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Tracy Kathleen Wilson

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Effects of the Consolidated Appropriations Act of 2012 Pell Grant eligibility
requirements on enrollment in community colleges

By

Tracy Kathleen Wilson

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Community College Leadership
in the Department of Educational Leadership

Mississippi State, Mississippi

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2017

Effects of the Consolidated Appropriations Act of 2012 Pell Grant eligibility
requirements on enrollment in community colleges

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Pell Grant funding is without question foundational to the American community college mission – providing access to higher education to over 9 million students. Pell Grants are particularly important in the 2-year sector, where such a large number of students are from low-income socioeconomic areas. In December 2011, then-President Obama signed into law the Consolidated Appropriations Act (2012) which significantly changed the Pell Grant program for college students by making 3 major changes to the eligibility criteria for Pell Grants. The purpose of this study was to examine the impact of these 3 changes at the national, state, and local level to estimate the impact felt by colleges and students across the United States.

This quantitative study utilized data from the National Center for Educational Statistics (NCES) Integrated Postsecondary Data System (IPEDS) as well as from a mid-sized urban college located in the state of Minnesota. Both regression analysis and seasonal time decomposition techniques were conducted to determine the estimated number and amount of Pell Grant award post Act compared to actual.

The findings of this study indicated a significant correlation between the model and the output when used with national and local data. Not all of the state models produced significant results.

DEDICATION

This research project is dedicated to my mother, Joyce Unten. My biggest fan, loudest supporter, and best friend. And to my father, Dennis Unten who continues to remind me that all things are possible and have faith in myself.

To my wonderful and amazing children, Evan and Sophia. You have been a part of this journey from the first day. You are the reason that I keep moving forward.

For Scott, my husband, I thank you for all of your support and encouragement that helped me through this process.

And last, to all my family and friends who have supported me on this journey...thank you.

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CHAPTER I
NATURE OF THE PROBLEM

General Background of the Study

Pell Grant funding is without question foundational to the American community college mission – providing access to higher education to over 9 million students. Over 33% of community college students receive Pell Grants (American Association of Community Colleges [AACC], 2014a). Pell Grants have helped get low-income high school graduates into community colleges since 1976.

Pell Grants are particularly important in the 2-year sector, where such a large number of students are from low-income socioeconomic areas. Community colleges serve as the gateway for many students who are minority, low income, and first generation postsecondary education students and have a greater need for subsidized college costs (AACC, n.d.).

In December 2011, then President Obama signed into law the Consolidated Appropriations Act (CAA, 2012). This law significantly changed the Pell Grant program for college students by making three major changes to the eligibility criteria for Pell Grants. These changes went into effect for the fall 2012 semester. Three major changes to the eligibility for Pell were identified (Katsinas, Davis, Friedel, Koh, & Grant, 2013):

1. Changes in lifetime eligibility limits: Students can only receive Pell for a maximum of 12 semesters of full-time enrollment or 600% of their eligibility.
2. Pell only for poverty students: The Expected Family Contribution (EFC) is part of a needs analysis formula that determines how much money students are expected to have for education. The EFC is determined by many factors – marital status, counts of dependents, etc. In order to have an automatic EFC of zero, and be eligible for a full Pell Grant, the student's family cannot earn over \$23,000 per year. Prior to the change in fall 2012, the maximum family income was \$32,000.
3. Elimination of the "ability to benefit (ATB)" to receive federal funding: Students admitted to college on the ATB criteria are those students who do not have a General Education Development (GED) award or high school diploma. Students without a GED or high school diploma gain admittance into community college by other means (usually a literacy test) and become admitted into restricted short-term programs of less than 1 year or 1-year certificate programs such as welding or truck driving. These students are no longer eligible for a Pell Grant and must have a GED or high school diploma to receive these funds.

These three changes are believed to have greatly reduced the numbers eligible for Pell funding, and for those eligible, the amount of Pell Grant awarded each semester, but there is limited quantification of these losses at a national, state, or institutional level.

In recent years, the number of students qualifying for Pell Grants has exploded, increasing by billions – particularly from 2000-2011. For example, in 2000, the federal government disbursed nearly \$7 billion in Pell Grant expenditures, and in 2011, over \$34 billion were spent (Baime & Mullin, 2011). Effective for fall 2012, Congress enacted these three changes, and the most devastating effect was the dramatic decrease in the number of students eligible for the maximum Pell Grant award (Katsinas et al., 2013).

There are very few studies related to this problem. One study completed in 2013 was released by The Education Policy Center at The University of Alabama (UA) determining that 47 of the 62 community colleges in Alabama, Arkansas and Mississippi had declined in enrollment from 2011 and 2012 (Katsinas et al., 2013). The UA study gave a compelling argument that these changes in enrollment were a direct result of the fall 2012 Pell Grant eligibility criteria changes. Current research is deficient in that it does not examine student-level financial aid data to determine the actual impact on the changes in funding among students receiving Pell Grants in 2012 versus those receiving grants prior to the CAA (2012).

It is critical that colleges determine the impact of the fall 2012 changes in Pell Grant funding on community college access. These Pell Grant requirement changes merit additional investigation. The research in the current study is significant for community colleges so that they can better understand and communicate how these important federal policies adversely affect the community college mission. The purpose of the study is to determine how changes in Pell Grant eligibility affected community college enrollment in the United States.

Statement of the Problem

The research on the effects of Pell Grant changes indicates a relationship between the changes in the federal Pell Grant program and enrollment decline (Katsinas et al., 2013).

The problem of this study is that the community college mission is dependent on affordable tuition for students who desire to enter pathways that lead to a credential, and the reduction of aid provided by Pell Grants may decrease the number of students who are able to attend community colleges. As the nation's largest federal subsidy of college costs, Pell Grants are greatly responsible for increasing access (AACCC, 2014a; National Association of Student Financial Aid Administrators [NASFAA], 2012). The CAA of 2012 changes in the Pell Grant eligibility requirements can have a very large and negative impact on the mission of the community college. At this time, community colleges do not understand to what extent the fiscal year 2012 Pell Grant eligibility requirement changes influence access from a student data level.

Purpose of this Study

After the changes in 2012-2013 federal financial aid, it has been strongly asserted that many students would lose Pell funding and many of those remaining eligible would receive lesser amounts (AACCC, 2013). There has been only one study that has attempted to quantify the effects of these changes. This study has received national attention and asserts that the changes in Pell were so substantive in some states that they caused actual declines in college enrollment (Katsinas et al., 2013). The purpose of this study is to determine the impact of changes to Pell Grant eligibility requirements on the number of students receiving Pell Grant awards and the amount of the awards as well as the impact

of these changes on enrollment in community colleges in the United States as well as at a mid-sized urban college located in the state of Minnesota. The goal is to devise a predictive model that can accurately predict the number of students affected and amount of Pell distributed to community college students for the 2012-2013 school year and compare the forecasted numbers with actual data to determine the difference.

Significance of the Study

“Broadly stated, the community college mission is to provide access to postsecondary educational programs and services that lead to stronger, more vital communities” (Vaughn, 2006, p. 3). Many students do not have the funds needed to attend community college without the assistance of some type of financial aid. The significance of this study is to determine if the impact of the fiscal year 2012 changes of the Pell Grant requirements affected student access to community colleges. Community colleges now have the opportunity to analyze the impacts on their institutions and be poised on how to determine the effect to determine the appropriate reaction. This study lays out a standardized method for other community colleges to use to see how changes to Pell Grant eligibility have affected their institutions and to compare those impacts to impacts felt by other schools across the country.

Research Questions

Using various national and institutional-level data, this study centers around the investigation of the effects of Pell Grant eligibility changes related to CAA of 2012.

1. Nationally, what were the effects of Pell Grant funding for public and non-profit community colleges during the two years following the CAA of 2012?
2. Which five states had the largest negative effects in Pell Grant funding during the two years following the CAA of 2012?
3. What was the institutional level impact on Pell Grant funding for a mid-sized urban college located in the state of Minnesota during the two years following the CAA of 2012?

Definition of Terms

1. Community college: Any institution regionally accredited to award the associate in arts or the associate in science as its highest degree (Cohen & Brawer, 2008).
2. Expected Family Contribution: A standard formula, which includes the sum of: (1) a percentage of net income (remaining income after subtracting allowances for basic living expenses and taxes) and (2) a percentage of net assets (assets remaining after subtracting an asset protection allowance; United States Department of Education, n.d.).
3. Financial Aid: “Federal Work Study, grants, loans to students (government and/or private), assistantships, scholarships, fellowships, tuition waivers, tuition discounts, employer aid (tuition reimbursement) and other monies (other than from relatives/friends) provided to students to meet expenses” (NCES, n.d.).

4. The IPEDS system “involves annual institution-level data collections,” conducted by the U.S. Department of Education’s National Center for Education Statistics.” Additionally, surveys are used to collect “12-month enrollment, program completions, admissions, student financial aid,” as well as, “graduation rates, and outcome measures,” (NCES, n.d.).
5. The National Center for Educational Statistics (NCES) is an entity within the federal government that publishes the results of the IPEDS surveys (NCES, n.d.).
6. Pell Grant: “(Higher Education Act [HEA] of 1965, Title IV, Part A, Subpart I, as amended.) Provides grant assistance to eligible undergraduate postsecondary students with demonstrated financial need to help meet education expenses” (NCES, n.d.).

Theoretical Framework

Tinto’s 1975 theory of college retention will be used in this study. Tinto developed it to study student departure from higher education. This theory takes into consideration that "a person may withdraw from college for reasons that have little to do with his interaction within the college systems. It is suggested that those impacts will be best observed through the person's changing evaluations of his commitments to the goal of college completion and to the institution in which he is registered," (Tinto, 1975, p. 97).

Tinto's theory places family background in a category of pre-entry attributes in his framework for college retention. According to Tinto, a student's socio-economic status is inversely related to dropout rates. This study examines the availability of Pell Grant

funding as a dependent variable over time. The underlying patterns of enrollment were compared with the underlying patterns of Pell Grant awards and support Tinto's idea that students need the appropriate social support to remain enrolled in college.

Overview of the Methodology

This study focused on determining the number of students affected by the fall 2012 changes in Pell eligibility requirements as a result of the CAA of 2012 in terms of number of students who received Pell Grant and amount of the award. The study used both regression and time series decomposition techniques to identify a pattern using data from past recipients to predict how many students should have received the Pell Grant if the changes would not have taken effect and the amount that was predicted to be awarded. The study allowed for the comparison of data to determine the impact of Pell Grant funding for public and non-profit community colleges during the two years following the CAA.

Delimitations of the Study

Although national-level data were used, a noted delimitation of the study is that only one community college will be used to collect institutional-level data to identify how students were affected. Because of the specificity of the one local-level campus information, other colleges should consider the local and regional differences before generalizing the results. A second delimitation is that the study only utilized data from community colleges and did not include 4-year universities that may have been impacted from the Act.

Organization of this Dissertation

This dissertation has five chapters. A presentation of the overview of the study, which included the statement of the problem, purpose of the study, conceptual and theoretical framework, overview of methodology, and significance of the study were included in Chapter I. Chapter II focuses on the review of literature. Chapter III addresses the methods of the study and procedures used within the study. Chapter IV will address the results for each of the research questions, and finally Chapter V will demonstrate a summary of the research with discussion of the research limitations and recommendations.

CHAPTER II

REVIEW OF THE LITERATURE

There are four distinct areas of literature reviewed for this study: the history of the HEA of 1965, the history of the Pell Grant, legislation surrounding the HEA reauthorization, and characteristics of Pell students.

History of the Higher Education Act

In order to improve higher education in the United States, federal student aid programs were established as a result of the HEA of 1965 (HEA, 1965). On January 12, 1965, President Lyndon B. Johnson identified education as something that is not a luxury, but a necessary to the further success of our country (Johnson, 1965). He further identified that one of the items in his 1966 budget would focus on the opportunity for higher education to lower and middle classes (Johnson, 1965). The HEA of 1965 followed through with the intentions and agenda of the President by focusing on lower and middle-income families to provide grant assistance (HEA, 1965). Reauthorizations of the HEA have occurred approximately every 4 to 7 years since its inception in 1965.

Higher Education Act of 1965

On January 19, 1965, bills H.R. 3220 and H.R. 3221 were introduced to the House and in the Senate as S. 600 as a response to the need for increased financial assistance to students attending postsecondary institutions (Pell Institute, 2003). Hearings for these

bills took place over 13 days in February and March 1965 by The Special Subcommittee on Education held in Washington, D.C. Two additional days of field hearings were held in Chicago, IL during April and May of 1965. The Education Subcommittee of the Senate Committee on Labor and Public Welfare held 12 days of hearings in March, May and June of 1965 (Pell Institute, 2003).

As a result of the hearings, H.R. 9567 was reported out of the House Committee on Education and Labor on July 14, 1965. This committee created this new bill by taking information gathered from the hearings as well as leaders in higher education and incorporated many of the provisions of H.R. 322. This bill was passed by the House on August 26, 1965, and was sent to the Senate. Through the leadership of the Senate Committee on Labor and Public Welfare, H.R. 9567 was reported to the Senate with amendments. The bill successfully passed through the Senate on September 2, 1965. With bills passing through both the House and Senate, the two groups met to produce one single version of the bill, which was reported out on October 19, 1965. The newly revised H.R. 9567 was passed successfully by both the House and Senate on October 20, 1965, and was signed into law by President Lyndon B. Johnson on November 8, 1965, becoming Public Law 89-329 (United States, n.d.a.).

The focus of the 1965 legislation was “to strengthen the educational resources of our colleges and universities and to provide financial assistance for students in postsecondary and higher education” (HEA, 1965).

1968 Reauthorization

The first of eight reauthorizations of the HEA of 1965 was signed into law on October 16, 1968 (HEA, 1968). Originally reported in the Senate as S. 3769 on July 11,

1968, the Senate passed the bill and it was sent to the House four days later on July 15, 1968. The House introduced the bill as H.R. 15067 and made revisions, and it was passed by the House on July 25, 1968. That same day the House requested a conference to discuss the newly revised H.R. 15067 to which the Senate agreed on July 27, 1968. Conference report 1919 was filed on September 25, 1968, and was agreed to by the House on September 26, 1968. The Senate followed up with its approval of the conference report on October 1, 1968, and it was signed into law as Public Law 90-575 on October 16, 1968 (United States, n.d.b.).

Minor changes were made to the HEA of 1965 as a result of the 1968 reauthorization. A new program, Special Services for the Disadvantaged, was combined with the programs Upward Bound and Talent Search, which are known today as the TRIO programs (Gladieux, 1995).

1972 Reauthorization

The year 1972 marked the second reauthorization of the HEA of 1965 being signed into law (HEA, 1972). The bill to reauthorize the HEA of 1965 was originally reported to the Senate as S. 659 on August 3, 1971, and was passed three days later on August 6, 1971. The bill was sent to the House and was passed as amended on November 5, 1971 (legislative day of November 4, 1971). The House commenced to ask for a conference on November 8, 1971. After much work between committees, the report was sent to final conference on May 13, 1972. The Senate approved the conference report on May 24, 1972, with the House approving on June 8, 1972. The bill was signed into law on June 3, 1972 (HEA, 1972), by President Nixon (United States, n.d.c.).

The 1972 HEA of 1965 reauthorization legislation was pivotal in laying the groundwork for current federal aid programs. Early on in the debate for this legislation, the “higher education community urged Congress to enact formula-based, enrollment-driven federal aid to institutions” (Gladieux, 1995, para. 12). Contrary to the recommendations of the higher education community, legislators recognized the importance of efficient and effective disbursement of funds to students. This decision not only removed the financial barriers to students by eliminating enrollment-driven funding per institution, but it created a way to use the market of students to enhance the quality of education (Gladieux, 1995).

1976 Reauthorization

The 94th Congress reauthorized the HEA of 1965 on October 12, 1976 (HEA, 1976). S. 2657 was originally reported in the Senate on May 14, 1976. Once the bill passed the Senate on August 27, 1976, it was sent to the House who quickly passed the bill with amendments and requested a conference on August 31, 1976. The House filed the conference report on September 27, 1976, and the Senate agreed to the conference report on September 28, 1976 (legislative day of September 24, 1976). The House approved the final conference report on September 29, 1976, with the President signing the bill into law on October 12, 1976 (United States, n.d.d.).

As a result of this 1976 HEA reauthorization, Title IV programs were reauthorized but with a few additional provisions. Congress looked to banks and other financial institutions to provide lending options for students. Amendments made to HEA of 1965 provided federal incentives for states to establish loan guarantee agencies giving additional options for students (Gladieux, 1995). The reauthorization of 1976 was the

first time that the ATB was approved. “Students without high school degrees became eligible for federal assistance so long as they had the ‘ability to benefit’ from postsecondary training” (Gladieux, 1995, para. 18).

1980 Reauthorization

Referred to as the Education Amendments of 1980, the fourth reauthorization of the HEA of 1965 was signed into law on October 3, 1980 (HEA, 1980). Originally reported from the House on October 17, 1979, it passed the house on November 7, 1979. The Senate referred to committee and passed as amended on June 24, 1980. Senate asked for a conference on June 24, 1980, and the House agreed to the conference on July 2, 1980. A conference report was filed in the House on August 25, 1980, and agreed to by the House on August 28, 1980, but was rejected by the Senate on September 4, 1980. The Senate requested an additional conference on September 9, 1980, and the House agreed on September 10, 1980. The final conference report was filed in the House on September 17, 1980, and the House agreed to the report on September 18, 1980, with the Senate agreeing to the report on September 25, 1980. The President signed the bill into law on October 3, 1980 (United States, n.d.e.).

Since the inception of the HEA, the middle class has been a topic of concern. The 1980 legislation was able to expand the financial aid options for the middle class and offshoots of the Guaranteed Student Loan (GSL) program were established. The GSL programs provided additional opportunities for independent students and parents of dependent students (Gladieux, 1995).

1986 Reauthorization

The 99th Congress delivered the fifth reauthorization of the HEA of 1965 (Pub. L. 99-498). Originally reported in the Senate as S. 1965 on May 13, 1986, (legislative day of May 12, 1986), S. 1965 was passed by the Senate on June 3, 1986 and passed as amended by the House on June 17, 1986. On July 14, 1986, the Senate asked for a conference and House agreed to the conference on July 24, 1986. The conference report was filed in the House on September 22, 1986, and approved on September 24, 1986. The senate agreed to the conference report on September 25, 1986, and it was approved and signed into law on October 17, 1986 (United States, n.d.f).

During the 1986 reauthorization process, legislators focused on the increasing number of students that resorted to student loans for their education. As tuition prices at public and private institution increased at a greater rate than inflation, students were not able to keep up with the differences in cost. The result was federal borrowing ceilings were increased, but most of the HEA of 1965 as amended stayed the same (Gladieux, 1995).

1992 Reauthorization

The HEA was again reauthorized a sixth time in 1992 (HEA, 1992). Senate bill 1150 was originally referred to Labor and Human Resources committee on May 23, 1991 (legislative day of April 25, 1991). The Act initially passed the Senate on February 21, 1992, and was received in the House on March 4, 1992. The House asked for a conference on the amended bill on March 26, 1992. Senate did not agree and asked for another conference on April 8, 1992. The final conference report was filed in the House on June 29, 1992, and the Senate agreed to the conference report on June 30, 1992. With

the House approving the bill on July 8, 1992, it was then presented to the President on July 22, 1992, and signed into law on July 23, 1992 (United States, n.d.g).

One of the biggest challenges for Congress during the reauthorization process was to establish a better balance between loans and grant aid for students. Originally, Congress attempted to create a Pell Grant entitlement but that attempt failed. The final result included Congress boosting dollar ceilings for loan programs and uncapping limits for the Parent Loan program. Additionally, the 1992 reauthorization created a loan option that was not restricted by need. These new, unsubsidized loans were available to the middle-income students who were not eligible for a subsidized guaranteed loan (Gladieux, 1995).

1998 Reauthorization

The 1998 reauthorization of the HEA began as H.R. 6 and was passed by the house on May 6, 1998 (HEA, 1998). It was received in the Senate on May 7, 1998, and was passed with amendment on July 9, 1998. The Senate insisted on its amendment and asked for conference on July 13, 1998. The House further disagreed with the amendment and agreed to additional conference on July 22, 1998. The conference report was filed in the House on September 25, 1998, and agreed to by the House on September 28, 1998. The Senate followed suit and agreed to the report on September 29, 1998, and the President received it on October 2, 1998. H.R. 6 was signed into law on October 7, 1998 (United States, n.d.h).

The 1998 amendments included five new initiatives entered by the Clinton administration. These initiatives include slashing the student loan interest rate, helping disadvantaged children prepare for college, improving teacher preparation and

recruitment, promoting high-quality distance education, and creating a new model for efficient government (U.S. White House, 1998).

2008 Reauthorization

An effort to amend and extend the HEA of 1965 was successful for an eighth time in 2008 under the Higher Education Opportunity Act (HEA, 2008). Originally brought to the House on November 9, 2007, the bill went through Education and Labor Committee, and Judiciary, Science and Technology Committee, and Financial Services. Once passed by the House as amended on February 7, 2008, it was received in the Senate on February 25, 2008. It passed the Senate with amendment on July 29, 2008, where the Senate then asked for a conference. Both the House and Senate disagreed with amendments to the bill and a new conference report was filed on July 30, 2008. The House and Senate followed up with approval of the conference report on July 31, 2008. The report was presented to the President on August 6, 2008, and approved on August 14, 2008 (United States, n.d.i).

Major changes to the HEA of 1965 include the expansion of the cohort default rate from a 2-year to a 3-year window (“History of Financial Aid,” n.d.). Additionally, veterans’ education benefits were not to be treated as a resource beginning with the 2010-2011 school year, and requirements for educational lenders to report repayment status information to all national consumer credit reporting agencies were added (“History of Financial Aid,” n.d.).

History of the Pell Grant

The Educational Opportunity Grant (EOG) program, a precursor to the Pell Grant, was established in Title IV of the HEA of 1965 (HEA, 1965).

In 1972, during a reauthorization of the HEA of 1965, the WOG program was amended into four sections. The Basic Educational Opportunity Grant (BEOG) program and the State Student Incentive Grant (SSIG) were established, the National Defense Student Loan Program was renamed the National Direct Student Loan Program and the Educational Opportunity Grant was renamed the Supplemental Educational Opportunity Grant (SEOG) program (NASFAA, 2006).

One of the first major changes to the BEOG program was enacted as a result of the 1976 HEA of 1965 reauthorization. This reauthorization changed the eligibility requirements to include all undergraduates for the 1976-1977 school year (HEA, 1976). Further legislation affecting eligibility to Pell Grants and federal funding for students in higher education passed in 1978. This legislation enacted the 1978 Middle Income Student Assistance Act (MISAA 78), which modified the federal aid formulas to extend financial aid to students in middle-income families. One of the key components to the MISAA 78 was the rate at which a student's family discretionary income was assessed to determine eligibility (Mortenson, 1988). This act allowed more students to be eligible for federal aid.

During the 1980 reauthorization of the HEA of 1965, the BEOG Program was renamed to the Pell Grant Program after its champion, the late Senator Claiborne Pell. Two significant changes were made in legislation as a result of the 1986 HEA of 1965 reauthorization. The first change expanded federal aid eligibility by allowing for the

allowance of state taxes as a reduction of income. The second change impacted families with multiple children in college at the same time. For each child enrolled in higher education, the EFC was lowered by percentage from 50% for 2 children, 33% for 3 children and 25% for 4 children enrolled (HEA, 1998). Now families were paying an equal amount per child and not the same rate replicated across all children enrolled in higher education.

The effects from the 1992 HEA of 1965 reauthorization had varied effects on students, expanding eligibility for some and reducing for others. Although multiple changes went into effect, three distinct changes impacted Pell Grant eligibility. The first change altered the formula that determined the EFC by removing house and family farm assets from the list of assets applied in the formula, reducing eligibility for those who were middle income and owned their own homes (HEA, 1992). The second change raised the income limit for the ‘simplified needs’ formula from \$15,000 to \$50,000 which expanded eligibility for many families that fell into that income bracket. The last major change of 1992 HEA of 1965 reauthorization surrounded the criteria used for classification as an independent student. The criteria used to identify an independent student was tightened to prevent abuse of this feature of the funding formula (HEA, 1992).

The 1998 reauthorization of HEA of 1965 included one major change that increased the eligibility of the Pell Grant to low and middle-income students. The 1998 HEA of 1965 increased income protection allowances in four categories. Dependent students’ income protection increased from \$1,750 to \$2,200; a \$2,000 increase to \$5,000 for single dependent students and married independent students whose spouse is also in

college with no dependents; and an increase from \$6,000 to \$8,000 for independent married students (HEA, 1998).

The College Cost Reduction and Access Act (CCRA) was signed into law on September 27, 2007 (CCRA, 2007). This act increased the maximum Federal Pell Grant Award that a student was eligible to receive for fiscal years FY 2009, FY 2010, FY 2011, FY 2012 and FY 2013 as shown in Table 1. This increase in maximum Pell Grant awards allowed students to have more higher education costs covered by federal aid.

Table 1

Maximum Pell Grant Awards

Award Year	Appropriated Funds
1973 - 1974	\$ 452
1974 - 1975	\$ 1,050
1975 - 1976	\$ 1,400
1976 - 1977	\$ 1,400
1977 - 1978	\$ 1,400
1978 - 1979	\$ 1,600
1979 - 1980	\$ 1,800
1980 - 1981	\$ 1,750
1981 - 1982	\$ 1,670
1982 - 1983	\$ 1,800
1983 - 1984	\$ 1,800

Table 1 (continued)

1984 – 1985	\$ 1,900
1985 – 1986	\$ 2,100
1986 – 1987	\$ 2,100
1987 - 1988	\$ 2,100
1988 - 1989	\$ 2,200
1989 - 1990	\$ 2,300
1990 - 1991	\$ 2,300
1991 - 1992	\$ 2,400
1992 - 1993	\$ 2,400
1993 - 1994	\$ 2,300
1994 - 1995	\$ 2,300
1995 - 1996	\$ 2,340
1996 - 1997	\$ 2,470
1997 - 1998	\$ 2,700
1998 - 1999	\$ 3,000
1999 - 2000	\$ 3,125
2000 - 2001	\$ 3,300
2001 - 2002	\$ 3,750
2002 - 2003	\$ 4,000
2003 - 2004	\$ 4,050
2004 - 2005	\$ 4,050

Table 1 (continued)

2005 - 2006	\$ 4,050
2006 - 2007	\$ 4,050
2007 - 2008	\$ 4,310
2008 - 2009	\$ 4,731
2009 - 2010	\$ 5,350
2010 - 2011	\$ 5,550
2011 - 2012	\$ 5,550
2012 - 2013	\$ 5,550

Most recently, in an effort to reduce the number of Pell Grant awards, Congress approved the Consolidated Appropriations Act of 2012 (CAA, 2012) on December 23, 2011. The CAA of 2012 impacted Pell Grant recipients in four ways. First, the lifetime maximum Pell Grant eligibility was reduced from 18 semesters to 12 total semesters. Students who already received the maximum number of allotted semesters lost eligibility immediately. The second significant modification was to the calculation for EFC. Prior to the change, the maximum income for a dependent or independent student to receive an automatic zero was reduced from \$32,000 to \$23,000. This \$9,000 difference eliminated many students from receiving a full Pell Grant. The third major change impacted new students who did not graduate from high school or receive a GED. Prior to the CAA of 2012, students without a high school diploma or GED could enter in to a certificate program in a community college with the completion of the (ATB) and receive federal Pell Grant funds. Once the CAA of 2012 took effect during the 2012-2013 school year,

new students were no longer eligible for federal Pell Grant funds. The final change impacted those who were eligible for less than 10% of the maximum Pell Grant award. Prior to the change, students who were eligible were rounded up to the 10% award.

Proposed Reauthorization of the Higher Education Act of 1965

The HEA of 1965 legislation is an integral part of community colleges and their students as “it provides the statutory authority for all the major federal student financial aid and institutional assistance programs as well as a myriad of related definitions, eligibility rules, and reporting requirements” (AACC, 2014b, para 2). Congress has already started the process of reauthorizing the HEA of 1965 for the ninth time. The last reauthorization occurred in 2008 (HEA, 2008) with the enactment of the Higher Education Opportunity Act (AACC, 2014b).

Senator Tom Harkin (D-IA) has played a major role in promoting the reauthorization of the HEA of 1965. Harkin served as chairman of the Senate Committee on Health, Education, Labor and Pensions (HELP) Committee during the proposed legislation. Harkin stated, “For generations, a college education has been the pathway to the middle class, but the new challenges are threatening that promise for many families in Iowa and across the country” (Harkin, 2014, p. 1). He continued to address the work that the HELP committee has dedicated to the reauthorization effort. This reauthorization effort gives Congress the opportunity “to focus attention on college affordability and accountability, help borrowers with existing student debt, and increase transparency so students and families can make informed decisions” (Harkin, 2014, p. 1).

The Higher Education Affordability Act (HEAA) from the HELP Committee has four distinct goals. The goals of the act include increasing college affordability, helping

straddling borrowers, strengthening accountability, and improving transparency (Harkin, 2014).

According to the HEAA proposal, the first goal of increasing affordability extends five different methods to reduce college costs. The first step is to create a State-Federal College Affordability Partnership. This partnership will be positioned to increase individual state investment in public higher education thus lowering the cost of tuition for students. The HEAA proposal continues with its second goal of reinstating of year-round Pell Grants. Year-round Pell Grants afford students the opportunity to continue their education throughout the full year and complete their degrees faster. Elimination of origination fees on Direct Student Loans will present immediate savings to students. Further, the HEAA proposes expanding access to dual enrollment and early entrance college high school programs. This expansion will enable high school students to earn college credit while still in high school. Last, HEAA proposes additional support of community college and industry partnerships promoting innovation in higher education (Harkin, 2014).

The second goal of the HELP Committee proposed HEAA is to help struggling borrowers by better debt management systems. Methods proposed to achieve this goal include the strengthening of student loan servicing standards with common-sense consumer protections. Additionally, the proposal addresses the cumbersome repayment process and streamlining repayment plans to provide affordable monthly payments for single-income borrowers. When borrowers fall into a default situation, the act proposes automatic enrollment into an income-based repayment plan. If a borrower should file bankruptcy, HEAA will allow private student loans discharged in the bankruptcy process.

Last, HEAA addresses the collections process and reduction or elimination of burdensome fees associated with collection (Harkin, 2014).

Approaches to ensure and strengthen accountability to students and taxpayers by institutions are expressed in the fourth goal of HEAA. The first approach includes providing students and policy makers with full disclosures and accountability metrics from schools including loan repayment rates. Methods also include holding low performing schools responsible for poor student outcomes. Taxpayers will be protected with the proposed change to the 90-10 profit rule for for-profit institutions. HEAA proposes that no more than 85% of a private school revenue is received from Title IV funds. The fourth initiative in the goal is to ensure that institutions are not purchasing advertising and marketing materials with federal education dollars.

The final goal of the proposed HEAA is to help students and their families make informed decisions about higher education and related costs. Beginning in middle school, students will be informed of their potential eligibility for federal financial aid. This early and upfront information will be disclosed to both students and their families. Students will receive a standardized financial aid award letter so that students and families will understand the packages awarded when making their higher education decisions. Last, the HEAA proposes to strengthen entrance and exit loan counseling (Harkin, 2014).

These changes which were proposed would have helped the low-income community college student. Unfortunately, the HEAA which was introduced into legislation on November 20, 2014, failed to make it into law (Civic Impulse, 2017).

Characteristics of Pell Students

The mission of open access is at the heart of the community college system in the United States, and the ability to open the doors to higher education was the mission of President Lyndon B. Johnson. His idea to avail the opportunity for higher education to lower and middle classes was fortified in his 1966 budget, which would fund the program eventually known as the Pell Grant (Johnson, 1965).

Those who are most financially vulnerable tend to seek higher education at the more affordable community college level. An analysis of community college students through the NCES showed that 26% of community college students are in the lowest and poorest socioeconomic quartile (Horn, Nevill, & Griffith, 2006). Additionally, “44% of low-income students (those with family incomes of less than \$25,000 per year) attend community colleges as their first college after high school” (National Center for Public Policy and Higher Education, 2011, p. 2). This percentage is contrary to some of the nation’s top 146 colleges where 74% come from the richest socioeconomic quartile, and “just 3% come from the poorest quartile” (Kahlenberg, 2004, p. 7). With the focus of Pell Grants to help those with most financial need, the impact of losing funding can impact students beyond the classroom.

Low-income students receiving Pell grants face additional challenges that their higher-socioeconomic counterparts may not. While education is a pathway out of poverty, other economic challenges students face while attending community college, such as spending money to take care of family, commute to and from school, and meet other basic needs, can negatively impact a students’ ability to persist. Compounding these efforts, many students have to sacrifice working to attend school, giving up on

income used to support themselves and their family (Cohen & Brawer, 2006). With these outside commitments many students are unable to continue with school or complete their program. According to an Agenda report, 54% of students stated that they were not able to juggle work and school where 31% stated that they could not afford college (Johnson, Rochkind, Ott, & DuPont, 2009). Without Pell funding to support these low-income individuals, the goal of completing a higher education is that much further out of reach.

Challenges for those who are Pell eligible continue beyond meeting basic needs. The resiliency to enroll, persist, and complete an award continues to be a challenge for those in most financial need. “Fortifying the ability of students to afford staying in school while managing their external responsibilities can increase their chances to continue and achieve their education goals” (Chaplot, Cooper, Johnstone, & Karandjeff, 2005, p. 7). Being able to apply Pell grants directly toward tuition reduces the amount of funding that a student needs to cover and increases the ability of the student to manage external responsibilities.

Chapter Summary

Chapter II presented a review of four distinct areas of literature for this study. A thorough review was completed on the history of the HEA of 1965, the history of the Pell Grant, legislation surrounding the HEA reauthorization, and characteristics of Pell students.

CHAPTER III

METHODOLOGY

Design and Methodology

One of the largest economic recessions in United States history began in 2008, and the results of that crisis put many Americans out of work. People went back to school, and community colleges became an important part of our nation's recovery by retraining displaced workers and providing opportunity for gainful employment as quickly as possible. Consequently, the numbers of students eligible for Pell Grants soared and Pell Grant spending also hit an all-time high (Baime & Mullin, 2011). This high level spending triggered lawmakers to decrease federal spending of Pell, and became the goal of the CAA of 2012.

This study sought to determine the effects of the CAA of 2012 on Pell spending at the national, state, and institutional levels. This study uses data from both public and institutional sources to compare what was actually spent during the two years following the implementation of the law, and estimates of what would have been spent had funding trends been allowed to continue.

Developing a model that captures all student behavior as it relates to financial aid eligibility is an overwhelming task, and much of the variables that affect community colleges are ultimately reflected in its enrollment (Cohen & Brawer, 2008). Enrollment patterns are influenced by tuition, costs, local unemployment patterns, subsidies available

to students, levels of secondary education, and the list goes on and on. Many variables affecting Pell Grant spending are independent, and in efforts to avoid codependent variables, the study used a simple model of time and enrollment patterns to predict Pell spending before and after the 2012 changes at the national and state levels. However, at the institutional level, where semester-by-semester student-level data is available, a more sophisticated technique of decomposition modeling was used to forecast Pell spending.

This study assessed the amount of Pell spending from the point the crisis began in 2008 and for two years subsequent to the Pell eligibility requirement changes of 2012. Statistical techniques unravel the underlying patterns of Pell spending and compare those results with what the Federal government actually spent in Pell Grants. By examining the differences in actual versus predicted Pell spending, the impact of the law is formally assessed at national, state, and institutional levels.

Research Questions

1. Nationally, what were the effects of Pell Grant funding for public and non-profit community colleges during the two years following the CAA of 2012?
2. Which five states had the largest negative effects in Pell Grant funding during the two years following the CAA of 2012?
3. What was the institutional-level impact on Pell Grant funding for a mid-sized urban college located in the state of Minnesota during the two years following the CAA of 2012?

Research Context

The context of this research was to study the Pell Grant eligibility patterns of all public and not-for profit 2-year colleges and the amount of Pell spending affected by the fall 2012 changes to Pell Grant funding. The research context was adjusted based on the scope of each research question. On the national and state levels, the study relied on data on financial aid reported by community colleges through data reported to NCES through IPEDS. At the institutional level, the study relied on data from an institution's financial aid office with regard to Pell Grants dispersed, term-by-term. At the institutional level, decomposition methods are used to deconstruct Pell amounts into its seasonal, cyclical, and irregular components by examining award patterns for the fall, spring, and summer terms.

For research questions 1 and 2, all Pell-granting 2-year public and 2-year not for profit community colleges were included in the study. Financial aid data from fall 2008 through spring 2014 were examined. For research questions 3, financial aid data from a mid-sized urban college located in the state of Minnesota over this same time period were examined. In this study, the singular community college data included 27,119 students from academic years 2008 to 2015. The data included the academic year and term in which the student received the Pell Grant award as well as the dollar amount by term broken out in Table 2. Total college enrollment was also included.

Table 2

Description of Source of Model Variables for Research Question 1 and 2

Variable	Description	Source
Descriptive		
Institution name	A term used to define an institution.	NCES
Institution state	The state in which the institution is located.	NCES
Independent variables		
Academic year	The period of time generally extending from the beginning of the fall semester through the following summer semester.	NCES
Fall enrollment	The number of students enrolled in the fall semester.	NCES
Dependent variable		
Pell Awarded	Annual Pell Grant assistance awarded to students.	NCES

Participants

Research Questions 1 through 2:

National and State Effects: For research questions related to national and state-level data, the participants were derived from institution-level data available from the NCES IPEDS system. Financial aid data are downloadable by the public from the IEPDS Data Center.

Research Question 3:

Institutional Effects: Because student-level data are available at the institutional level, the institution-level models can be adjusted to reduce the randomness in the underlying pattern of Pell funding for a given school or campus. This model was derived using students with a completed financial aid application from fiscal years 2008 through

2015 from a mid-sized urban college located in the state of Minnesota. The study reviewed the number of students receiving Pell Grant awards and the award amount.

Instruments and Materials

This study was approved by the Mississippi State University Institutional Review Board (IRB). The study used pre-existing data publically available from the NCES IPEDS Data Center, and pre-existing financial aid data from a large, regionally accredited, mid-sized urban college located in the state of Minnesota. No data collection instruments or materials were used in this study.

Procedures for Data Collection

The data were retrieved from the Institutional Research department of the selected institution and from the NCES, IPEDS Data Center. Data were retrieved per year from 2008-2013 for the number of students who received a Pell Grant award and the average amount of the award as a nation and by individual state.

Institutional data included the total number of students per year who received a Pell Grant and the award amount. The data in this study were objective and based on stored and validated data within the college's enterprise management system.

Procedures for Data Analysis

National Model

Multiple linear regression was used to form a simple predictive equation for the dependent variable, Pell spending, using the independent variables of time and college enrollment. This simple model was used to predict the underlying Pell patterns as they existed due to the influx of Pell recipients caused by the recession. Because the model

has two predictor variables and a quantitative criterion variable (Pell amount awarded), an approach using multiple linear regression modeling was used to analyze and interpret the relationship between independent variables (Howell, 2010). The conceptual model equation is given by:

$$\text{Pell Funding} = a_0 + a_1R + a_2E + e \quad (\text{Eq 1})$$

where:

a_0 is the intercept,

R is time in years where $2008 < R < 2015$,

E is aggregate fall enrollment for year R ,

e is the error term.

By beginning the model at the start of the financial crisis, this explores the influx of students and the amount of Pell spent before and after the 2012 law. In this model, it was expected that Pell Grant recipients would project a much higher increase than the actual recipients. The expectation of results was that there would be a positive and substantial difference in numbers of Pell recipients as determined by the effects of the law.

State Models

State models were modeled exactly the same way as the national model, but aggregated at a state level. There is one model for each state, and variables were aggregated at the state level. The conceptual model equation for state i is given by:

$$\text{Pell Funding} = a_0 + a_1R + a_2E + e \quad (\text{Eq. 2})$$

where:

a_0 is the intercept,

R is time in years where $2008 < R < 2015$,

E is aggregate fall enrollment, for each state, for year R ,

e is the error term.

It was expected that overall many states would have the same pattern as the national model, decreased funding after fall 2012 when compared to actual funds.

Institutional Model

At the institutional level, additional details are known about the number of Pell awards, and more specifically, during which semester they were granted. Using fall, spring, and summer awards much more is known about the shifts in Pell funding throughout a given aid year. For these reasons, decomposition methods were applied to this seasonal data. In this, the classical multiplicative model was used to deconstruct Pell awards into its seasonal, trend, and irregular (error) components. This study uses the classic form of decomposition time series model given by:

$$Y_t = S_t \times T_t \times E_t, \quad (\text{Eq. 3})$$

where:

Y_t is the total value of Pell at time t .

S_t is the seasonal component at time t .

T_t is the trend cycle component at time t .

E_t is the irregular component at time t .

The economic world of a community college is as complex as the communities they serve. Time decomposition methods have been successful at predicting complicated

patterns such as enrollment (Card & Lemieux, 2001). In addition, this technique is widely accepted as a way to predict patterned data when irregularities, most likely as a combination of many variables unknown to the researcher exist in the data. The classic multiplicative model was used primarily because of its prevalence with economic series data (Hyndman & Athanasopoulos, 2013).

Chapter Summary

A review of the research design, participants, and instruments used for the study was included Chapter III. Three research questions were presented for the study. Finally, the chapter provided the procedures for analysis used in the study.

CHAPTER IV

RESULTS OF THE STUDY

An overview of the results and significant findings will be presented in this chapter. This chapter is divided into four parts. The results and discussion of findings for research question one are presented in part one. This includes the presentation of national level data for number of Pell Grants awarded and value of awards. Part two focuses on the results and discussion of research question two, state level data. Findings and discussion of local level data are discussed in part three. A chapter summary is included in part four.

Research Question One

Research Question 1 states: Nationally, what were the effects of Pell Grant funding for public and non-profit community colleges during the two years following the CAA of 2012? This question sought to determine the national impact of the CAA on community college funding. The research behind the changes of CAA was not made publically available and therefore it is unknown what type of analysis was offered to substantiate the changes to Pell eligibility requirements, nor was any information released about how the Federal government intended to monitor the change.

Each community college has its own unique economy, partnerships, community and state support, proximity to other colleges, policies and other unknown economic drivers that all work together to determine the number of students who enroll in that

particular college. In addition to time, this study used the most universal variable of importance to all colleges, enrollment, to predict trends for Pell funding. Currently 36% of community college students receive a Pell Grant (AACC, 2016), this number, and by in large this percentage, has remained fairly stable over the past several years (AACC, 2014a, 2015, 2016). Because the CAA was designed to reduce government spending on Pell, were they successful, and if so, how much funding was removed from the community college system during the years subsequent to the CAA implementation in fall 2012?

The conceptual model equation is given by:

$$\text{Pell Funding} = a_0 + a_1R + a_2E + e, \quad (\text{Eq. 4})$$

where:

a_0 is the intercept,

R is time in years where $2008 < R < 2014$,

E is aggregate fall enrollment for year R ,

e is the error term.

Using multiple linear regression for data retrieved from the NCES from 2008 to 2011, the predicted Pell Grant spending by the Federal government was given by the following equation where t is time and s is fall enrollment of students in our nation's public and nonprofit community colleges.

$$P(t,s) = 7.94E8t + 4789s - 2.6E10 \quad (\text{Eq. 5})$$

The model was significant, $F(2,3) = 386.48, p < .05$. Additionally, this model predicted \$10.5 billion awarded in Pell for the 2012-213 financial aid year and \$10.7 billion in

2013-2014. When compared to the known Pell amounts awarded during those same years, the model estimates a shortfall of \$571 million in 2012-2013 and \$872 million in 2013-2014, a total of \$1.4 billion.

Table 3 provides a full summary of actual Pell observed amounts nationally and Pell amounts predicted by the model.

Table 3

Pell Projection Model for Two-Year and Not-For-Profit Community Colleges

Pell Year	Fall Enrollment	Pell Observed	Pell Projected	Difference
2008-09	6,235,477	\$ 4,751,617,142	\$ 4,720,236,709	\$ 31,380,433
2009-10	6,809,287	\$ 8,158,320,278	\$ 8,261,807,261	\$ (103,486,983)
2010-11	7,010,270	\$ 10,13,086,9034	\$ 10,018,036,369	\$ 112,832,665
2011-12	6,923,981	\$ 10,357,891,655	\$ 10,398,617,771	\$ (40,726,116)
2012-13	6,780,531	\$ 9,934,191,600	\$ 10,505,474,625	\$ 571,283,025
2013-14	6,650,604	\$ 9,804,941,396	\$ 10,677,088,517	\$ 872,147,121

From Table 3 the residual differences between the actual Pell amounts and those predicted by the linear model are small enough for the model to be significant, and as expected, the model does a good job estimating the actual Pell amounts awarded from 2008 to 2011. A visualization of how well the model tracks Pell prior to 2012 and the differences during 2013 and 2014 is shown in Figure 1. Figure 1 shows in billions of dollars, the total amount of Pell funding awarded to 2-year public and non-profit colleges within the United States and the figures predicted by the model.

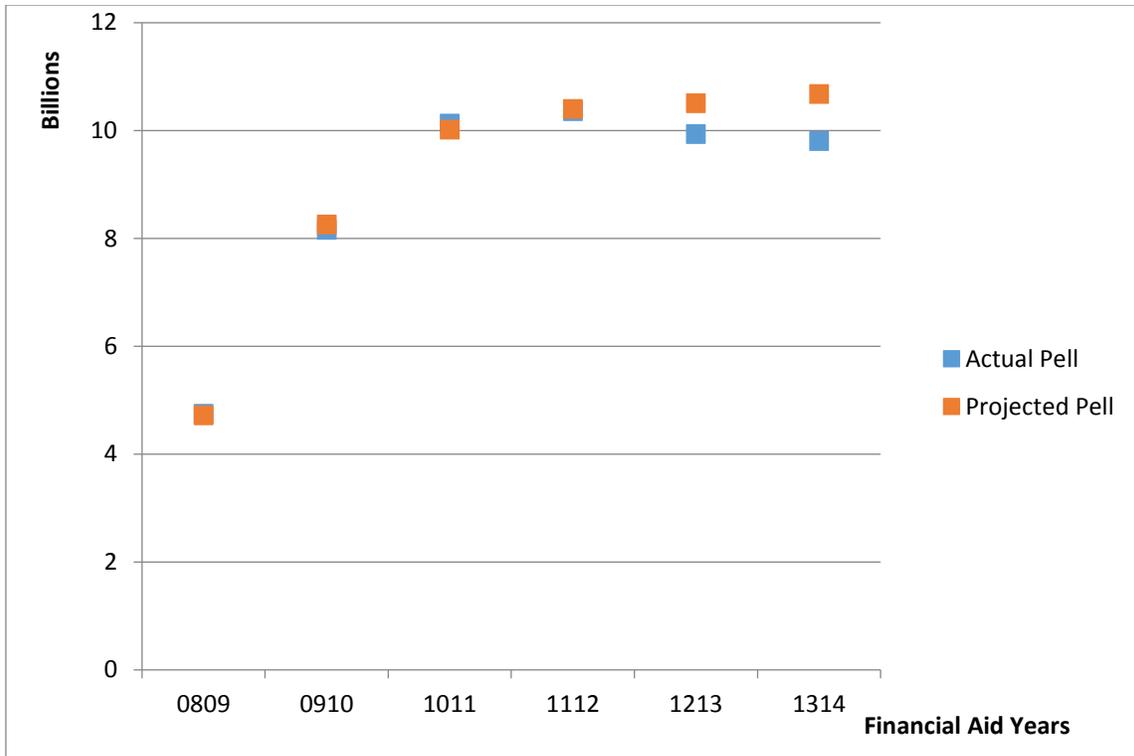


Figure 1. Pell observed (actual) versus Pell modeled (projected).

The investigation of research question 1 estimates that \$1.4 billion was taken from the United States public and nonprofit community college system. In addition, the model design was constructed to give a conservative estimate of the loss in Pell funding. The reduction in Pell Grants is, by itself, a contributing factor to reductions in college enrollment (Paulsen & Smart, 2001). Because Pell projections for 2012-2013 and 2013-2014 were based on actual enrollments during these two years, the true reduced spending is likely to be much higher.

Research Question Two

Research question 2 states: Which five states had the largest negative effects in Pell Grant funding during the two years following the CAA of 2012? This question seeks to determine the impact of the CAA on states. The exact regression methods used to for each state were used to investigate the national effects of the CAA.

For each state P_i , the linear model is

$$P_i = a_0 + a_1R + a_2E + e \quad (\text{Eq. 6})$$

where:

P_i is the Pell funding for each state, i ,

a_0 is the intercept,

R is time in years where $2008 < R < 2014$,

E is aggregate fall enrollment, for each state, for year R ,

e is the error term.

The investigation of research question 2 resulted in 50 distinct multilinear regression models, all conducted in IBM's Statistical Package for the Social Sciences (SPSS). Unlike the national model, many of the state models were not well fitted using regression methods and thus not significant at the $p < .05$ level. A simple linear fit trend, however, serves as an indicator to whether states had losses verses those that did not, and gives estimates of those losses.

There were 18 states that had no estimated losses in Pell funding based on projections. These states were Alaska, Arkansas, Connecticut, Delaware, Florida, Georgia, Iowa, Kentucky, Louisiana, Massachusetts, Michigan, Mississippi, New York, Ohio, Texas, Virginia, Vermont, and West Virginia.

Of the models that were significant, the states of Missouri (-72.4%), Rhode Island (-24.8%), New Mexico (-24.3%), California (-16.9%) and Oklahoma (-13.9%) had the largest estimated losses in Pell Grant funding during the two years subsequent to the CAA of 2012. Had funding trends continued, Missouri would have received an estimated \$87 million in 2012-2013 and \$170 million in 2013-2014, a total of \$257 million. Rhode Island would have received an estimated \$5 million in 2012-2013 and \$15 million in 2013-2014, a total of \$20 million. New Mexico would have received an estimated \$21 million in 2012-2013 and \$46 million in 2013-2014, a total of \$67 million. California would have received an estimated \$127 million in 2012-2013 and \$371 million in 2013-2014, a total of \$498 million. Oklahoma would have received an estimated \$14 million in 2012-2013 and \$16 million in 2013-2014, a total of \$30 million. Table 4 gives the estimated losses in Pell funding for the two years subsequent to the CAA.

Table 4

States with Estimated Pell Loss for 2012 - 2013 and 2013 - 2014

State	Actual Pell 2012 – 2014	Projected Loss 2012 – 2014	Percent Reduction
Alabama	\$365,217,346	\$19,705,475	5.4%
Arizona*	\$495,611,785	\$44,404,595	9.0%
California*	\$2,952,423,729	\$497,832,638	16.9%
Colorado	\$391,700,759	\$92,063,494	23.5%
Hawaii	\$57,459,717	\$3,716,036	6.5%
Idaho	\$79,633,748	\$42,083,990	52.8%
Illinois	\$833,897,161	\$117,170,618	14.1%
Kansas	\$215,731,882	\$28,794,696	13.3%
Massachusetts	\$328,000,908	\$19,469,106	5.9%
Maryland*	\$336,639,632	\$7,176,446	2.1%
Minnesota*	\$372,085,082	\$1,079,053	0.3%
Missouri*	\$355,069,074	\$257,114,116	72.4%
Montana	\$33,443,834	\$1,555,877	4.7%
North Carolina	\$989,819,130	\$125,106,008	12.6%
North Dakota	\$12,351,771	\$13,657,481	110.6%
Nebraska	\$107,397,155	\$4,802,338	4.5%
New Hampshire	\$41,162,875	\$4,276,051	10.4%
New Jersey	\$466,799,860	\$43,039,367	9.2%

Table 4 (Continued)

New Mexico*	\$276,127,334	\$67,220,434	24.3%
Nevada	\$30,126,035	\$20,420,042	67.8%
Oklahoma*	\$216,218,204	\$30,003,152	13.9%
Oregon	\$389,990,218	\$48,155,458	12.3%
Pennsylvania	\$457,413,949	\$83,137,056	18.2%
Rhode Island*	\$79,633,669	\$19,776,201	24.8%
South Carolina	\$454,505,062	\$55,170,293	12.1%
South Dakota	\$23,455,242	\$3,445,690	14.7%
Tennessee	\$371,460,709	\$30,263,618	8.1%
Utah	\$91,838,105	\$20,888,593	22.7%
Washington	\$231,399,642	\$44,940,547	19.4%
Wisconsin	\$286,497,211	\$21,075,105	7.4%

Table 4 (continued)

Wyoming	\$46,313,722	\$1,149,328	2.5%
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* Prediction model was significant at the $p < .05$ level.

Research Question Three

Research question 3 states: What was the institutional-level impact on Pell Grant funding for a mid-sized urban college located in the state of Minnesota during the two years following the CAA of 2012? This question sought to determine the impacts of CAA at an individual college. At the institutional level much more is generally known about the details of Pell Grant awards throughout the aid year. This provides the

researcher the ability to use more sophisticated techniques appropriate to economic trend analysis.

This study used the classic form of decomposition time series model given by:

$$Y_t = S_t \times T_t \times E_t, \quad (\text{Eq. 7})$$

where:

Y_t is the total value of Pell at time t .

S_t is the seasonal component at time t .

T_t is the trend cycle component at time t .

E_t is the irregular component at time t .

Using fall, spring, and summer award amounts, time series decomposition methods were used to deconstruct Pell awards into its seasonal, trend, and irregular components. This method required regression analysis of the deseasonal data component. The resulting linear model used to determine the seasonal data was calculated as:

$$Y_t = 2563249 + 252406t \quad (\text{Eq. 8})$$

Table 5 shows detailed calculations of the model's components and includes both the final trend forecast calculation and the actual Pell amount dispersed for each term.

Table 5

Forecast Model Based on Time Series Decomposition

Term	Actual Pell	St	Deseasonal	Yt	Forecast
Fall 2008	\$3,228,460	1.360	\$2,373,512	\$ 2,817,756	\$ 3,832,723
Spring 2009	\$3,548,913	1.415	\$2,507,485	\$ 3,072,263	\$ 4,348,258
Summer 2009	\$ 766,835	0.231	\$3,319,396	\$ 3,326,769	\$ 768,538
Fall 2009	\$5,478,561	1.360	\$4,027,749	\$ 3,581,276	\$ 4,871,266
Spring 2010	\$5,960,903	1.415	\$4,211,677	\$ 3,835,782	\$ 5,428,889
Summer 2010	\$ 982,243	0.231	\$4,251,832	\$ 4,090,289	\$ 944,924
Fall 2010	\$6,500,036	1.360	\$4,778,721	\$ 4,344,795	\$ 5,909,808
Spring 2011	\$6,714,436	1.415	\$4,744,086	\$ 4,599,302	\$ 6,509,519
Summer 2011	\$1,186,804	0.231	\$5,137,315	\$ 4,853,808	\$ 1,121,309
Fall 2011	\$6,997,836	1.360	\$5,144,696	\$ 5,108,315	\$ 6,948,351
Spring 2012	\$7,245,462	1.415	\$5,119,282	\$ 5,362,822	\$ 7,590,150
Summer 2012	\$1,153,870	0.231	\$4,994,753	\$ 5,617,328	\$ 1,297,695
Fall 2012	\$7,715,697	1.360		\$ 5,871,835	\$ 7,986,893
Spring 2013	\$7,629,184	1.415		\$ 6,126,341	\$ 8,670,780
Summer 2013	\$1,016,957	0.231		\$ 6,380,848	\$ 1,474,081
Fall 2013	\$7,889,353	1.360		\$ 6,635,354	\$ 9,025,436
Summer 2014	\$ 808,039	0.231		\$ 7,144,368	\$ 1,650,466
Fall 2014	\$7,452,317	1.360		\$ 7,398,874	\$ 10,063,978
Spring 2015	\$6,936,260	1.415		\$ 7,653,381	\$ 10,832,041
Summer 2015	\$ 847,577	0.231		\$ 7,907,887	\$ 1,826,852

The investigation of research question 3 yielded estimates for differences in actual Pell funding and projected Pell funding for a mid-sized urban community college in Minnesota. For the 2012-2013 financial aid year, the difference in actual and projected Pell funds for this individual institution were \$1.8 million. For the financial aid year 2013-2014, the difference was \$4.2 million, an estimated total of \$6 million in underfunding. Figure 2 shows a visualization of these differences for the fall, spring, and summer terms.

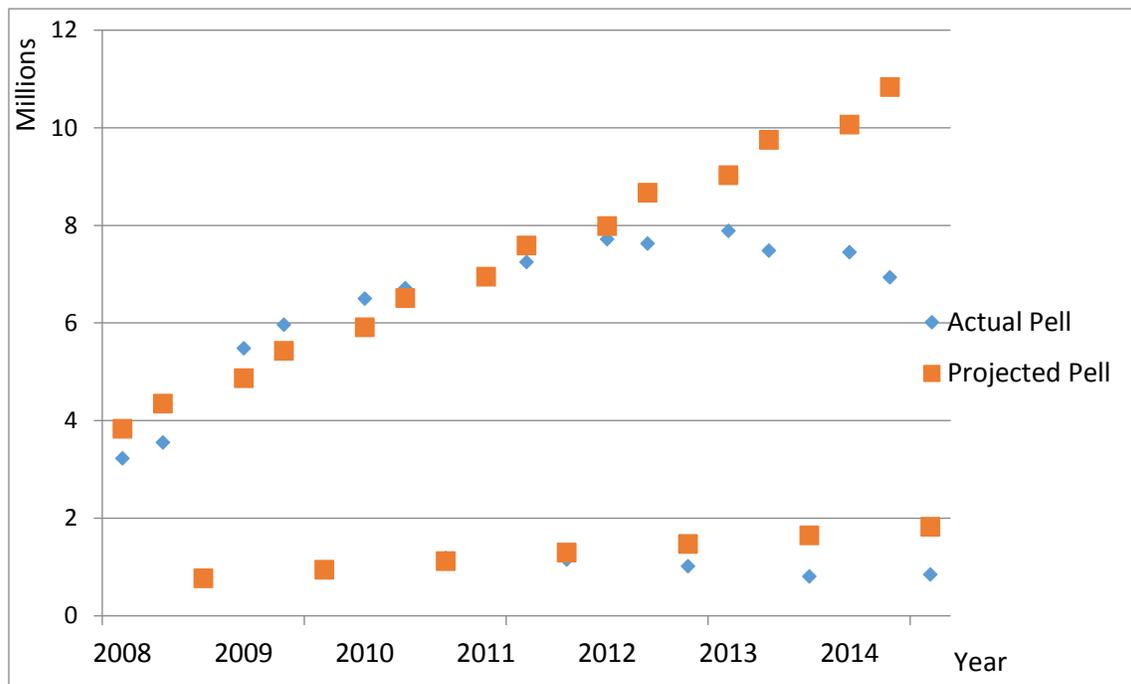


Figure 2. Single institution time series decomposition model for fall, spring, summer.

Chapter Summary

Chapter IV presented the results of the data analysis at the national, state and local levels. Research question 1 examined the national effects of the ACC. Findings indicated

an estimated \$1.4 billion national shortfall in Pell Grant funds for students in 2-year public and nonprofit community colleges during the 2012-2013 and 2013-2014 aid years. Research question 2 focused on the effects of the ACC at the state level. Findings for states determined the majority (32) of states experienced some type of Pell shortfall during the two years subsequent to the CAA. Missouri, Rhode Island, New Mexico, California and Oklahoma showed the highest and most significant losses among states during the two years following the CAA changes. Research question 3 analyzed one mid-sized urban community college in the Midwest to determine the changes in Pell for the same 2-year period. Using decomposition time series modeling, results estimated that this single college had \$6 million less Pell funding than expected during the 2 years subsequent to the CAA.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the research study on the effects of the CAA of 2012 Pell Grant eligibility requirements on enrollment. This chapter will include the summary of study results identified by research question, and conclusions and discussion based upon statistical findings for each research question. Additionally, limitations, general recommendations, and recommendations for future study are included.

Summary of Results

The purpose of this study was to determine the economic impact of the CAA changes at the national, state, and institutional levels. The goal was to devise statistical models that accurately determine, based on the enrollment trends, the amount of Pell funds that schools would have received had no changes taken place. Results from the models were then compared with actual Pell amounts for the two years subsequent to the CAA, aid years 2012-2013 and 2013-2014. Residuals between the actual and predicted Pell amounts provided valuable insight into the economic impact of the CAA on public and nonprofit community colleges within the United States.

Research Question One

Nationally, what were the effects of Pell Grant funding for public and non-profit community colleges during the two years following the CAA of 2012?

Conclusion 1. Based on enrollments for 2012 – 2014, model trends estimated a \$571 million reduction in Pell Grants for the 2012-2013 financial aid year and \$872 million during the 2013-2014 financial aid year, a total of \$1.4 billion in Pell Grant funding $F(2,3) = 386.48, p = 0.023$.

Research Question Two

Which five states had the largest negative effects in Pell Grant funding during the two years following the CAA of 2012?

Conclusion 1. The states of Missouri (-72.4%), Rhode Island (-24.8%), New Mexico (-24.3%), California (-16.9%) and Oklahoma (-13.9%) had the largest estimated losses in Pell Grant funding during the two years subsequent to the CAA of 2012, $p < .05$.

Conclusion 2. During the two years subsequent to CAA, Missouri would have received an additional \$257 million, Rhode Island an additional \$20 million, New Mexico an additional \$67 million, California an additional \$498 million, and Oklahoma an additional \$30 million, $p < .05$.

Research Question Three

What was the institutional-level impact on Pell Grant funding for a mid-sized urban college located in the state of Minnesota during the two years following the CAA of 2012?

Conclusion 1. During the two years subsequent to the CAA, a mid-sized urban comprehensive community college in Minnesota lost an estimated total of \$6 million in Pell Grant funds.

Discussion of Findings

Pell grants are an important and indispensable part of the community college mission by providing access to a college education for many low-income students. Pell is one of the most well-known pathways for low-income students to return to college and complete a degree, and one in three community college students currently receives a Pell Grant. Pell is even more important to minority populations, with more than 60% of African American students and half of Hispanic students relying on Pell Grants to attend college (Institute for College Access & Success, 2016). Access to America's community colleges would not be possible for low-income students without Pell; it allows more than 2.7 million degree-seeking students to attend community colleges annually who could otherwise not afford to do so (AACC, 2016).

The funding of community colleges indirectly relies heavily on the Federal Pell Grant program. Through the students they serve, community colleges receive revenues from payment of tuition and fees. Tuition and fees now represent nearly half of the college budget for institutions of higher education (State Higher Education Executive Officers, 2015). With this number of students relying so heavily on Pell to attend school, even a very small change to the eligibility criteria for Pell can impact thousands of students, and further, disrupt the economies of community colleges.

The past tells us that both Republican and Democratic leaders believed in the value of Pell Grants to the American public and looked for ways to broaden the impact of

the program. The historical HEA reauthorization changes to Pell were by and large meant to broaden the reach of the program by both increasing the amount of maximum Pell grants and increasing the eligibility of the Pell grant to reach more low and middle-income students. The CAA was opposite of this historical trend and, until this study, the results of it are largely unknown and already forgotten in the chatter of current higher education issues.

The CAA consisted of three changes to the eligibility criteria for Pell (Katsinas, et al., 2013).

1. Changes in lifetime eligibility limits: Students can only receive Pell for a maximum of 12 semesters of full-time enrollment or 600% of their eligibility.
2. Pell only for poverty students: EFC is part of a needs analysis formula that determines how much money students are expected to have for education. The EFC is determined by many factors – marital status, counts of dependents, etc. In order to have an automatic EFC of zero, and be eligible for a full Pell Grant, the student's family cannot earn over \$23,000 per year. Prior to the change in fall 2012, the maximum family income was \$32,000.
3. Elimination of the ATB to receive federal funding. Students admitted to college on the ATB criteria are those students that do not have a GED or high school diploma. Students without a GED or high school diploma gain admittance into community college by other means (usually a literacy test) and become admitted into restricted short-term programs of less than

one year or 1-year certificate programs such as welding or truck driving.

These students are no longer eligible for a Pell Grant and must have a GED or high school diploma to receive these funds.

Beginning in the fall of 2012, these changes worked together to decrease the numbers of students eligible for Pell Grants. Overall, this study estimated \$1.4 billion less in Pell Grant funding based on the numbers of students who were enrolled during the 2012-2013 and 2013-2014 aid years, a 7% decline in expected funds over a 2-year period to public 2-year and nonprofit community colleges, an already struggling and underfunded sector of higher education (Mullin, 2010). Most importantly the estimates in declines were calculated using enrollment as a control variable – meaning less Pell grants for those attending school. This study did not address the students who dropped out because they lost Pell eligibility, nor did it account for students who made the decision to never attend college because they did not qualify for Pell under the new rules. The estimates in this study are conservative, and are based on the direct losses of those students enrolled in the community colleges.

Individual Pell funding at the state level could not be predicted as easily with linear models, but the majority (72%) of states were estimated to have lost Pell during the two years after the CAA went into effect. There was no winning in this study, however, only levels of losing. Many of the poorest states such as Mississippi and Louisiana showed no estimated decreases in funding based on trend analysis. Students attending in the states Alaska, Arkansas, Connecticut, Delaware, Florida, Georgia, Iowa, Kentucky, Louisiana, Massachusetts, Michigan, Mississippi, New York, Ohio, Texas, Virginia, Vermont, and West Virginia showed no estimated declines in Pell funds based on the

trends and despite the deep changes of the CAA in 2012. Students in these states were so below the thresholds that they qualified for Pell under the old and the new criteria. The study showed that most of the poorest states showed no estimated declines in Pell funds based on the trends and despite the deep changes of the CAA in 2012.

It has been stated that decreased subsidies have negative impacts on enrollment (Paulsen & Smart, 2001), and the underlying goal of the CAA was to decrease Pell funding. This is a lethal combination to the basic economies of community colleges. According to the State Higher Education Executive Officers FY 2015 State Higher Education Report, “The new normal no longer expects to see the level of recovery of state support for higher education that occurred repeatedly in the last half of the 20th century. The new normal expects students and their families to continue to make increasingly greater financial sacrifices in order to complete a postsecondary education,” (State Higher Education Executive Officers, 2015, p. 55).

Limitations of the Study

The limitations of this study included the following:

1. The participants in this study were defined as all public 2-year or nonprofit community colleges receiving Pell funding ($N = 1205$ colleges). IPEDS data are self-reported and unaudited. Data from Delaware and Indiana, for example, had anomalies in the aggregated data with unexplained and large fulgurations in Pell Grants during the years of the study.

2. There are a number of colleges in Michigan, Florida, and California that are now classified as 4-year colleges because they award a limited number of 4-year degrees. These colleges are normally thought of as community colleges but were not included in the study because of their recent re-classification as a 4-year public college in IPEDS.

General Recommendations for Policymakers and Practitioners

The CAA of 2012 left a lasting impact on the students affected by the law. A very basic linear regression analysis showed an estimated loss of \$1.4 billion dollars in the two years following the ACC implementation. The findings of this study generate several recommendations related to policy.

1. Federal lawmakers need to know the extent to which Pell was taken out of the community college system. Now that enrollments are similar to what they were in 2009, considerations should be given to reversing the CAA changes.
2. This research strongly suggests that aggregated data is not as reliable as a deep institutional assessment of changes in Pell funding. This study presents only one methodology for determining how the CAA affected a single community college. Once results are known, colleges should let their state and national representatives know the implications for their districts.

3. The findings of this research clearly show that the federal government removed billions of dollars in financial aid since 2012. Reductions in financial aid subsidies are known to create declines in college enrollment. This comes at a worse time, when the country needs more trained workers than ever before. Individual colleges should take losses in Pell Grant funding into consideration when determining factors related to enrollment declines.

Recommendations for Future Research

While this study isolated the changes in funding to the colleges based on enrollment, it did not determine the causal effects of the CAA on enrollment itself. It is well known that decreased subsidies have negative impacts on enrollment (Paulsen & Smart, 2001). There is a lack of data available at the national level to have reliable studies of these types. Future research should dive deep into institutional-level data and examine effects of the CAA on important topics such as enrollment changes and loan default rates. The researcher makes the following future research recommendations:

1. Determine the real impact of the CAA on enrollment declines in U.S. community colleges by devising methods to determine numbers of students stopping out of college due to the CAA changes and methods to determine numbers of students choosing not to go to college due to the CAA changes.
2. Extend the research to determine default rates of those impacted by the CAA of 2012.

Chapter Summary

Chapter V concludes the study with a summary of the results presented in Chapter IV, along with conclusions and discussion of findings. Limitations to the study were presented as well as general recommendations for policymakers and practitioners, and recommendations for future research.

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APPENDIX A

INSTITUTIONAL REVIEW BOARD APPROVAL EMAIL

From: <nmorse@orc.msstate.edu>

Date: Mon, Dec 15, 2014 at 1:17 PM

Subject: Study 14-395: Effects of the Consolidated Appropriations Act of 2012 Pell Grant eligibility requirements on enrollment in community colleges

To: tkw73@msstate.edu

Cc: nmorse@orc.msstate.edu, sking@colled.msstate.edu,

Protocol Title: Effects of the Consolidated Appropriations Act of 2012 Pell Grant eligibility requirements on enrollment in community colleges

Protocol Number: 14-395

Principal Investigator: Ms. Tracy Wilson

Date of Determination: 12/15/2014

Qualifying Exempt Category: 45 CFR 46.101(b)(4)

Dear Ms. Wilson:

The Human Research Protection Program has determined the above referenced project exempt from IRB review.

Please note the following:

- Retain a copy of this correspondence for your records.
- Only the MSU staff and students named on the application are approved as MSU investigators and/or key personnel for this study.
- You do not need to submit an application for annual continuing review; however, a new application must be submitted if the study is ongoing after 5 years from the date of approval. (SOP 01-03 Administrative Review of Applications)
- Any ! modifications to the project must be reviewed and approved by the HRPP prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project.

- Per university requirement, all research-related records (e.g. application materials, letters of support, signed consent forms, etc.) must be retained and available for audit for a period of at least 3 years after the research has ended.
- It is the responsibility of the investigator to promptly report events that may represent unanticipated problems involving risks to subjects or others.

This determination is issued under the Mississippi State University's OHRP Federalwide Assurance #FWA00000203. All forms and procedures can be found on the HRPP website: www.orc.msstate.edu.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at nmorse@orc.msstate.edu or call [662-325-5220](tel:662-325-5220).

Finally, we would greatly appreciate your feedback on the HRPP approval process. Please take a few minutes to complete our survey at <https://www.surveymonkey.com/s/PPM2FBP>.

Sincerely,

Nicole Morse, CIP
IRB Compliance Administrator

cc: Stephanie King (Advisor)