of the box plots for this data revealed several outliers, and a closer look at those outliers revealed some institutions with extremely high and extremely low percentages of women, including some schools with 0% women and some reporting 100% women. Further investigation through web searches of these institutions revealed the mission and history of these institutions created these extremes in the number of women enrolled, as some were currently or historically women's colleges and some were religious institutions where the academic programs were focused exclusively or nearly exclusively on men. Consequentially, I removed several of these outliers and ran the statistical test again with these institutions removed. With the outliers excluded, the assumption of normality was met because the Shapiro-Wilk Test for Normality did not indicate a significant result ($W(72) = .981, p = .342$). Additionally, skewness (-.454) and kurtosis (.855) were both within the acceptable range of +/- 2.0 (Lomax & Hahs-Vaugh, 2012).

Once normality was confirmed, with the outliers still removed, I ran Levene's Test for Equality of Variance to determine if the data met the assumption of homogeneity of variance. This statistical test was *not* significant ($F(4,67) = .584, p = .675$), meaning the null hypothesis was not rejected and the assumption for homogeneity of variance was therefore satisfied. After I confirmed all three assumptions were met, I ran the ANOVA tests and analyzed the results.

Findings

The average percentage of women enrolled at all colleges and universities in this study was 54.32%. Institutions which had not reset their tuition had an average of 53.83% women, while institutions in the *Low Reset* level had an average of 54.70% women students, and *High Reset* institutions had an average of 54.94% women students. Table 3 contains the full set of breakdowns for women by the three levels of each group.

The main effect for Reset Level was *not* significant ($F(1,67) = .003, p = .958$), meaning the amount of the tuition reset (None, Low, or High) did not significantly impact the percentage of women enrolled. Unlike the previous finding, results of the ANOVA indicated the main effect for Reset Time *was* significant ($F(1,67) = 4.377, p = .040$), meaning there was some potential that the time since the tuition reset (None, New, or Old) might impact the percentage of women enrolled. Because of this significant F-statistic, I ran a Tukey HSD post hoc test to investigate this further. The post hoc test did not show statistically significant differences in any of the pair-wise combinations of the Reset Time variable.

Finally, results of the two-way ANOVA test indicated there was not a significant interaction effect ($F(1,67) = .992, p = .323$) between the independent variables, meaning there was not a statistically significant difference in the mean percentage of women due to an interaction between the level of reset and the time since a tuition reset.

Table 3*Means, standard deviation, and ANOVA results for women*

Independent Variables							
	Level	M	SD	n	<i>F</i>	df	<i>p</i>
ResetLevel					.003	1,67	.958
	None	53.83	9.407	36			
	Low	54.70	7.197	20			
	High	54.94	8.918	16			
ResetTime					4.377*	1,67	.040
	None	53.83	9.407	36			
	New	58.69	7.521	13			
	Old	52.61	7.359	23			
ResetLevel*ResetTime					.992	1,67	.323

p* < .05Students of Color**

The third research question in this study focused on exploring the impact tuition resets have on the enrollment of students of color. To address this question, I conducted a two-way factorial ANOVA test to determine if the mean percentage of enrolled students of color was statistically significantly different among either of the two independent variables (Reset Level and Rest Time), or the interaction between those two variables.

Assumptions

Before running the ANOVA test for this variable, I needed to determine whether the data met the three assumptions for a two-way ANOVA model outlined by Lomax and Hahs-Vaughn (2012). The first assumption of independence of observations was met, because each institution could only be in one combination of the two independent variables and was therefore independent from others both within and across levels. Next, I ran a statistical test to check for the normal distribution of the data; this assumption was not met with the statistical test because the Shapiro-Wilk Test for Normality indicated a significant result ($W(84) = .885, p = .000$). After finding this statistical result, a review of the box plots revealed several outliers within the dataset. A closer look at these outliers revealed several Historically Black Colleges and Universities (HBCUs) within the dataset. As HBCUs, these institutions have a distinct mission and historic record of enrolling a much higher percentage of Black and African American students, and therefore seemed especially distinct from the set considering the variable of interest was students of color. Consequentially, I removed these outliers from the data for this statistical analysis and reran the Shapiro-Wilk Test for Normality with these institutions removed. With the outliers excluded, the data looked more normal; however, the assumption of normality was still not met because the test result indicated a significant result ($W(78) = .936, p = .001$). I then used a \log_{10} algorithm to transform the data and reran the test again. With the outliers removed, and the data transformed, the assumption of normality was now met because the Shapiro-Wilk Test for Normality did not indicate a significant result ($W(73) = .993, p = .972$). Additionally, skewness (-.138) and kurtosis (-.205) were both within the acceptable range of +/- 2.0 (Lomax & Hahs-Vaugh, 2012) further indicating a normal distribution. I moved forward with the transformed dataset for the rest of this test.

Once normality was confirmed, I ran Levene's Test for Equality of Variances to determine if the data met the assumption of homogeneity of variance. The results of this statistical test were not significant ($F(4,68) = 1.045, p = .391$), meaning the null hypothesis was not rejected and the assumption for homogeneity of variance was therefore satisfied. After I confirmed all three assumptions had been met, I ran the two-way ANOVA tests for this variable and analyzed the results.

Findings

The average percentage of students of color at all institutions in this study was 27.81%. Institutions which had not reset their tuition had an average of 28.58% students of color, while institutions in the Low Reset Level had an average of 19.40% students of color, and High Reset Level institutions had an average of 35.44% students of color. Table 4 contains the full set of breakdowns for students of color by the three levels of each of the two independent variables.

Main Effects. The main effect for the independent variable Reset Time was not significant ($F(1,68) = .439, p = .510$), meaning the amount of time since a tuition reset (None, New, or Old) did not significantly impact the percentage of students of color. However, the main effect for Reset Level was statistically significant ($F(1,68) = 11.613, p = .001$), meaning there was a potential that the amount, or level, of the tuition reset (None, Low, or High) might have an impact on the mean percentage of enrolled students of color.

Post Hoc Analysis. Because of the significant F-statistic for the Reset Level main effect, I ran a Tukey HSD post hoc test to investigate this further. Looking at the pairwise comparisons, there were two statistically significant results. The difference between the *None* Reset Level and the *Low* Reset Level was significant ($p=.037$), with the percentage of students of color in the *None* Reset Level schools (28.58%) being higher than that of the percentage at *Low* Reset Level

institutions (19.40%). Because it was statistically significant in the post hoc analysis, this appears to be caused by something other than random chance. Additionally, the difference between the *Low* Reset Level and the *High* Reset Level was also statistically significant ($p=.005$), with the percentage of students of color in the *High* Reset Level schools (35.44%) being higher than that of the percentage at *Low* Reset Level institutions (19.40%). Because it was found to be statistically significant in the post hoc analysis, this difference also appears to be caused by something other than random chance. These statistically significant differences will be further discussed in the following chapter.

Interaction Effects. Results of the two-way ANOVA indicated there was not a significant interaction effect ($F(1,68) = 1.264, p = .265$) between the variables, meaning there was likely not a significant difference in the mean percentage of students of color due to an interaction between the level of a tuition reset and the time since a tuition reset.

Table 4*Means, standard deviation, and ANOVA results for students of color*

Independent Variables							
	Level	M	SD	n	<i>F</i>	df	<i>p</i>
ResetLevel					11.613*	1,68	.001
	None	28.58	20.172	40			
	Low	19.40	10.495	20			
	High	35.44	15.112	18			
ResetTime					.439	1,68	.510
	None	28.58	20.172	40			
	New	31.69	18.136	13			
	Old	24.56	12.962	25			
ResetLevel*ResetTime					1.264	1,68	.265

p* < .05Chapter Summary**

This chapter discussed the results of the two-way ANOVA statistical tests I ran to address the three research questions in this study. Before running any of the ANOVA models, I checked the data to determine if it met the three assumptions important to two-way ANOVAs, namely, that data is normally distributed, has homogeneity of variance, and that there is independence of observations (Lomax & Hahs-Vaughn, 2012). Although independence of observations was confirmed in all three datasets, each one did not initially show normality in distribution

according to statistical tests. Consequentially, adjustments were made to make the data normal in two instances, and the test proceeded anyway for the third one because of the robustness of the ANOVA model to violations of the assumption of normality.

Statistical results of each test varied. No statistically significant differences were found among the institutions in this study related to the percentage of Pell-eligible students, meaning any differences detected between the different groups were most likely not related to the impact of either of the two independent variables. The initial two-way ANOVA test detected a statistically significant difference related to gender; however, post hoc analysis did not reveal a statistically significant finding. The two-way ANOVA I ran on students of color did detect a statistically significant difference in that omnibus test. Follow-up post hoc analysis confirmed statistically significant differences between two different sets of Reset Levels. Further discussion of all these findings, as well as implications for practice and potential directions for future research will be discussed in the next chapter.

CHAPTER V

DISCUSSION AND IMPLICATIONS

Tuition prices and the cost of higher education are important issues for students and families, as well as college and university leaders across the country (Goldrick-Rab, 2016; Immerwahr et al., 2008). As prospective college students question whether they can afford higher education, college leaders consider the merits and feasibility of various cost containment and reduction strategies to keep institutions financially stable and college tuition affordable to students. In this atmosphere, many college and university leaders have considered alternatives to the high tuition-high aid (HT-HA) model, and some have recently reduced their published tuition price. Such a planned reduction in tuition price is often referred to as a *tuition reset* and is a strategy more institution leaders are considering, and one which a growing number of institutions have already implemented.

This study was designed to take a closer look at tuition resets to better understand the impact they have on student enrollment, as well as the broader implications they have for colleges and universities. A review of the existing literature revealed tuition resets are a growing topic of study and interest among higher education researchers. Recent publications have provided important insights about the process of a tuition reset (Casamento, 2016; Eldridge & Cawley, 2017; Holt, 2019), as well as the financial and enrollment outcomes of tuition resets (Kottich, 2017; Lapovsky, 2015, 2019). This early research has not provided many universally constant or consistent findings related to the financial or enrollment outcomes of tuition resets.

Instead, research seems to indicate that varied levels of focus on the planning and preparation process, as well as different context and institutional factors may lead to different outcomes for a tuition reset.

Although previous studies have investigated the impact of tuition resets on overall enrollment, not much published work exists regarding the impact of tuition resets on specific populations of students. My study was conceptualized with that dearth of information in mind, and was designed to increase the understanding of whether, and how, tuition resets impact the enrollment of students – specifically women, students of color, and Pell-eligible students. A better understanding of the impact tuition resets may have on these student populations can help researchers further understand the implications of tuition resets, and provide institutional leaders with more information when considering the implementation of a tuition reset.

Discussion

This study utilized data from the Integrated Postsecondary Education Data System (IPEDS) to look at students enrolled at a set of 84 private four-year not-for-profit colleges and universities. The institutions differed related to the level and timing of a tuition reset including some institutions which had not implemented a tuition reset, as well as those that implemented either a low (< 25%) or high (25% +) level reset. As detailed in the previous chapter, although data analysis revealed the average of some student populations differed between various levels of the two independent variables (Reset Level and Reset Time), statistical tests did not indicate a significant difference in all instances. However, statistical tests did indicate the differences between students of color in at least two different levels of reset schools were statistically significant, and the enrollment of women seemed to differ related to the time of a reset. This chapter includes further discussion of these and other differences identified in the previous

chapter. Additionally, I provide a more complete discussion of findings from this study in the context of existing research, as well as implications for future research and practice.

Impact on Enrollment

This study investigated the impact that the amount, or level, of a tuition reset, and the time since a reset was implemented have on student enrollment. Specifically, the study conducted three two-way ANOVA tests to detect variance in the mean percentages of women, students of color, and Pell-eligible students among different levels of the reset time and the reset amount. Although none of the tests detected significant differences related to the interaction between the two independent variables, two of the ANOVA models did indicate significant differences attributed to main effects. The results of these tests are important and should be reviewed within the context of the broader literature.

Pell-eligible Students

As discussed in the previous chapter, statistical tests did not reveal significant differences in the average percentage of Pell-eligible students enrolled at institutions in this study across the different levels and time of tuition resets. This lack of significant differences may indicate that any variances observed in the percentages of Pell-eligible students were not likely due to the influence of a tuition reset, and may be the result of random chance or other factors outside the scope of this study. This finding is not surprising in light of some previous research related to lower income students and how financial factors influence their college choice process (Hearn & Rosinger, 2014; Paulsen & St. John, 2002).

Although cost is an important factor for lower income students related to decisions about higher education, a closer look at what is known about the college choice process and what is known about low income students may help explain the non-significant relationship between

tuition resets and enrollment of Pell-eligible students in this study. Research indicates higher proportions of lower income students eliminate institutions based on cost at the beginning of their college search, as compared to moderate- or high-income students (Sallie Mae, 2019). Additionally, Hearn and Rosinger (2014) found private institutions seem too expensive to many lower income students. Looking at these findings combined, if fewer Pell-eligible students include private four-year institutions into their *choice set* in the *search* phase of their college choice process (Hossler & Gallagher, 1987), then those schools will not be carefully considered and therefore cannot become the institution where a student enrolls. If Pell-eligible students are more likely to eliminate schools on basis of cost, then even expensive schools which implement a tuition reset would have likely been removed from consideration. Once eliminated from consideration, the implementation of a tuition reset may have little impact on enrollment decisions for Pell-eligible students because little attention would be paid to such reset institutions if they were already outside a student's choice set.

The findings of my study also resonate with some of Kottich's (2017) findings related to the enrollment of Pell-eligible students. Kottich found that although the number of Pell-eligible students increased at 44% of the reset institutions in their study, this increase was not significantly different than the sector average. Kottich's finding also indicate Pell-eligible students did not increase at over half the reset institutions in their study. In my study, although the percentage of Pell-eligible students were higher at all reset institutions compared to those without a reset, the difference was not statistically significant, meaning it may be attributed to a factor outside the scope of this study or to random chance and cannot confidently be attributed to an effect of the independent variables. When looking at these findings, neither my study nor Kottich's work seem to indicate a strong relationship between tuition resets and the enrollment of

Pell-eligible students. This lack of a significant difference may indicate a tuition reset will not make an institution any more (or less) accessible or attractive to Pell-eligible. Because it is not likely that the different levels of resets, or the time since a tuition reset, impacts the enrollment of Pell-eligible students, a practical implication of this study is that institution leaders should not expect a tuition reset to significantly impact the enrollment of Pell-eligible students.

In summary, when looking broadly at the intersection of research about low-income students, college choice, and tuition resets, it is not surprising that there was not a significant difference found among Pell-eligible students in this study. This is not to say institutions should completely write off this strategy as a way to impact the enrollment of Pell-eligible students; however, findings from this study and other recent research do not seem to show a strong relationship between tuition resets and the enrollment of Pell-eligible students.

Gender

As discussed earlier, the initial statistical test result in this study indicated a significant difference in the percentage of women enrolled related to the time since a tuition reset; however, subsequent post hoc analysis did not identify a significant relationship in any combination of the three different levels of the Reset Time variable. Although the post hoc analysis did not find a significant difference between the levels of the time variable, a close look at the data reveal there was a difference between the new and old reset levels, with the *new* reset levels having a higher percentage of enrolled women than the *old* level reset schools. New reset institutions also had a higher percentage of women than the *none* level reset schools. This could likely be reflective of the more recent tuition resets being more recently publicized and marketed and students potentially having more awareness of them. Therefore, even if the level of the tuition reset did not seem to impact enrollment of women, the timing of a tuition recent reset could impact the

decision of some women to enroll. This relationship between timing of a reset and the enrollment of women deserves more research.

Looking at this finding in the context of existing literature and what is known about factors that influence women and their college choice, this significant finding is not surprising. Research indicates that although cost is a significant worry for many students, cost influences college choice more for women than men (Cho et al., 2008). A survey administered by UCLA's Higher Education Research Institute also indicated differences between men and women around several issues. In addition to differences in political leanings and environmental concerns, the study indicated that women were more worried about paying for college than men (Eagan et al., 2017). Considering these findings in the context of my study, the initial ANOVA finding that a significant relationship exists between the timing of a reset and the percentage of women enrolled is very intriguing. If women are more likely to worry about paying for college, and a tuition reset lowers the published price of tuition, then it stands to reason that a tuition reset could be a bigger draw to women. A causal relationship cannot be determined from the findings of this study, but I do think it merits attention in future studies.

Due to the design of this study and some uncontrolled or unmeasured variables, cause and effect claims cannot be made related to the impact of tuition resets and the enrollment of women. However, what can be confirmed is that my data analysis detected a noteworthy variance in the percentage of women enrolled at institutions in this study related to the time since a tuition reset. Although it was not found to be significant in a post hoc analysis, data showed higher percentages of women enrolled at institutions with a recent tuition reset compared to older resets and those without a reset. These findings should prompt continued research and a closer look at the relationship between tuition resets and the enrollment of women.

Race

Research indicates that the cost of college is an important factor in the college choice decision for many students of color, and high costs negatively impact the enrollment decision of students of color more than it does white students (Comeaux et al., 2020; St. John et al., 2005). Importantly, some research also indicates that this impact can differ across and within (Teranishi, et al., 2004) race categories, and types of financial aid (Kim, 2004). Much of the research around college cost looks at the influence of financial aid, and researchers have found that financial aid makes it more likely that students of color will enroll at an institution (Comeaux et al., 2020; Kim, 2004). Findings from my study seem to fit well into this conversation regarding how the cost of higher education impacts the enrollment of students of color.

In my study, I found high level tuition reset institutions had a higher percentage of students of color than low level reset schools; however, data also indicated low level reset schools had a lower percentage of students of color than schools which had not implemented a reset at all. The first half of this finding suggests that a high-level tuition reset (25% or more) may have a positive relationship with enrollment for students of color, and because the result of a high tuition reset means the cost of an institution is lowered, the higher level of students of color coincides with what previous studies on financial aid and tuition costs have found – namely that high cost can be a barrier to some students of color and lower costs generally increase the number of students of color who enroll at an institution (St. John et al., 2005).

The finding in my study of a significant difference in students of color enrolled at high level reset institutions as compared to low reset level institutions seems to indicate that a tuition reset, at least high level one, may have implications to consider. Because a tuition reset lowers the published price of tuition, this finding generally aligns with research that indicates for

students of color cost is an important factor in their college choice process. This is important because if a tuition reset can lower the price to a level where students see it as potentially affordable, it can potentially widen their choice of colleges providing more options to students, and a larger potential group of students for institutions. Making private institutions seem more attainable due to a lower price could be especially beneficial to some students of color, as research has shown preference for a private institution had an inverse relationship to concerns about high cost, potentially discouraging some students worried about high cost from enrolling in private institutions (Hu & Hossler, 2000). If a high sticker price creates a barrier – real or perceived – related to the anticipated cost, they may never get to the point of seriously exploring that institution for considering when moving from *search* to *choice* (Hossler & Gallagher, 1987) in their college choice process. However, a tuition reset may lower the price and make an institution more likely to be included for consideration.

As this is not an experimental study, I cannot infer or imply that a tuition reset increases enrollment for students of color. However, the findings of this study indicate that the high level reset schools in this study do have a higher percentage of students of color than low level reset schools do, and the likelihood that this happened as a result of chance is very low. Although no causation can or should be inferred, as explained above, there is some connection to previous research which would indicate this finding is not surprising. Research has indicated that tuition price is an important factor for some student populations, including students of color, so it is plausible that some of the observed differences seen in this study may indeed be impacted by the lower tuition price resulting from a high level tuition reset.

New Considerations

As compared to previous research on tuition resets, this study was somewhat unique because it considered the level, or amount, of a tuition reset, as well as the time since implementation of a tuition reset, as variables of interest in the analysis. Although the amount of a reset and the date of implementation were detailed in previous research on tuition resets, their inclusion was mainly for information purposes, and those factors were not studied as specific variables or levels of variables. Most previous research appeared to investigate tuition resets as a binary factor – something that was present or not present. By including the percentage of a tuition reset categorized into three distinct levels, as well as the time since a reset, this study further expanded the understanding of tuition resets. As discussed earlier, looking at these independent variables and their impact on the enrollment of specific student groups was indeed an important expansion of the research on this topic, as some significant differences were detected in the data analysis.

In addition to expanding the study of tuition resets based on the level of reset and the time since the reset, this study also expanded the conversation about tuition resets by exploring which students enrolled, rather than just how many. This helped stretch thinking about tuition resets as a potential way to think about expanding diversity on campus. To date, most studies have focused on the financial impact and general enrollment impact of tuition resets; this study added a new layer of exploration by beginning to look at specific populations within a student body in relationship to a tuition reset. Bolstered by the findings in this study, I hope some college and university leaders add tuition resets to their discussions as they work to diversify their student body and *craft* (Duffy & Goldberg, 1998) the classes they want to enroll. Perhaps a

tuition reset can be investigated as yet another lever to pull in the admissions and enrollment work of some institutions.

Implications for Practice

Although not all the findings were statistically significant in the data analysis of this study, I still think there are some insights and implications from this work for higher education leaders. Broadly, I think this study should encourage college and university leaders to take notice of tuition resets and want to learn a bit more about this topic and its role within the context of private four-year not-for-profit institutions. I also hope it may inspire some institutional leaders to take action, depending on their needs and specific institutional circumstances.

For those leaders currently considering a tuition reset, I hope the summary of recent research on the topic can help inform and guide their decision-making process. As outlined in Chapter Two, the topic of tuition resets has received more attention from academic scholars in the past few years. These new studies and articles have provided a wealth of information about the impact of resets on the finances and enrollment numbers of colleges and universities. They also provide a good source of information related to the experiences of schools that have implemented tuition resets, including lessons learned and suggestions for future success. I also hope this study, with its closer look at how gender, race, and Pell-eligibility are impacted by tuition resets, provides an even more robust lens which leaders can use to better understand the topic and consider their options.

I think a big takeaway from this study is that tuition resets are a complex and interesting topic for consideration when institution leaders are making decisions related to enrollment and financial strategies. I hope this study can help move the discussion about tuition resets a bit beyond one focused mainly on tuition revenue or general enrollment increases. Financial

implications and overall enrollment goals are important topics and should be considered; however, that is not where a discussion about tuition resets should stop. Although not conclusive, this study provided some indicators that tuition resets may have a relationship with higher enrollment of women and students of color. Much more research needs to investigate these findings before any claims of cause and effect can be made, and the factors involved in college choice are anything but simple, so it is unlikely that a tuition reset alone will create a dramatic increase of any given student population. However, I hope the findings of this study give pause to higher education leaders before they summarily dismiss tuition resets as a publicity stunt or move for financially desperate institutions.

The findings of this study indicate tuition resets may be a strategy for some institutions to consider as a way to recruit and enroll specific students. The findings determined that in this set of institutions, there were not significant differences in the enrollment of Pell-eligible students at reset institutions. As discussed above this is not a surprising finding, but it can be one which prompts further thought and action. Both real and perceived costs can be a barrier to enrollment, and cost, along with multiple other factors may have an especially big impact on lower income students (Hearn & Rosinger, 2014; Levine et al., 2020). With that in mind, concentrated efforts to ensure low income students have a clear understanding of the true costs of college as well as the options for financial aid should be priorities for institution leaders. This effort, in addition to any sort of tuition reset could merit the attention of institutional leaders.

Another takeaway from this study is a reminder of how important documenting efforts and sharing those with others is to the field of higher education. There are numerous individual and societal benefits for increasing college access to as many interested students as possible. Tuition resets may be a growing movement in higher education, but if so, it is one which has

limited accessible research. Stories explaining the experiences of implementing a tuition reset, and academic studies which investigate the impact and outcomes of resets are important and need to be shared. Likewise, I echo Kottich's (2017) calls for a more systematic collection of tuition resets. Some individual agencies and researchers have tracked and published lists related to tuition resets (Kottich, 2017; Lapovsky, 2019; NAICU, n.d.), but the development of a standard definition of tuition resets as well as a designated central depository would help greatly advance the field.

Implications for Future Research

This study was designed to inform and expand conversations about, and enhance the understanding of, tuition resets by providing new information regarding the impact tuition resets have on student enrollment at private four-year not-for-profit colleges and universities. As discussed, many findings from this study connect to existing literature on tuition resets and college choice. This study also contributed some new findings to the field and helped expand the focus of research on tuition resets by taking a closer look at the impact resets have on specific student populations, rather than just general student enrollment. In addition to these contributions, this study also prompted me to consider extensions of this research, as well as potential directions for future research and inquiry related to tuition resets.

One suggestion for future research is the continued expansion and revision of this study and previous related work as more institutions implement tuition resets. As detailed in Appendix D, nearly two dozen colleges and universities have announced tuition resets for 2018, 2019, and 2020. These new resets will provide additional data allowing this study to be expanded to include those additional reset institutions. Doing so could increase the number of institutions in the statistical analysis and improve the power of the statistical tests and their findings.

Kottich (2017) called for a national data collection point for institutions who have implemented a tuition reset, and I echo that call. This topic is of great importance and interest, and having a comprehensive and regularly updated database, easily available to both researchers and decision makers, would enhance the ability to provide more and better information about tuition resets, related trends, and implications for institutional leaders. I also advocate for an industry definition of *tuition reset*, one that would specify what is considered a tuition reset. This could help create more common discussion and research opportunities. In this study the range of reset amounts varied from 6.7% to 53% percent; that is a wide range, and creating parameters for what is considered a reset, or establishing levels of resets could help researchers better study and report on findings. For this study I created three levels of tuition resets: *none*, *low*, and *high*. This study alone does not conclude these are the correct levels, but I advocate for continued research to investigate and determine standard levels of tuition resets to establish a standard variable which can then be further explored by researchers and considered in policy decisions.

In addition to the above-mentioned suggestions for continued work in this area, there are several other areas of focus and research questions I think can and should be explored related to tuition resets. These include:

- Expanding questions addressed in this study by going beyond private four-year not-for-profit institutions and exploring the impact tuition resets have on enrollment at public colleges and universities, and perhaps two-year institutions.
- Exploring the impact tuition resets have on the enrollment of first-generation college students.
- Exploring the opinions and plans of college and university leaders regarding the use of tuition reductions and resets in the aftermath of the COVID-19 pandemic.

- More qualitative research on the impact tuition resets have on the individual choice process of college students. This could include interviews with students attending recent reset institutions to understand if and how the reset impacted their college choice process.
- Regression analysis of institutions in this study or a similar one to look at the impact of reset levels and time as continuous variables rather than the categories used in this study.
- Research that can attempt to control for some of the currently less quantifiable factors related to a tuition reset. Perhaps the development of a measurable scale that can objectively categorize levels or scope of marketing and promotion of a tuition reset to better understand and control, in a measurable way, how some of these issues may impact the impact of a reset on student enrollment or other factors.

As discussed, I can envision several ways to expand the findings of this study and other research on tuition resets and tuition reductions at colleges and universities. This is an important area of research for the higher education community broadly, as well as specifically for faculty, staff, students, alumni, and friends connected to private four-year not-for-profit education.

Concluding Thoughts

As discussed in the first chapter of this study, the cost of college tuition is an important concern for students and their families. Likewise, making college affordable and accessible to all students who want to pursue higher education is an important and perplexing problem for today's higher education leaders. The factors influencing college costs are complex, changing, and often opaque to many both within and outside of higher education. Likewise, the factors which influence the college choice process for each student are numerous and can vary greatly according to family background, socioeconomic status, academic preparation, and more, as well as factors related to the individual colleges and universities under consideration. The focus of

this study, tuition resets, lies at the crossroads of financial concerns and college choice, and therefore deserves to be part of an ongoing conversation in higher education. Industry discussions echo this sentiment, and emerging research can help inform the ongoing conversation. I envisioned and conducted this study to add to that conversation by expanding the discussion to include a look at who tuition resets may bring to campus, in addition to how many and at what cost.

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Appendix A

Selection Process for Matching Set Population

Selection Process for Matching Set Population

The researcher conducted the following steps to obtain the list of institutions which served as the population from which the sample set of non-reset institutions was pulled.

1. Access the main IPEDS web-page at <https://nces.ed.gov/ipeds>
2. Click on the “Use The Data” button on the main page
3. Click on the “Compare Institutions” selection
4. Click “By Groups” option
5. Selection “EZ Groups” option
6. Select “2018” as choice for Data Collection year
7. Select *U.S. only* option under “Select”
8. Under “Special Characteristics” section, make the following selections:
 - a. Under *Bureau of Economic Analysis (BEA) Regions* choose *New England, Mid East, Great Lakes, Plains, Southeast, Southwest, and Far West*
 - b. Under “Sector” choose *Private not-for-profit, 4-year or above*
 - c. Under “Institutional category” choose *Degree-granting, primarily baccalaureate or above*
 - d. Under “Carnegie Classification” choose *Doctoral/Professional Universities, Master’s Colleges & Universities: Larger Programs, Master’s Colleges & Universities: Medium Programs, Master’s Colleges & Universities: Small Programs, Baccalaureate Colleges: Arts & Sciences Focus, Baccalaureate Colleges: Diverse Fields, Baccalaureate/Associate’s Colleges: Mixed Baccalaureate/Associate’s, Special Focus Four-Year: Faith-Related Institutions, and Special Focus Four-Year: Business & Management Schools*
 - e. Under “Institution size category” choose *Under 1,000, 1,000 – 4,999, and 5,000 – 9,999*

Click “Search” button near top right

Appendix B

List of Tuition Reset Institutions

INSTITUTION & LOCATION	% REDUCTION	YEAR IMPLEMENTED
Alaska Pacific University (Anchorage, AK)	34.3	2014
Ashland University (Ashland, OH)	34.6	2014
Ave Maria University (Ave Maria, FL)	22.7	2014
Baptist Bible College (Springfield, MO)	53	2010
Beis Medrash Heichal Dovid (Far Rockaway, NY)	21.4	2011
Belmont Abbey College (Belmont, NC)	33	2013
Bethune-Cookman University (Daytona Beach, FL)	6.7	2014
Blackburn College (Carlinville, IL)	13.3	2008
Boston Baptist College (Boston, MA)	15.6	2015
Brewton-Parker College (Mount Vernon, GA)	25	2011
*Burlington College (Burlington, VT)	8.7	2016
Cabrini College (Radnor, PA)	12.9	2012
Cleary University (Howell, MI)	22	2012
College of Mount Saint Vincent (Bronx, NY)	27.8	2015
College of Saint Mary (Omaha, NE)	33.4	2017
Columbia College (Columbia, SC)	32.5	2017
Concordia University-Saint Paul (Saint Paul, MN)	33.7	2013
Converse College (Spartanburg, SC)	44.9	2014
Davis College (Johnson City, TN)	15.2	2011
Grace Coll. & Theological Seminary (Winona Lake, IN)	9	2015
Hiwassee College (Madisonville, TN)	21.8	2013
Holy Apostles College and Seminary (Cromwell, CT)	28.9	2015
Immaculata University (Immaculata, PA)	23	2017
Iowa Wesleyan University (Mount Pleasant, IA)	16	2016
Jarvis Christian College (Hawkins, TX)	15	2012
LaSalle University (Philadelphia, PA)	28.7	2017
Lesley University (Cambridge, MA)	25	2014
Lincoln Christian University (Lincoln, IL)	18.4	2015
Lincoln College (Lincoln, IL)	28.3	2012
Ohio Northern University (Ada, OH)	24.6	2014
Paul Quinn College (Dallas, TX)	37.9	2015
Piedmont International University (Winston-Salem, NC)	25.6	2014
Prescott College (Prescott, AZ)	11.9	2014
Rosemont College (Byrn Mawr, PA)	41.3	2016
Saint Louis Christian College (Florissant, MO)	43	2013
Sewanee-The University of the South (Sewanee, TN)	10	2011
Southern Virginia University (Buena Vista, VA)	22.8	2014
**St. Vincent's College (Bridgeport, CT)	14.4	2015
Stillman College (Tuscaloosa, AL)	29.5	2015
University of Charleston (Charleston, WV)	22	2012
Utica College (Utica, NY)	42.7	2016
***Warner Pacific College (Portland, OR)	25.5	2008

William Peace University (Raleigh, NC)	7.7	2012
Wilmington College (Wilmington, OH)	16.3	2015
Wilson College (Chambersburg, PA)	17.4	2014

This list of institutions was identified by Kottich (2017).

* Removed from analysis, institution closed

** Removed from analysis, institution merged

*** Removed from analysis, 2018 reset implemented

Appendix C

List of Matching Group Institutions

ID	INSTITUTION NAME	CITY	STATE
101675	Miles College	Fairfield	AL
105899	Arizona Christian University	Glendale	AZ
106713	Central Baptist College	Conway	AR
121150	Pepperdine University	Malibu	CA
128744	University of Bridgeport	Bridgeport	CT
137777	Talmudic College of Florida	Miami Beach	FL
139153	Beulah Heights University	Atlanta	GA
150455	Earlham College	Richmond	IN
153162	Cornell College	Mount Vernon	IA
153269	Drake University	Des Moines	IA
165574	Dean College	Franklin	MA
165699	Endicott College	Beverly	MA
172033	Sacred Heart Major Seminary	Detroit	MI
176053	Mississippi College	Clinton	MS
176789	Calvary University	Kansas City	MO
177083	Conception Seminary College	Conception	MO
178208	Midwestern Baptist Theological Seminary	Kansas City	MO
182634	Colby-Sawyer College	New London	NH
183804	Beth Medrash Govoha	Lakewood	NJ
186283	Rider University	Lawrenceville	NJ
192624	Machzikei Hadath Rabbinical College	Brooklyn	NY
193645	The College of New Rochelle	New Rochelle	NY
196866	Union College	Schenectady	NY
198862	Livingstone College	Salisbury	NC
199069	University of Mount Olive	Mount Olive	NC
200217	University of Mary	Bismarck	ND
201858	Cincinnati Christian University	Cincinnati	OH
203128	Hiram College	Hiram	OH
207582	Oral Roberts University	Tulsa	OK
208725	New Hope Christian College-Eugene	Eugene	OR
212133	Eastern University	Saint Davids	PA
216311	Talmudical Yeshiva of Philadelphia	Philadelphia	PA
219383	University of Sioux Falls	Sioux Falls	SD
222983	Austin College	Sherman	TX
224226	Dallas Baptist University	Dallas	TX
225247	Hardin-Simmons University	Abilene	TX
229160	Texas Wesleyan University	Fort Worth	TX
234915	City University of Seattle	Seattle	WA
237358	Davis & Elkins College	Elkins	WV
239743	Holy Family College	Manitowoc	WI
240338	Wisconsin Lutheran College	Milwaukee	WI
486053	Bethlehem College & Seminary	Minneapolis	MN

Appendix D

Colleges and Universities Planning a Tuition Reduction or Reset 2018-2020

Colleges & Universities Planning a Tuition Reduction or Reset 2018-2020

Fall 2018

- Avila University (Kansas City, MO) 33%
- Benedict College (Columbia, SC)
- Birmingham-Southern College (Birmingham, AL) 50%
- Canisius College (Buffalo, NY) 23%
- Cleveland Institute of Music
- Cornerstone University
- Drew University
- Mills College (Oakland, CA) 36%
- Sweet Briar College (Sweet Briar, VA) 32%
- University of Detroit Mercy (Detroit, MI) 32%
- University of the Sciences (Philadelphia, PA) 37%
- University of Sioux Falls (Sioux Falls, SD) 35.6%
- Warner Pacific University (Portland, OR) 24%

Fall 2019

- Albright College (Reading, PA) 45%
- Capital University (Columbus, OH) 50%
- Elizabethtown College (Elizabethtown, PA) 32%
- Elmira College (Elmira, NY) 15%
- St. John's College (Sante Fe, NM, and Annapolis, MD) 32%
- Oglethorpe University (Atlanta, GA) 16%
- Wells College (Aurora, NY) 25%

Fall 2020

- Central College (Pella, IA) 52%
- Hiram College (Hiram, OH) 35%
- Randolph College (Lynchburg, VA) 35%

List compiled from Lapovsky (2019) and NAICU - <https://www.naicu.edu/research-resources/research-projects/enhancing-affordability/tuition-reset-reduction>