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Danette Elizabeth Toone

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**THE PROLIFERATION OF COLLEGE TUITION
AND FEE INFLATION CHARTS:
THE REALITY FOR TEXAS COMMUNITY COLLEGES, 1993 TO 2008**

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**THE PROLIFERATION OF COLLEGE TUITION
AND FEE INFLATION CHARTS:
THE REALITY FOR TEXAS COMMUNITY COLLEGES, 1993 TO 2008**

by

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Treatise

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DEDICATION

For my mother, Betty Ann, who sacrificed for her children: I admire all that you are.

And

for my daughters, Madison and Morgan: May you always achieve your dreams!

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Completing one's doctorate serves as a great reminder that "no man is an island." To persevere takes support and encouragement from family and friends, and I thank and appreciate each and every one of you. To my husband and children, John, Morgan, Madison, and Russ, who willingly watched me drive off to this adventure and for your continued faith in my judgment, support in my decisions, and laughter in all times; je t'aime. To my mother, Betty Ann, and my sister, Teresa, words will never express all you have taught me about life, love, and happiness – you both are the best! For those in the Community College Leadership Program (CCLP), especially Blocks 62, 63, and 64, thank you from the bottom of my heart for making this journey educational, fattening, and fun. You, and you alone, know the pain and triumphs of this particular journey and I value every text message, email, Facebook note, phone message, phone call, and conversation. They kept me motivated and moving forward.

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**THE PROLIFERATION OF COLLEGE TUITION
AND FEE INFLATION CHARTS:
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In 2006, the first college tuition and fee inflation chart was produced to illustrate the rate of increase of tuition and fees for colleges and universities in the U.S. This chart was created to highlight the decreasing affordability of higher education in America, and consequently, decreased access and participation of higher education. Currently, there are four authors who have produced five college tuition and fee inflation charts, as one author produced two charts in different years (Blumenstyk, 2008; Callan, 2006a; Callan, 2008; Wang, 2008; Wellman, 2006). The five basic charts are predicated on data which pertain to but do not differentiate between public and private two- and four-year graduate and undergraduate institutions of higher learning. The publication of charts that

do not differentiate between higher education sectors has effectively masked important institutional distinctions from the public. This study focused on the rate of increase of tuition and fees for the 50 Texas community colleges. Moreover, this study used the entire population data, not just sample data as depicted in the current charts using descriptive quantitative data from 1993 to 2008. This greater analysis of historical data allows community college leaders to describe their affordability challenges more accurately and, therefore, more effectively.

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CHAPTER 1: INTRODUCTION

“It is unlikely that state support will return to the same level community colleges enjoyed 20 to 30 years ago. But it is more likely that students will continue to enroll, seeking an affordable and accessible education” (Roueche & Jones, 2005, p. ix).

Background

The current economic crisis makes college affordability an important topic. The economic crisis has the potential to negatively impact government funding, causing tuition and fees charged to students to increase. This makes college affordability a critical issue for students, parents, legislators, governmental agencies, and educational leaders (Commission on the Future of Higher Education [Commission], 2006; Ehrenberg, 2000; Haycock, 2006; Kirsch, Braun, & Yamamoto, 2007; Mumper, 2001; National Center for Public Policy and Higher Education [NCPPE], 2006; National Center on Education and the Economy [NCEE], 2006; National Commission on Excellence in Education, 1983; Reindl, 2007; Riley, 2007).

The NCPPE (2000) characterized affordability as “Measur[ing] whether students and families can afford to pay for higher education, given economic circumstances, financial aid, and the types of colleges and universities in the state” (p. 15). Affordability is impacted by a web of individual, institutional, and economic factors. Affordability is contingent upon the tuition and fees that students and/or parents

pay. Affordability is affected by the amount of financial aid available to students and their access to a postsecondary education. Productivity of college personnel affects affordability, as do the number and age of facilities, enrollment growth, and the types of programs offered. The increasing need for developmental education and student support services affect affordability. Student success affects affordability. The value of a college degree to society and individuals is influenced by affordability. Federal and state revenue appropriations impact affordability. In short, affordability permeates all decisions of community colleges.

The community college was “established to provide skill-deficient students an additional two-year time period to prepare for senior college work” (Roueche, Ely, & Roueche, 2001, p. 9). The 1944 Servicemen's Readjustment Act, otherwise known as the GI Bill, had a significant impact on American higher education (Bennett, 1994; Kerr, 1994; Loss, 2005; Olson, 1994). A notable impact on higher education was the “enormous push to the long-term movement from mostly elite access before the War Between the States [U.S. Civil War] toward mass access through the land-grant movement after that war, and then toward universal access subsequent to World War II” (Kerr, 1994, p. 27). Universal access to higher education was accomplished by “guaranteeing a place for all young people who both wanted and were qualified to pursue higher education, with financial support provided to those who needed it. College attendance became a new entitlement” (p. 29). That “entitlement” to higher education, a consequence of the 1944 GI Bill, put a burden on government and higher education to maintain affordability. Without affordability, universal access was not possible.

Community colleges are predominantly funded by a triad of sources: tuition and fees, state appropriations, and local property taxes, which colleges in 26 states still collect (Education Commission of the States [ESC], 2000, p. 10). Tuition and fee revenues are monies that come from students' payments for courses. State appropriations are calculated using generally complex formulas, which lead to the allocation of funds for community colleges. Local property taxes are determined by citizens who approve property tax rates with revenues generated when the approved tax rate is applied to property values in the district.

Cohen and Brawer (as cited in ESC, 2000), reflected upon the historical context of funding sources for community colleges.

In 1918, local funds [local property tax revenues] made up 94% of the support for junior colleges, with the remaining 6% provided by tuition and fees. By 1992, local support to community colleges dropped to 18%, state support increased to 46%, and student tuition and fees covered 20%. (p. 10)

Knapp, Kelly-Reid, Ginder, and Miller (2008) presented contemporary data on the average revenue sources for community colleges. These sources consisted of tuition and fees that provided 16% of revenues; state appropriations that provided 30%; and local taxes that provided 18%, with remaining revenues provided by grants, contracts, gifts, and other income. As tuition and fees and local tax revenues remained fairly constant as a percentage of college revenues, state appropriations dropped 16% between the years of 1992 and 2007 (ESC, 2000; Knapp et al., 2008). This drop in state revenues led to further tuition and fee increases.

For colleges to be affordable and universally accessible, they were dependent upon state and federal support. Unfortunately this support for community colleges has declined over the past two decades. As Van der Werf (1999) elucidated, “Since 1980, state support has dropped from one-half to one-third of community college budgets. Support from federal and local sources has not increased” (para. 4). Roueche and Jones (2005) summarized the issue: “It is unlikely that state support will return to the same level community colleges enjoyed 20 to 30 years ago. But it is more likely that students will continue to enroll, seeking an affordable and accessible education” (p. ix).

The Texas Higher Education Coordinating Board [THECB] (2008) corroborated the statements of Van der Werf (1999) and Roueche and Jones (2005). Texas public community colleges received an almost 2% *decrease* in funding for the 2008-09 biennium as compared to the 2006-07 biennium. This decrease for community colleges occurred at a time when funding from state appropriations for Texas universities *increased* by 10.9% (pp. 1-2). Consequently, tuition and fee increases were necessitated as “two-year institutions . . . accounted for 61 percent, or 11,532 students – of the enrollment increase for fall 2007” (p. 2).

Rising tuition and fees, declining state financial support, and finite local tax support all impinge upon the affordability of community colleges. Zeidenberg (2008) articulated that community college resources are limited, yet community colleges must “educat[e] students that are both more disadvantaged and less prepared for college work. They are often asked to fulfill numerous missions, including providing academic, vocational, noncredit, and enrichment courses to their communities, and playing a role in

local economic development” (p. 53). To support these challenges, community colleges have increased tuition and fees.

Increased tuition and fees directly impact affordability, a key measurement of the *Measuring Up* report cards that have been published every two years since 2000. However, it was not until *Measuring Up 2006*, that the first chart appeared depicting “the increase in the price of college” (Callan, 2006a, p. 19). Since then, college tuition and fee inflation charts have proliferated (Blumenstyk, 2008; Callan, 2008; Wang, 2008; Wellman, 2006).

Conceptual Underpinnings for the Study

As support from state and local sources have declined, tuition and fees for higher education entities have been increasing (Baum & Ma, 2007a; Baum & Ma, 2007b; Immerwahr, Johnson, Gasbarra, Ott, & Rochkind, 2007; Riley, 2007; Wellman, Desrochers, & Lenihan, 2008).

Since the early 1980s, the rate of increase in the price of college has far outstripped price increases in other sectors of the economy, even health care. Over these years, median family income increased by 127%; college tuition and fees by 375%. (Callan, 2006a, p. 19)

The increase of tuition and fees is a national trend. Consequently, community colleges in Texas are also experiencing this phenomenon. Since 1997, in-district tuition and fee per credit rates for Texas community colleges have increased approximately 97% (Texas Association of Community Colleges [TACC], 1997; TACC, 2006). This compares to the Higher Education Price Index (HEPI) and the Consumer Price Index (CPI) that increased approximately 46% and 29% respectively, and are detailed in

Figure 1. However, Callan (2006a) suggested that the national increase of tuition and fees for the past ten years has been approximately 175%, which includes federal financial aid.

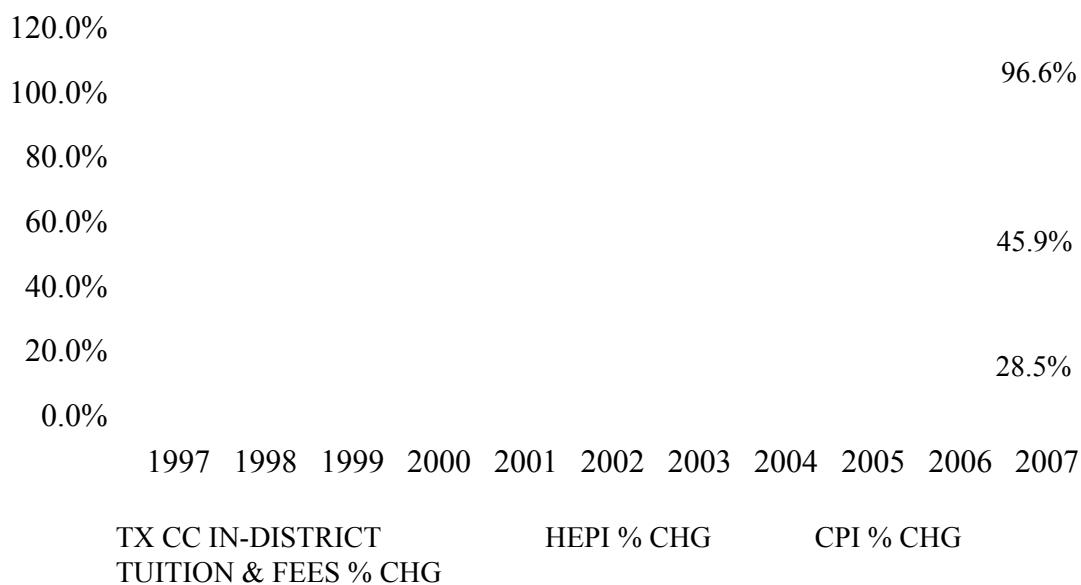


Figure 1. *Rate of Increase in Texas Community College Tuition and Fees per Semester Credit*

Note: Created from Commonfund Institute. (2007). *2007 HEPI: Higher education price index*. Retrieved July 25, 2008, from http://www.commonfund.org/Templates/Generic/RESOURCE_REQUEST/target.pdf?RES_GUID=EEF9FA9A-85D9-441D-BEC1-E46CAA23E7A7

Texas Association of Community Colleges. (1997). *Tuition and Fees, Fall 1997: Texas Public Community Colleges*. Retrieved November 8, 2007, from http://www.tacc.org/pdf/Tuition97_98.pdf

Texas Association of Community Colleges. (2006). *Academic year 2006-07 tuition and fees: Texas public community colleges*. Retrieved November 8, 2007, from http://www.tacc.org/pdf/tuition_0607.pdf

U.S. Department of Labor Bureau of Labor Statistics. (2008b). *Databases, tables & calculators by subject: Consumer price index-all urban consumers*. Retrieved February 15, 2009, from <http://data.gov/cgi-bin/dsrv>

Statement of the Problem

For over two decades, scholars have observed a decline in state funds contributed to community colleges as a percentage of total revenues. This is happening even though the absolute dollar amounts of state funds have often increased. Colleges have attempted to offset these revenue declines with increased tuition and fees (Wattenbarger & Vader, 1986; Honeyman, Williamson, & Wattenbarger, 1991). The increase in tuition and fees by higher education has produced a shift in the “nearly universal perception that the cost of education is rising dramatically. In fact, 59 percent of Americans say that higher education costs are going up as fast as or even faster than health care costs” (Immerwahr et al., 2007, p. 3).

The resultant focus on the rate of increase of tuition and fees has promulgated comparative inflation charts. These charts compare the annual rate of increase of tuition and fees against other national indices such as transportation costs, medical care expenses, health insurance costs, energy costs, personal and/or family income increases or decreases, and the CPI (Blumenstyk, 2008; Callan, 2006a; Callan, 2008; Wang, 2008; Wellman, 2006). Unfortunately, college tuition and fee inflation charts do not adequately differentiate between the types of higher education entities, and there are many. The Carnegie classification articulates 23 basic classifications of higher education institutions (The Carnegie Foundation for the Advancement of Teaching, 2008). Callan (2006b) synthesizes these 23 classifications into four major categories of higher education: public 4-year institutions, public 2-year institutions, private 4-year institutions, and private 2-year institutions (p. 10).

Because college tuition and fee inflation charts do not adequately differentiate between higher education sectors, community colleges are potentially perceived as more inflationary than they really are. Including all higher education institutions into one chart does disservice to all of the institutions, as different higher education sectors raise tuition and fees at differing times and in differing amounts. According to Hechinger (2005), “For private colleges, tuition increases peaked in the early 1980s, reaching as high as 14% in the 1981-1982 school year. Public university increases peaked at 13% in the 2003-2004 school year, a time when state budgets were tighter” (para. 12). Therefore, more research is needed to analyze specific categories of higher education.

Purpose of the Study

This study has provided descriptive quantitative data from 1993 to 2008 on the rate of change of revenues in 2008 constant dollars per full-time student equivalency (FTSE) for the 50 Texas public community college districts. It is anticipated this greater analysis of historical data will allow community college leaders to describe their affordability challenges more accurately and, therefore, more effectively. The tables and charts illustrated the rate of change of revenues per FTSE, analyzed in 2008 constant dollars. With this study, each Texas community college has a resource for clarifying college tuition and fee inflation charts which may be used in opposition to Texas community colleges by policymakers regarding funding or other community college issues.

Data were accumulated from four main sources within the THECB, from the Commonfund Institute, and the U.S. Bureau of Labor Statistics (BLS). Revenues for the

50 Texas community college districts were derived from each college district's *Annual Financial Report* (AFR), which were collected and compiled into spreadsheets by THECB (Pinkard, 2009). Contact hour data, which were the basis for FTSE calculations, were obtained from THECB annual *Statistical Reports* for the fiscal years 1993 through 2001 for credit and non-credit hours (Ashworth, 1993; Ashworth, 1994; Ashworth, 1995; Ashworth, 1996; Brown, 1997; Brown, 1998; Brown, 1999; Brown, 2000; Brown, 2001). Contact hour data for credit students were compiled from THECB website for fiscal years 2002 through 2008 (THECB, n.d.). Contact hour data for non-credit students for fiscal years 2002 through 2008 were acquired from THECB (McIver, 2008). These three data sources were assembled into spreadsheets for analysis. CPI data were employed to convert revenues into 2008 constant dollars and to allow comparison to existing college tuition and fee inflation charts.

Research Questions

1. Are Texas community colleges' tuition and fee revenues annual rates of increase equal to the *Measuring Up 2008* chart for college tuition and fees per FTSE in 2008 constant dollars?
2. Have Texas community colleges' tuition and fee revenues increased equally to state appropriations when based on FTSE in 2008 constant dollars?
3. What category of revenues for Texas community colleges has the highest rate of increase per FTSE in 2008 constant dollars?

Limitations, Assumptions, and Delimitations

College affordability encompasses many components of the college (Commission, 2006; Mumper, 2001; NCPPE, 2006; Riley, 2007). Affordability is

affected by expenditures of colleges; tuition and fees; availability of financial aid; and availability of government support from federal, state and local sources. As Mumper (2001) described, there are four responses that have been undertaken to address affordability. These include: “(1) alter the expenditure patterns of public colleges, (2) increase the revenues available to public college leaders to offset their rising costs, (3) redesign the delivery of higher education in order to make it more efficient and thus reduce its costs, and/or (4) increase the resources available to students and their families” (p. 331). While it was understood that affordability must be addressed on many fronts, this study concentrated on the increase of revenues through tuition, fees, state appropriations, and local tax revenues in 2008 constant dollars. This study does not address expenditures that Texas community college districts may incur. Nor did this study examine revenues prior to 1993, being limited by verifiable, consistent data. The lack of consistency in IPEDS data necessitated the sole use of THECB data.

Consistency was paramount to the study, and was a determinant for all assumptions. The first assumption was to closely align the study parameters with the *Measuring Up 2008* chart: Specifically to calculate tuition and fee revenues separately, but illustrate their rate of increase as a combined total. The second assumption was to calculate constant dollars in 2008 dollars. The third assumption was to use annual contact hours as the basis for FTSE calculations, which was necessitated because continuing education was reported in contact hours, not semester credit hours. It was believed that using annual numbers would be more accurate than limiting to each fall semester. The final assumption was to use the CPI as the basis for 2008 constant dollars,

as opposed to the theoretically more accurate HEPI. This assumption was made to allow for more accurate comparison to existing national college tuition and fee inflation charts. All existing national charts use the CPI, not the HEPI.

Two delimitations exist in this study. The first delimitation was to only investigate the 50 community college districts in Texas. This excluded other two-year institutions such as the Texas State Technical College system, Lamar two-year colleges, private two-year colleges, and public and private 4-year universities in Texas. The final delimitation was to exclude revenues for the years 1996 and 2004, as this data were not available from the THECB. Excluding these two years did not impact the validity of the study as the trend analysis was driven by the years 1993 and 2008. All years in between did not affect the trend outcome.

Definition of Key Terms

In order to provide a foundation of understanding, key terms are defined. These definitions are to clarify and facilitate an understanding of the terms within the contextual framework of this study.

Calculation of full-time student equivalent. Full-time student equivalency is based on annual contact hours for each community college. Contact hours were divided by 480, the equivalent of contact hours divided by 16 to equate contact hours to one semester credit hour further divided by 30, which is an annual full-time course load per student. Concomitantly, non-credit (continuing education) contact hours are divided by 900. The combination of credit and non-credit hours is the annual FTSE. Excluded from the calculation are contact hours that were not allowed for state funding reimbursement.

Consumer Price Index (CPI). The CPI is the U.S. Bureau of Labor Statistics' measure of the "average change over time in the prices paid by urban consumers for a market basket of consumer goods and services" (BLS, 2008a, question 1). The indices used in this study were based on the *average annual* prices for the twelve months in each calendar year, but not seasonally adjusted. The indices used in this study were: all items for urban consumers (CPI-U), college tuition and fees, food, housing, medical care, and transportation.

Constant dollars. Constant dollars convert the buying power of an amount of dollars from one point in time into the same buying power in another point in time. The constant dollars used in this study are 2008. The calculation used to convert all dollars into 2008 constant dollars was:

$$\text{Dollars in 2008} = (\text{Dollars at Time B}) \times \frac{\text{CPI for 2008}}{\text{CPI at Time B}}$$

Fee revenues. Fees are based on the THECB data derived from Texas community college AFRs. Fees include both unrestricted and restricted student fees. Unrestricted fees can include general, laboratory, registration, out-of-district, out-of-state, building use, facilities use, technology/internet/computer access/automation, student services, student use, student, distance learning, and other. Restricted fees are generally categorized as auxiliary and include: general, building use, student services, student use, student, security, and other.

Higher Education Price Index (HEPI). The HEPI is an inflation index which tracks those costs that are endemic to higher education so it is generally considered a

better indicator of higher education inflation than the CPI. The HEPI “measures the average relative level of prices in a fixed basket of goods and services purchased by colleges and universities each year through current fund educational and general expenditures, excluding research” (Commonfund Institute, 2007, p. 1).

Local tax revenues. Local tax revenues are derived from ad valorem or property taxes. These are local taxes whereby “Local officials appraise and set the value of your property, set your tax rates and collect your taxes” (Combs, 2008, para. 1). These are the local revenues generated for the college.

State appropriations. State appropriations are the annual revenues that Texas community colleges receive from the state government. The actual amounts are derived from Texas Higher Education Coordinating Board data. State appropriations include basic appropriations, state group insurance funds, state retirement matching funds, higher education annual funds (HEAF), and other funds.

Texas community college. “Texas public junior colleges shall be two-year institutions primarily serving their local taxing districts and service areas in Texas and offering vocational, technical, and academic courses for certification or associate degrees” (Texas Education Code, 2008, p. 2).

Tuition revenues. Tuition revenues are based on the THECB data derived from Texas community college AFRs. Tuition includes in-district, out-of-district, out-of-state/international, Texas Public Education Grant (TPEG) set asides, continental and international operations, continuing education/non-credit vocational, and non-state funded continuing education.

Summary

College affordability is a critical issue that permeates all decisions of community colleges. The major revenue factors that affect affordability for Texas community colleges are tuition and fees, state appropriations, and local revenues. A decrease in state appropriations coupled with limited local revenues may well have necessitated an increase in tuition and fees, especially in times of increased enrollment and diversifying services.

Nationally, increases in tuition and fees are being defined by college tuition and fee inflation charts. These charts compare the annual rate of increase of tuition and fees to national indices, with tuition and fees showing the highest gain. However, the current college tuition and fee inflation charts do not differentiate between higher education categories. This is a disservice to higher education institutions, specifically for community colleges. Therefore, the intent of this study is to research the rate of increase of tuition and fees for Texas community colleges.

CHAPTER 2: REVIEW OF RELATED LITERATURE

Higher education is predominantly funded by three main sources of revenues. These sources consist of: tuition and fees, state appropriations, and local property taxes. For the past two decades, state appropriations to community colleges as a percentage of total revenues have declined, even though the absolute dollar amounts of state funds have often increased. To offset these revenue declines, colleges have often increased tuition and fees (Wattenbarger & Vader, 1986; Honeyman, Williamson, & Wattenbarger, 1991). This shift in funding has resulted in a focus on the rate of increase of tuition and fees, which initiated inflation charts. The inflation charts have compared the annual rate of increase of tuition and fees against national indices, which included transportation costs, medical care expenses, health insurance costs, energy costs, personal and/or family income increases or decreases, and the CPI (Blumenstyk, 2008; Callan, 2006a; Callan, 2008; Wang, 2008; Wellman, 2006). However, current college tuition and fee inflation charts do not differentiate between the types of higher education entities. Because college tuition and fee inflation charts do not differentiate between higher education categories, community colleges are potentially perceived as more inflationary than reality. Therefore, more research is needed to analyze specific categories of higher education, such as Texas community colleges.

According to Roueche and Jones (2005), postsecondary education is continually changing to meet the challenges of government and industry, but funding these changes and innovation takes creativity. “Technology, globalization, accountability, recruitment

and retention, workforce development, diversity, and accreditation each represent full-time and compelling work. All are challenged by funding issues” (p. x). To exacerbate the challenges for funding community colleges is “the mission of the community college, built in concert with the communities they serve, has resulted in the adoption of many activities and roles not found in other sectors of higher education” (Voorhees, 2001, p. 481). These myriad activities and roles, such as developmental education, workforce training and retraining, English as a second language, community development, general education development (GED), and improved accountability systems require more financial resources. As a result, community colleges are in peril of not sustaining programs and support services needed in periods of declining resources unless tuition and fees are periodically increased.

Rapidly evolving technological advances, driven by a global knowledge-based economy, are changing the requirements needed in today’s workforce. “Globalization is changing how nations and communities envision and support economic development, how businesses seek talent and offer services and products across borders, and how residents perceive and expand their own opportunities” (Davies, 2006, p. 1). The United States is being challenged “technologically, scientifically, and economically” by other nations such as India and China (p. 1). This challenge was corroborated by the National Center on Education and the Economy (2006), which contended, “While our relative position in the world’s education league tables has continued its long slow decline, the structure of the global economy has continued to evolve. Every day, more and more of the work that people do ends up in a digitized form” (p. 4). These technological

advances allow employers to hire employees from anywhere in the world as “place” is no longer a limitation for employers or employees. Technological advances have caused a shift in employment requirements, too. Principally the shift reflected a movement toward higher skills and lower wages. To compete in the global economy, citizens must have relevant job training skills and maintain a higher level of education than in years past.

The Environmental Context of Community Colleges

Aristotle is noted for saying that education is the best provision for old age (Hosterman, 2006, p. 1). While the engines that drive today’s economy are vastly different from those in Aristotle’s time, education is still the means to personal, economic, and intellectual prosperity and to expanding economic opportunities for communities, regions, states, and nations. Krueger and Rainwater (2003) acknowledged that “The information age provides today’s education system with yet another defining moment. No longer is a high school diploma a ticket to a high-paying job. Instead, receiving education beyond high school has become critical to finding economic security” (p.4). The BLS (2008c) revealed that in September 2008, the unemployment rate for the American civilian population 25 years and over without a high school diploma or GED was 9.6%. When comparing the GED rate to those with some college or an associate’s degree, the unemployment rate fell to 5.0%, an almost 50% reduction in unemployment (Table A-4). This reinforces the concept that education pays, and is critical.

National Environment

From the 1980s to today, there have been a plethora of articles, monographs, and studies that point to a declining United States education system (Boswell & Wilson, 2004; Brock, 1993; Commission, 2006; Kirsch, Braun, & Yamamoto, 2007; National Association of Manufacturers, 2005; NCEE, 2006; National Commission on Excellence in Education, 1983). Davies (2006) stated,

While other nations are making significant gains in educating their populations, educational achievement in the United States has stagnated over the last two decades. . . .[T]he educational advancement of other nations compared with the United States may change both the way we live and the freedoms we enjoy. (p. 1)

According to former U.S. Secretary of Education, Margaret Spellings, some of the issues that led education to this point are associated with accountability, accessibility, innovation, quality learning, and affordability (Commission, 2006). While each issue is independent from the others, in terms of actions needing to be undertaken, they are also interrelated. Higher education entities have paid for needed innovations, increased access, improved quality learning, and enhanced accountability systems with increased tuition and fees. These have adversely affected affordability.

The reality of increased rates of tuition and fees for colleges and universities is that affordability has negatively impacted students. According to Roueche, Johnson, Roueche, and Associates (1997),

public inquiries into what colleges say they will do, what they actually do, and how well they do it have become increasingly more heated. Declining confidence in the value of a college degree . . . has increased the public's concern that higher education may no longer be a wise investment of time, energy, and money. (Preface)

Affordability and colleges' needs to support their varied roles and activities must then be addressed by avenues other than increased tuition and fees, as highlighted by several studies, articles, and monographs (Callan, Ewell, Finney, & Jones, 2007; Commission, 2006; Lumina Foundation for Education, 2005; Martin, 2005; Reindl, 2008).

State Environment

The state environment has a large impact on colleges' affordability. As Honeyman et al. (1991) explained:

Community colleges were often started during periods of rapid growth in the college age population as less expensive, alternative methods to educate freshman and sophomore students. In some instances community colleges were treated with special concern during these initial stages. But, however special the original [state] mandates were, the procedures eventually supported the K-12 and university sectors at the expense of the community colleges. (p. 1)

This funding shift away from community colleges has been evident in past Texas legislative sessions.

Community colleges in Texas accounted for 61% of the enrollment increase for fall 2007 yet received a 1.66 percent decrease in state appropriations during the same time period (THECB, 2008, pp. 1-2). These reductions in state appropriations put additional pressure on tuition and fees and local funding streams for Texas community colleges. Reduced financial resources have necessitated generating revenues to meet the obligations mandated by the mission of community colleges through increased tuition and fees. Yet, affordability must be carefully considered for community colleges to maintain access as open door institutions.

Tuition and Fee Inflation Charts

The triad of major revenue sources for community colleges is shifting. Rising tuition and fees, declining state financial support, and finite local tax support all impinge upon the affordability of community colleges. As Vaughn (2006) stated, “the community college mission is to provide access to postsecondary educational programs and services that lead to stronger, more vital communities” (p. 3). Community colleges accomplish their missions by serving not just the academically prepared, but also a diverse population.

The American Association of Community Colleges [AACC] (2008) reported that nationally, community colleges constituted 46% of African-American undergraduate students, 55% of undergraduate Hispanic students, 46% of Asian/Pacific Islander undergraduates, and 55% of Native American undergraduate students. Many of these students come from low socio-economic backgrounds, with almost half of community college students receiving financial aid and over 75% of full-time community college students working at least part time. These demographics signify “the importance of and the necessity for the open access mission” of community colleges (Shannon & Smith, 2006).

To address these challenges in response to reduced state and local revenue support, community colleges have had to increase their tuition and fees. The cycle continues in reduced appropriations, increased enrollment, and increased tuition and fees for public higher education institutions. This cycle has resulted in a proliferation of

college tuition and fee inflation charts (Blumenstyk, 2008; Callan, 2006a; Callan, 2008; Wang, 2008; Wellman, 2006).

Measuring Up 2006

Measuring Up, since 2000, has become the “report card” on higher education for each of the 50 states. The report card grades each state’s performance in six areas. These areas include: preparation for college, participation, completion, affordability, benefits, and learning. Of these, affordability is deemed to be “dismal” (Callan, 2006a, p. 19). According to the NCPPHE (2006), “The nation’s colleges and universities have become less affordable for students and their families since the early 1990s. This year, no states received an “A” or a “B” in this category, and 43 states flunked, reflecting the deterioration of college affordability” (p. 13). The decline in affordability is a major issue with which all colleges must grapple.

Continually increasing tuition and fees is not an option or an unlimited source of funds. Symonds (2003) reported that shifting resources from state appropriations to tuition and fees puts community colleges at risk. “Community colleges are more vulnerable since they get up to 80% of their funds from state and local governments. Yet these schools will bear the brunt of the coming enrollment boom” (para. 32). Texas community colleges are dealing with the enrollment growth, while at the same time state appropriations have declined by 2%.

Patrick Callan, author of the *Measuring Up 2006* college tuition and fee inflation chart, was quoted for a *BusinessWeek Magazine* article. Callan expounded on the affordability issue:

But suddenly, this cornerstone of the U.S. economy [higher education] is threatened by escalating costs, diminished revenues, and a troubling inability to manage the crisis. College costs "are rising faster than any other major sector of the economy except health care," says Patrick Callan, president of the National Center for Public Policy & Higher Education. Many factors are responsible, including some created by the institutions themselves, from huge inefficiencies to rampant tuition discounting at many private colleges. The elite schools, meanwhile -- such as Yale, Brown, and Harvard -- have massive endowments that largely insulate them from the squeeze, creating a world apart. They keep adding costly programs and fancy facilities to attract the best students but in the process have fueled a veritable arms race that's crippling many poorer private colleges trying frantically to keep up. (as cited in Symond, 2003, para. 5)

By 2006, Callan published the first college tuition and fee inflation chart, depicted in Figure 2, which included the aforementioned health care costs as now being less than increases in tuition and fees. Callan included detail regarding the sources of data used to create the chart. "College Tuition/Fees represent sticker price tuition and fees less all types of grant aid except grants related to athletics and other student talents for undergraduate and graduate studies at 2-year or 4-year colleges, major universities, and professional schools. Room and board charges and textbook charges are not included. Data were collected from 88 metropolitan cities" (p. 19).

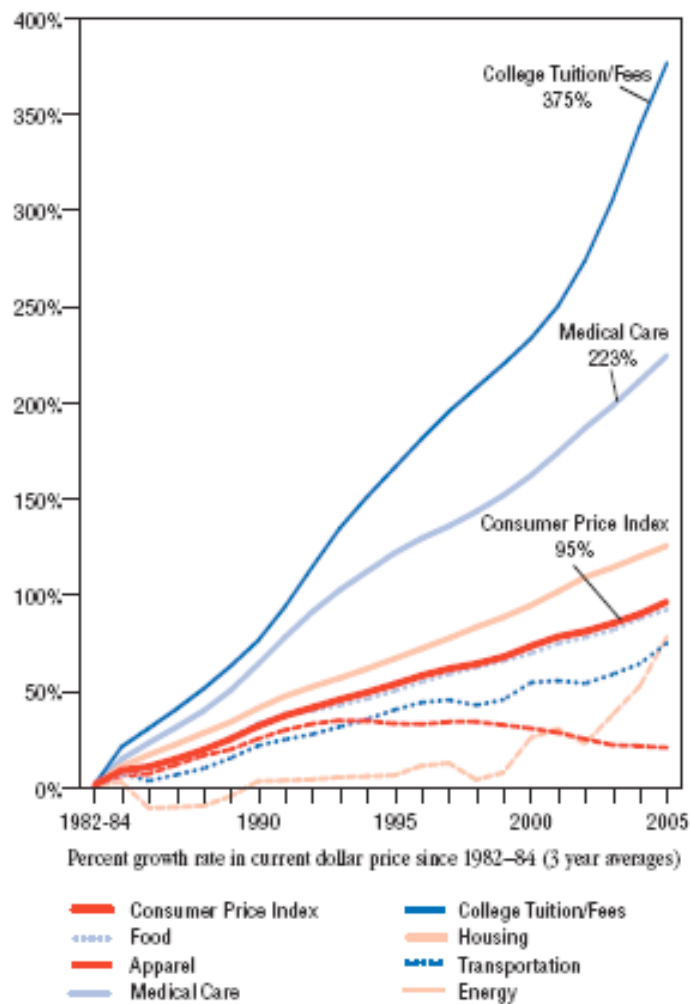


Figure 2. *Measuring Up 2006 College Tuition and Fee Inflation Chart*

Note: Callan. (2006). College Affordability: Colleges, States Increase Financial Burdens on Students and Families. *Measuring Up 2006: The National Report Card on Higher Education*, (p. 19). Retrieved September 13, 2007, from http://measuringup.highereducation.org/_docs/2006/NationalReport_2006.pdf

It is the reliance on general, national-based indices, which necessitated the creation of a Texas community college specific tuition and fee inflation chart to provide data for accurate and effective narratives.

The Secretary of Education's Commission on the Future of Higher Education

Wellman (2006) was commissioned by the Secretary of Education's Commission on the Future of Higher Education to provide background information on college affordability. Wellman provided testimony to the U.S. House of Representatives Higher Education subcommittee regarding the rise of tuition and fees. Wellman testified that tuition increases have come mainly as a response to a decline in state appropriations. She provided data that documented "institutions increased their median tuition price by 35 to 40 percent from 1999 to 2005, despite small increases or even decreases in their overall spending. "The tuition increases were just to keep up" given the failure of state funds to keep pace, Wellman said" (para. 7).

Addressing the specific issues of community colleges, Wellman (2006) explained that unlike private institutions that can either increase tuition or cut enrollment as a response to constrained revenues, community colleges do not have the same opportunities. "They are less able to fully replace lost state funds with tuition revenues . . . and historically have had less control over student admission access. . . . So they are faced with a greater imperative to cut costs" (p. 9).

Even though Wellman (2006) gave justification for tuition and fee increases, there was also "a sense of alarm if not crisis in higher education finance in the United States" (p. 1). The creation of a college tuition and fee inflation chart became a visual

aid depicting “Over the last twenty-five years, average tuition and fees have increased faster than inflation, per capita personal income, consumer prices, prescription health care, and even health insurance” (p. 1). These increases are highlighted in Figure 3, which included the aforementioned income and costs.

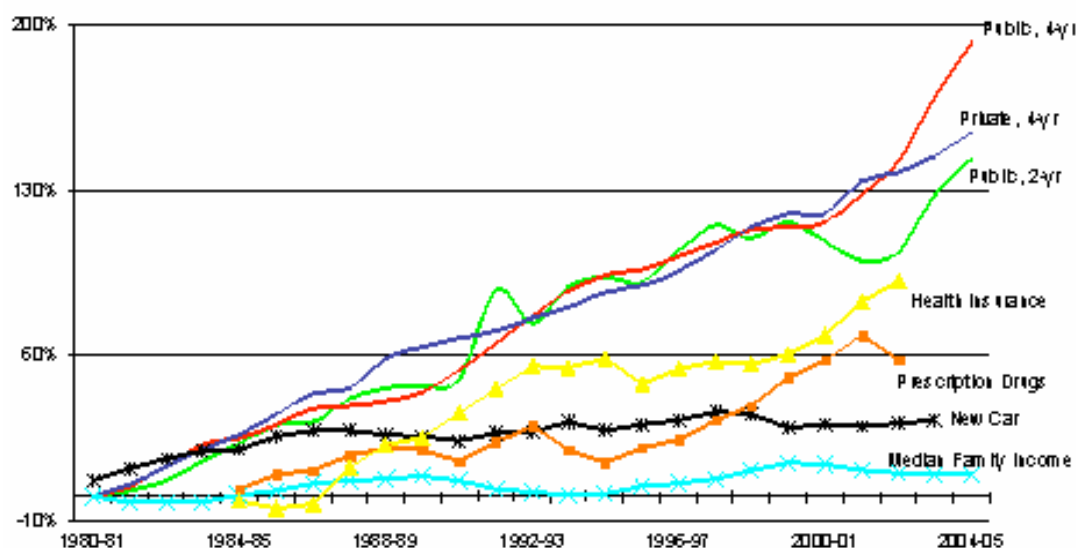


Figure 3. *Issue Paper for the Secretary of Education’s Commission on the Future of Higher Education College Tuition and Fee Inflation Chart*

Note: Wellman. (2006). *Costs, prices and affordability: A background paper for the Secretary’s Commission on the Future of Higher Education*, (p. 2). Retrieved October 11, 2008, from <http://www.ed.gov/about/bdscomm/list/hiedfuture/reports/wellman.pdf>

Wellman’s chart was also used by Haycock (2006); Reindl (2007); and Corzine, Altman, and Anderson (2007). Haycock argued that state and federal government made an explicit promise to those seeking higher education that they [government] would help. “President Lyndon Baines Johnson and the 89th Congress made a solemn promise to America’s young people in 1965. “Tell them,” said the President, ‘that the leadership

of your country believes it is the obligation of your Nation to provide and permit and assist every child born in these borders to receive all the education that he can take' ” (p. 1). Haycock further elaborated that “over the past few decades, we’ve gradually abandoned that promise, and along with it the promise of far too many of our children” (p. 1).

Reindl (2007) articulated that affordability affects access for “minority groups, non-traditional-age college students, and students from low-income backgrounds” (p. 1). In order to close this education gap, access needs to be encouraged by making college affordable. As Reindl noted, the U.S.,

needs to increase its production of postsecondary education degrees and reduce gaps in achievement among racial and socioeconomic groups. Otherwise, the country will not be able to meet workforce needs, maintain international economic competitiveness, and improve the quality of life for all Americans. (p. 1)

Corzine et al. (2007) presented a financial outlook presentation about New Jersey colleges and universities, which included Wellman’s chart. Affordability, access, and government promises are all depicted in college tuition and fee inflation charts. Wellman’s chart, as depicted in Figure 4, was confirmation that government abandoned its promise of affordable education. Moreover, Reindl’s chart, depicted in Figure 5, was confirmation that affordability affects access. Finally, Corzine et al.’s chart, depicted in Figure 6, was confirmation of declining higher education affordability.

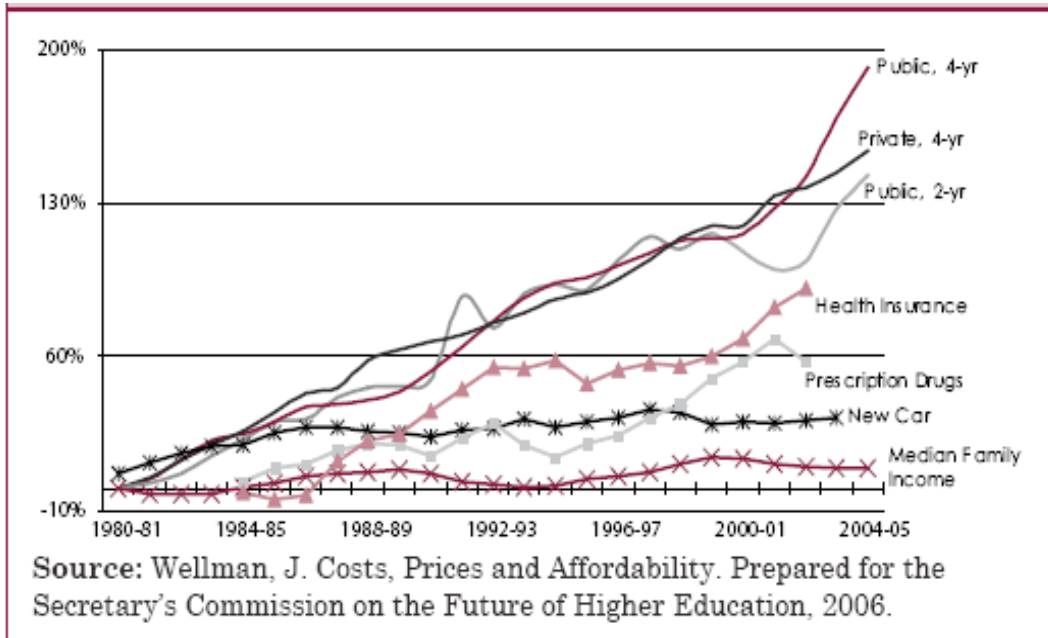


Figure 4. *The Education Trust College Tuition and Fee Inflation Chart*

Note: Haycock. (2006). *Promise abandoned: How policy choices and institutional practices restrict college opportunities*, (p. 3). Retrieved September 15, 2008, from <http://www2.edtrust.org/NR/rdonlyres/B6772F1A-116D-4827-A326-F8CFAD33975A/0/PromiseAbandonedHigherEd.pdf>

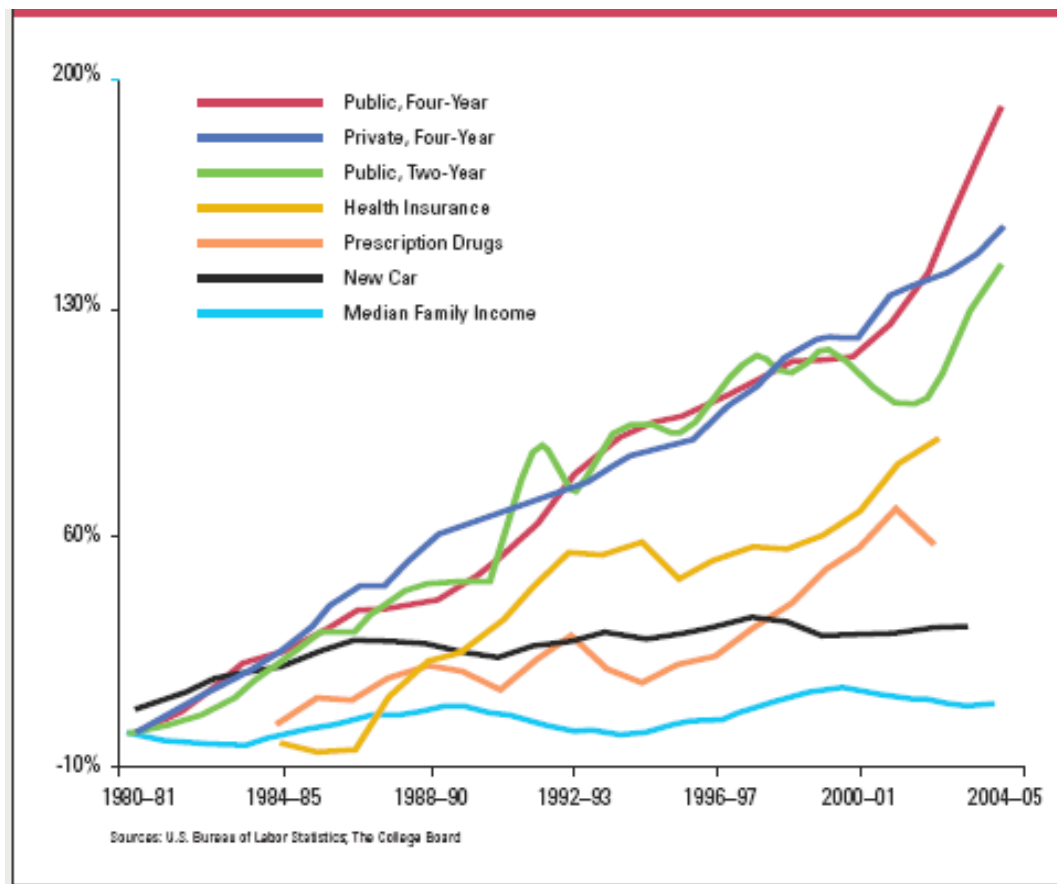


Figure 5. *Jobs for the Future/Making Opportunity Affordable College Tuition and Fee Inflation Chart*

Note: Reindl. (2007). *Hitting home: Quality, cost, and access challenges confronting higher education today*. Indianapolis, IN: Lumina Foundation for Education, (p. 2).

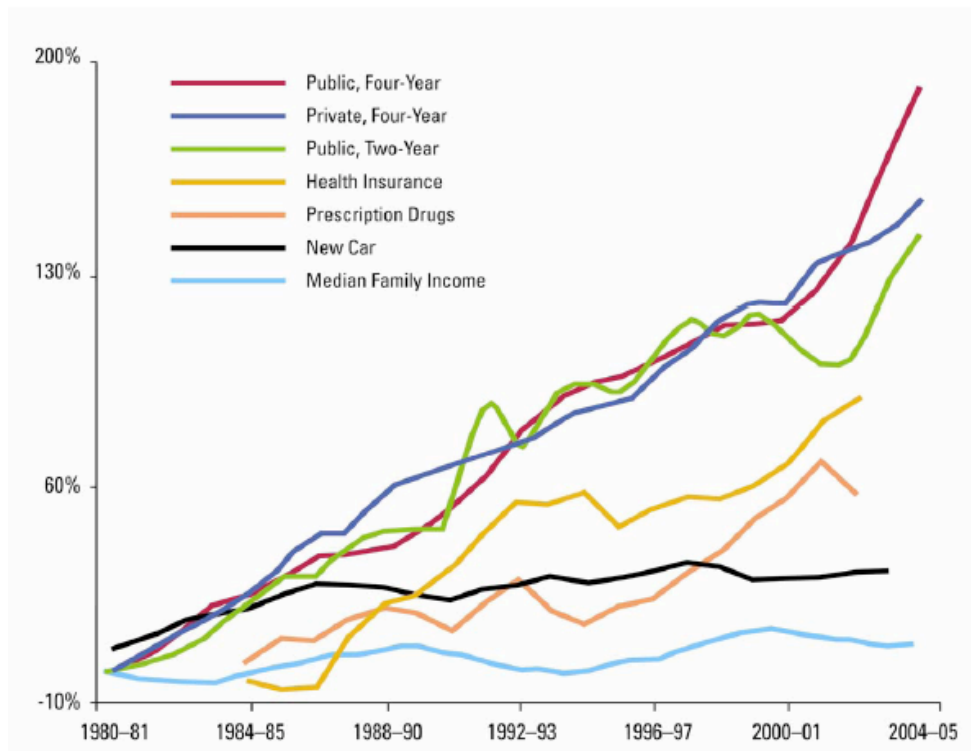


Figure 6. *New Jersey Educational Facilities Authority College Tuition and Fee Inflation Chart*

Note: Corzine, Altman, & Anderson. (2007). *Building futures for 41 years: The New Jersey institutional investors forum X*, (p. 26). Retrieved October 13, 2008, from <http://www.njefa.com/njefa/pdf/presentation/II%20conference%202007%20pp.pdf>

It is the reliance on general, national-based indices, which necessitated the creation of a Texas community college specific tuition and fee inflation chart to provide data for accurate and effective narratives.

The Chronicle of Higher Education

There are two observations that address the issue of tuition increases in higher education. “The problem is real, but it isn’t nearly as bad as the general public perceives it to be. The problem also is no longer nearly as dismissible as many higher-education and policy leaders have let it become” (Blumenstyk, 2008, p. 3). The good news for community colleges is that approximately 40% of the 18 million students enrolled in nonprofit colleges attend community colleges. Community colleges’ tuition and fees average \$2,400 per year (p.3). Although, community colleges could do better for students, as the chart in Figure 7 reiterates, with a 10-year increase in tuition and fees of over 80%.

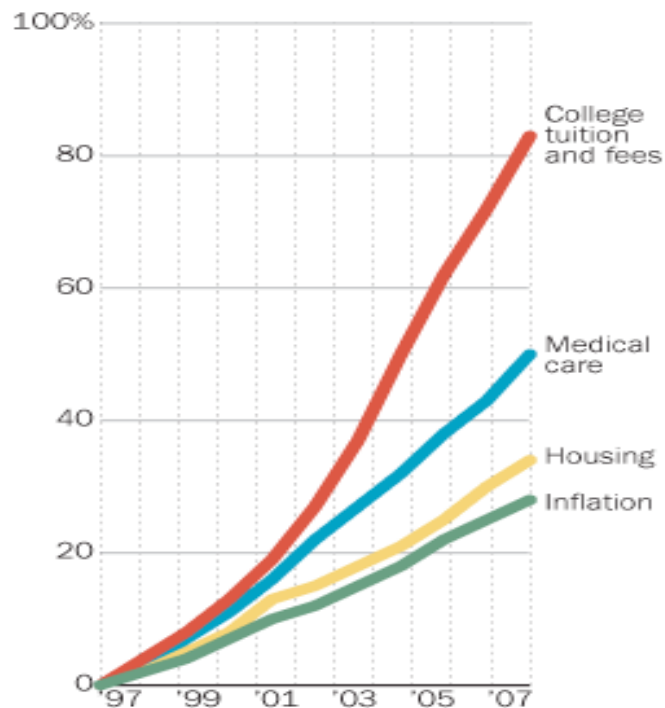


Figure 7. *The Chronicle of Higher Education College Tuition and Fee Inflation Chart*

Note: Blumenstyk. (2008). The \$375-billion question: Why does college cost so much? *The Chronicle of Higher Education*, (p. 6). Retrieved October 11, 2008, from <http://chronicle.com/weekly/v55/i06/06a00101.htm>

It is the reliance on general, national-based indices, which necessitated the creation of a Texas community college specific tuition and fee inflation chart to provide data for accurate and effective narratives.

Money Magazine

The fourth chart was created for *Money Magazine*. While Wang (2008) generally explained the rise in tuition regarding private and Ivy League universities, credence was given to the attainment of a degree. Wang tended toward incendiary language with words such as “jacking up tuition,” “skyrocketed 439%,” “steep price tag,” “spiraling wildly out of control,” and “a backlash is brewing” (pp. 1-2). However, Wang also reiterated, “No matter what your income is now, your child’s chances of earning top dollar still improve greatly with a B.A. – whether the degree is from an Ivy League school or not” (p. 1).

The chart in Figure 8 illustrates that colleges are “jacking up tuition at a faster rate than costs have risen on any other major product or service-four times faster than the overall inflation rate and faster even than increases in the price of gasoline or health care. . . . The result: After adjusting for financial aid, the amount families pay for college has skyrocketed 439%” (Wang, 2008, p. 1).

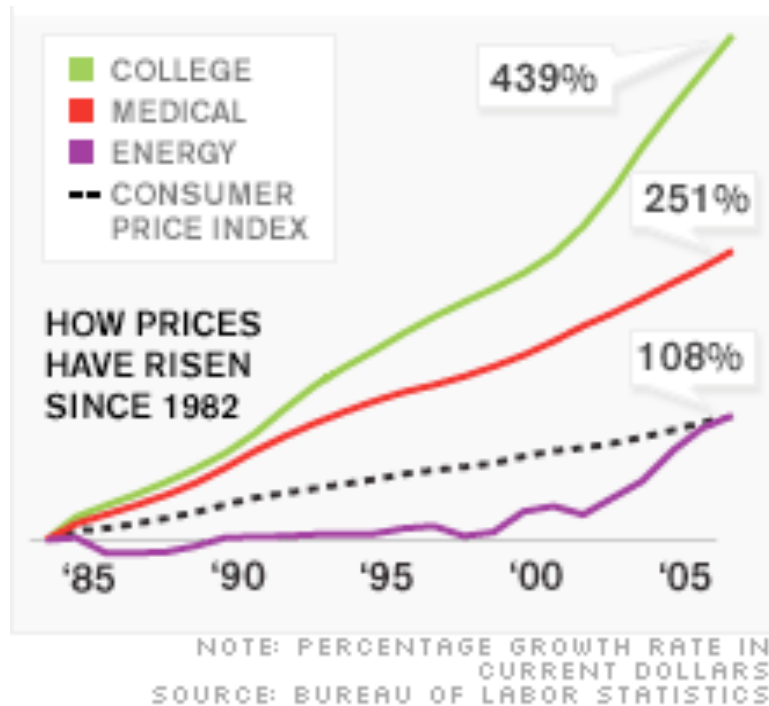


Figure 8. *Money Magazine College Tuition and Fee Inflation Chart*

Note: Wang. (2008). Is college still worth the price? *Money Magazine*, (p. 1). Retrieved September 1, 2008, from http://money.cnn.com/2008/08/20/pf/college/college_price.moneymag/index.htm?postversion=2008082113

Similar to Callan (2006a), Wang (2008) included details regarding the source of data used to create the *Money Magazine* chart. Contrasting Wellman and Haycock, Wang moves from providing information to persuasion. While these charts first appeared to help understand a government appropriation decline, they are now moving into the realm of having a life of their own. It is the new direction, as well as the continued lack of specific detail that necessitated the creation of a Texas community

college specific tuition and fee inflation chart to provide data for accurate and effective narratives.

Measuring Up 2008

The latest tuition and fee inflation chart appeared in *Measuring Up 2008*. Over the 25 year period of 1982 through 2007, Callan (2008) noted that the increase in tuition and fees for colleges and universities was 439%, as depicted in Figure 9.

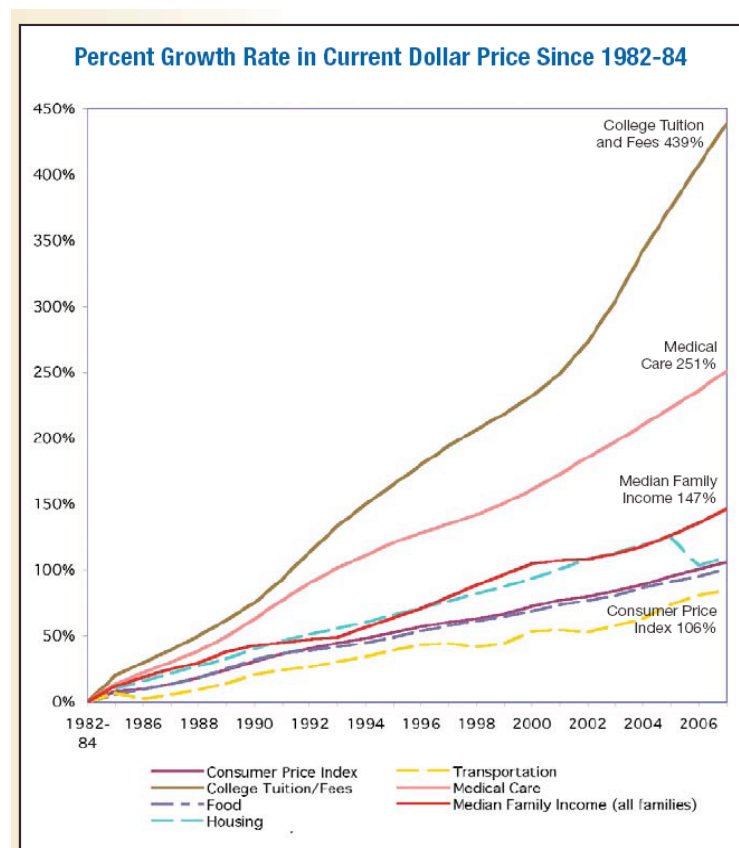


Figure 9. *Measuring Up 2008 College Tuition and Fee Inflation Chart*

Note: Callan. (2008). The 2008 national report card: Modest improvements, persistent disparities, eroding global competitiveness. *Measuring Up 2008: The National Report Card on Higher Education*, (pp. 5-9). Retrieved January 2, 2009, from <http://measuringup2008.highereducation.org/print/NCPHEMUNationalRpt.pdf>

Callan underscored one of the reasons for tuition and fee inflation: state appropriations.

States are grappling with substantial budget shortfalls. . . . They can respond to their current budget crises in the usual patterns of the past, by allowing tuition and student aid policy to play second fiddle to institutional finance. States that select this course will most likely see precipitous tuition increases, cuts in student financial aid, and drops in college access. Further, if states take this path in being passive and complicit in allowing the brunt of the financial distress to be passed to students and families, then our national and state gaps in college access and completion will worsen, and college affordability will continue to deteriorate. (p. 9)

This worsening of affordability has been graphically depicted by college tuition and inflation charts. It is the reliance on national-based indices that necessitated the creation of a Texas community college specific tuition and fee inflation chart to provide data for accurate and effective narratives.

Summary

Blumenstyk (2008) noted that public colleges, including community colleges, have a “growing reliance on tuition... where revenues from subsidies are shrinking” (p. 4). And this reliance on tuition will continue unless state appropriations increase and/or college expenses decrease. Blumenstyk observed that, “In fact, state and local financing of public colleges, across the board, has grown. But so has the number of students at public colleges. As a result, per-student spending actually declined by nearly 8 percent in the five years after 2002” (p. 4). This decrease in per-student appropriation is not likely to change as “state support for higher education has declined in every recession, and ‘current economic indicators do not give much room for optimism’ ... [Since early 2008], prospects for states’ coming to colleges’ rescue have grown even dimmer” (p. 4).

With little expectation that state appropriations will re-surge, Texas community college leaders must prepare for funding deficits and the resulting revenue generation sources. One strategy is to visually explain to the public the key reason for tuition increases: state appropriation reductions. The depiction of the rate of change for Texas community colleges' tuition and fees, compared with state appropriations that are weighted by FTSEs, will allow community college leaders to describe their affordability challenges more accurately and, consequently, more effectively.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

Affordability affects almost all aspects of community college decisions. As Miller and Oldham (2006) elucidated, community colleges increase tuition and fees, which are passed along to students. One reason for the needed increase in tuition and fees is that federal and state support for higher education is seen as,

less urgent than other budget priorities (defense, homeland security, disaster relief at the federal level, Medicaid and K-12 education at the state level, for example). Left unchecked, Medicaid and other entitlement programs are projected to crowd out basic public investments in the future. (p. 2)

Community colleges must remain vigilant regarding increasing tuition and fees, as well as exploring new resources for revenues needed to support enrollment growth.

The purpose of this study, using descriptive quantitative research methodology, was to provide detailed descriptive data from 1993 to 2008 on the rate of change of constant dollar revenues for the 50 Texas public community college districts. The data were analyzed and presented in chart and table format, which allowed for comparison with existing national chart depictions. This study presented tuition, fee, local tax revenue, and state appropriation data that were specific to Texas community colleges, allowing for dialogue and policy based on facts. Currently, dialogue and policy are based on national figures that are not necessarily representative of Texas community colleges.

Adjusting to 2008 constant dollars per FTSE, the data were analyzed to determine the rate of increase of tuition and fees compared to the rate of increase or

decrease of state and local tax revenue funding. This greater analysis of historical data will allow Texas community college leaders to describe their affordability challenges more accurately and effectively.

Problem and Purpose Overview

Currently, there are four authors who have produced college tuition and fee inflation charts (Blumenstyk, 2008; Callan, 2006a; Callan, 2008; Wang, 2008; Wellman, 2006). However, there are no studies that detail the rate of increase of tuition and fees for Texas community colleges, specifically. Moreover, this study used the entire population data – all 50 Texas community college districts – not national indices, as the existing charts utilize.

As Callan (2006a) detailed, “Data were collected from 88 metropolitan cities” (p. 19). These data contain public and private two- and four-year graduate and undergraduate institutions of higher learning. The result of the publication of the current charts has been a public view that does not differentiate between types of higher education institutions. It is the purpose of this study to disaggregate the data specific to Texas community colleges.

Research Questions

1. Are Texas community colleges’ tuition and fee revenues annual rates of increase equal to the *Measuring Up 2008* chart for college tuition and fees per FTSE in 2008 constant dollars?
2. Have Texas community colleges’ tuition and fee revenues increased equally to state appropriations when based on FTSE in 2008 constant dollars?

3. What category of revenues for Texas community colleges has the highest rate of increase per FTSE in 2008 constant dollars?

Population

Descriptive quantitative research methodology was used in this study and therefore made use of population data. The data included 15 years of Texas community college district tuition, fees, local tax revenues, and state appropriations, as collected from THECB (Pinkard, 2009). The second data set were the FTSEs for Texas community college districts over the 15 year time period, as derived from the THECBs PREP (Profile Reports Electronically Produced) website, spreadsheets compiled by THECB staff, and the annual *Statistical Reports* produced by THECB (Ashworth, 1993; Ashworth, 1994; Ashworth, 1995; Ashworth, 1996; Brown, 1997; Brown, 1998; Brown, 1999; Brown, 2000; Brown, 2001; McIver, 2008, THECB, n.d.).

Contact hour data for credit students were compiled from the THECBs PREP website for fiscal years 2002 through 2008 (THECB, n.d.). Contact hour data for non-credit students for fiscal years 2002 through 2008 were acquired from THECB (McIver, 2008). Prior to 2002, contact hour data for both credit and non-credit students were ascertained from annual *Statistical Reports* (Ashworth, 1993; Ashworth, 1994; Ashworth, 1995; Ashworth, 1996; Brown, 1997; Brown, 1998; Brown, 1999; Brown, 2000; Brown, 2001). The third data set included HEPI and consumer price indices for the 15 year period, which were retrieved from Commonfund Institute and the Bureau of Labor Statistics, respectively (Commonfund Institute, 2008; BLS, 2008b).

Data Collection and Instrumentation

This study analyzed data from four primary data sets: the THECB annual compilation of the 50 Texas community college districts' AFRs, the THECB Statistical Reports through 2001 and via THECB website and spreadsheets for years 2002 through 2008, for the Commonfund Institute's annual HEPI percentage, and the BLS annual consumer price indices.

Data were obtained from THECB for the past 15 years, excluding the years of 1996 and 2004. THECB collected and compiled the revenues and expenses from AFRs for each college district. The years 1996 and 2004 were not compiled by THECB but were not significant to the 15-year trend analysis, as the essential years were the beginning and ending years of 1993 and 2008. Therefore the two years' deletion from the study did not impact the findings.

The data included 15 years of Texas community college district tuition, fees, local tax revenues, and state appropriations, as collected from THECB (Pinkard, 2009). The original sources of the data were the AFR for each college district. AFRs were randomly checked against the THECB data for the four revenue categories. There were no discrepancies in the data, therefore the integrity of the data were accepted.

Revenues encompassed tuition, fees, state appropriations, local taxes, and total revenues. Tuition consisted of in-district, out-of-district, TPEG credit and non-credit set asides, non-resident tuition, out-of-state, continental and international operations, continuing education, and non-state funded continuing education tuition. Fees contained auxiliary and operating fees of general, laboratory, registration, out-of-district, out-of-

state, building use, facilities use, technology/internet/computer access/automation, student services, student use, student, distance learning, security, and other fees. Appropriations included state appropriations, state group insurance, state retirement matching, higher education assistance fund (HEAF), and other appropriations. Local property tax revenues incorporated maintenance and operations and general obligation bond tax revenues. Finally, total revenues were comprised of the above revenues, as well as all other revenues from unrestricted and restricted revenues, which included federal grants, state grants, private gifts/local grants, interest and other income, and investment income.

Full-time student equivalency data were derived from annual *Statistical Reports* produced by THECB. Both credit and non-credit contact hour data were compiled from these reports for the years 1993 through 2001. For the years 2002 through 2008, two sources of data were used to obtain contact hour data for both credit and non-credit students. Credit student contact hour data were derived from the THECB's website for each community college for fall, spring, summer I and summer II semesters (THECB, n.d.). Credit contact hours were totaled for each year and divided by 480. The data for non-credit contact hours were compiled by the THECB (McIver, 2008). This data were verified from the annual *Statistical Reports* for years 1993 through 2001. Non-credit contact hours were divided by 900. The sum of credit and non-credit hours became the annual FTSE.

The Commonfund Institute published the HEPI for each of the years from 1993 through 2008. The HEPI is most closely associated with those expenses a post-

secondary educational institution encounters. While the HEPI was the most accurate measurement of the cost of higher education, its use as the price index would not allow for comparison of the existing college tuition and fee inflation charts. Therefore, the HEPI is included in this study to allow for comparison of the CPI only.

The various consumer price indices were determined from tables on the website of the BLS (2008b). The components of the CPI included in the study for the years 1993 through 2008 were: all items for U.S. city averages, college tuition and fees, food, housing, medical care, and transportation. The data used were the calendar year average annual CPI data for each category. This is important to note, as the HEPI annual data were based on “July 1–June 30 data” (Commonfund, 2008, p. 3). These average annual CPI data were used to allow for comparison with existing college tuition and fee inflation charts.

Data Analysis

All of the data were extracted and incorporated into spreadsheet documents. Simple calculations were used, as needed, to determine the annual revenues and rates of change from tuition, fees, state appropriations, and local tax revenues; FTSEs; annual HEPI and rate of change; and annual rate of change of the CPI price. These revenues were adjusted to 2008 constant dollars by using the CPI. The researcher used the average annual CPI for each year (BLS, 2008b).

Full-time student equivalency was calculated for each fiscal year by adding technical and academic contact hour credit and dividing by 480 to equate contact hours to full-time equivalency. Continuing education contact hours were divided by 900 to

equate each year's contact hours to full-time equivalency. These two numbers (credit and non-credit full-time equivalency) were added to determine the annual FTSE.

Revenues were calculated by summing state appropriations, local tax revenues, fee revenues, and tuition revenues for each year for the 50 Texas community college districts. Each revenue category was then multiplied by the 2008 CPI index and then divided by the appropriate year's CPI. For example, state appropriations for fiscal year 1997 were \$701,264,543. To convert 1997 dollars into 2008 dollars, the \$701,264,543 was multiplied by 2008 CPI of 215.3. The total was then divided by 1997 CPI of 160.5. Therefore, \$701,264,543 in 1997 dollars is equal to \$940,712,523 in 2008 dollars. The 2008 constant dollar revenues were then divided by the FTSE for each respective year. For the 1997 example of state appropriations, \$940,712,523 was divided by 372,714 FTSE to yield \$2,524 dollars of state appropriations per FTSE in 2008 constant dollars. Once each revenue category was converted to 2008 constant dollars and then divided by the FTSE for that year, the percentage change was calculated.

The increase or decrease in revenues per FTSE in 2008 constant dollars, the consumer price indices, and the HEPI were all calculated using the same formula. The formula used for percentage change was $(B - A) / A$. The percentage change from 1993 to 1997 for state appropriations per FTSE in 2008 constant dollars was -3%. This was calculated by the following computation: $(\$2,524 - \$2,603) / \$2,603 = -3\%$.

Intended Output

Once the research and calculations were completed, the resultant data were organized into tables and charts. These were visual illustrations of the data. The intended output includes:

1. Table describing the HEPI and consumer price indices for each year;
2. Tables detailing the annual contact hour information and FTSE results;
3. Tables representing each revenue type, converted to 2008 constant dollars, and further converted to revenue per FTSE, along with percentage changes;
4. Table depicting the percentage each revenue type contributes to the 50 Texas community college districts' annual total revenues.

Limitations, Assumptions, and Delimitations

The NCPPHE (2009) explained,

The American people, according to recent public opinion research, believe that college access is declining; that maintaining college opportunity and affordability is a crucial issue; and that colleges and universities will drive up tuition and spending rather than look to better ways to spend the money they have. (p. 1)

While it is understood that affordability must be addressed on many fronts, this study has concentrated on the increase of revenues. This study does not address expenditures that Texas community college districts may incur. Nor did this study examine revenues prior to 1993, being limited by verifiable, consistent data. The lack of consistency in IPEDS data necessitated the sole use of THECB data.

Consistency was the underlying premise that was held throughout research and calculations. The first assumption was to closely align the study parameters with the

Measuring Up 2008 chart: Specifically to calculate tuition and fee revenues separately, but illustrate their rate of increase as a combined total. The second assumption was to calculate constant dollars in 2008 dollars. The third assumption was to use annual contact hours as the basis for FTSE calculations, which was necessitated because continuing education was reported in contact hours, not semester credit hours. It was believed that using annual numbers would be more accurate than limiting to each fall semester. The final assumption was to use the CPI as the basis for 2008 constant dollars, as opposed to the theoretically more accurate HEPI. This assumption was made to allow for more accurate comparison to existing national college tuition and fee inflation charts. All existing national charts use the CPI, not the HEPI.

Two delimitations exist in this study. The first delimitation was to only investigate the 50 community college districts in Texas. This excluded other two-year institutions such as the Texas State Technical College system, Lamar two-year colleges, and private two-year colleges in Texas. The final delimitation was to exclude revenues for the years 1996 and 2004, as this data were not available from the THECB. Excluding these two years did not impact the validity of the study as the trend analysis was driven by the years 1993 and 2008. All years in between did not affect the trend outcome.

Summary

This chapter provided detailed information on the research methodology; data collection process; data analysis techniques employed; intended outputs; and limitations, assumptions, and delimiters used in this study. The study utilized archival research to collect community college data from 1993 to 2008 for revenues and fiscal year contact

hours for credit and non-credit students, and for HEPI and average annual consumer price indices. The next chapter provides the results of this study.

CHAPTER 4: ANALYSIS OF DATA

Since 1901, when the first public community college opened its doors in Joliet, Illinois, America's community colleges have endeavored to provide higher education opportunities to their local and regional communities. But as the U.S. economy moves further into decline, college affordability becomes vital. "With rising unemployment, the need and demand for higher education will only increase as displaced workers seek new skills" (NCPPE, 2009, p. 1).

Moreover, as the real estate market continues to decline, so do local tax revenues for community colleges. According to Wotapka (2008), "Through the end of the third quarter, home values had already seen a whopping \$1.9 trillion shaved — a number computed by taking the difference between the sum of all estimated home values in January versus September — with further declines under way" (para. 2). Affordability for higher education will be further tested and the "recession cannot once again become the rationale for reducing opportunity and increasing the financial burden on students and families" (NCPPE, 2009, p. 1).

Over the past two decades, and even before, the cost of higher education has been increasing (Haycock, 2006; Roueche & Jones, 2005; Van der Werf, 1999). Often times the increase has been at a rate greater than the cost of living, which impacts affordability (Baum & Ma, 2007a; Baum & Ma, 2007b; Callan, 2008; Immerwahr, Johnson, Gasbarra, Ott, & Rochkind, 2007; Riley, 2007; Wellman, 2006). The increases

in the cost of higher education have led to the publication and proliferation of national college tuition and fee inflation charts (Blumenstyk, 2008; Callan, 2006a; Callan, 2008; Wang, 2008; Wellman, 2006). As these charts rely on national price indices from the BLS, community colleges are included in the data, but not necessarily accurately depicted. Therefore, this study was undertaken to provide accurate data for Texas community colleges in comparison to the existing national college tuition and fee inflation charts.

Analysis of the Data

The purpose of this chapter was to provide the results of the data analysis which answer the study's research questions:

1. Are Texas community colleges' tuition and fee revenues annual rates of increase equal to the *Measuring Up 2008* chart for college tuition and fees per FTSE in 2008 constant dollars?
2. Have Texas community colleges' tuition and fee revenues increased equally to state appropriations when based on FTSE in 2008 constant dollars?
3. What category of revenues for Texas community colleges has the highest rate of increase per FTSE in 2008 constant dollars?

Data that answers the research questions are threefold. The first data were the HEPI and consumer price indices for each year. The second data were the annual contact hour information and FTSE results for each year. The final data were the total revenues from state appropriations, local taxes, tuition, fees, and other, converted to 2008 constant dollars, and further converted to revenue per FTSE, along with percentage changes. The data were further presented in tables and charts for visual clarity.

Research Question One

Are Texas community colleges' tuition and fee revenues annual rates of increase equal to the *Measuring Up 2008* chart for college tuition and fees per FTSE in 2008 constant dollars? To answer this research question, the data from the original *Measuring Up 2008* college tuition and fee inflation chart had to be recreated to ensure accuracy of the analysis. This was accomplished by using the BLS consumer price indices data from 1982 through 2007. Once the data were attained, Figure 10 and Table 1 were created. This table detailed the HEPI and CPI data, including all the national indices that the *Measuring Up 2008* chart incorporated. Figure 10 visually depicted the rate of increase for the HEPI and CPI.

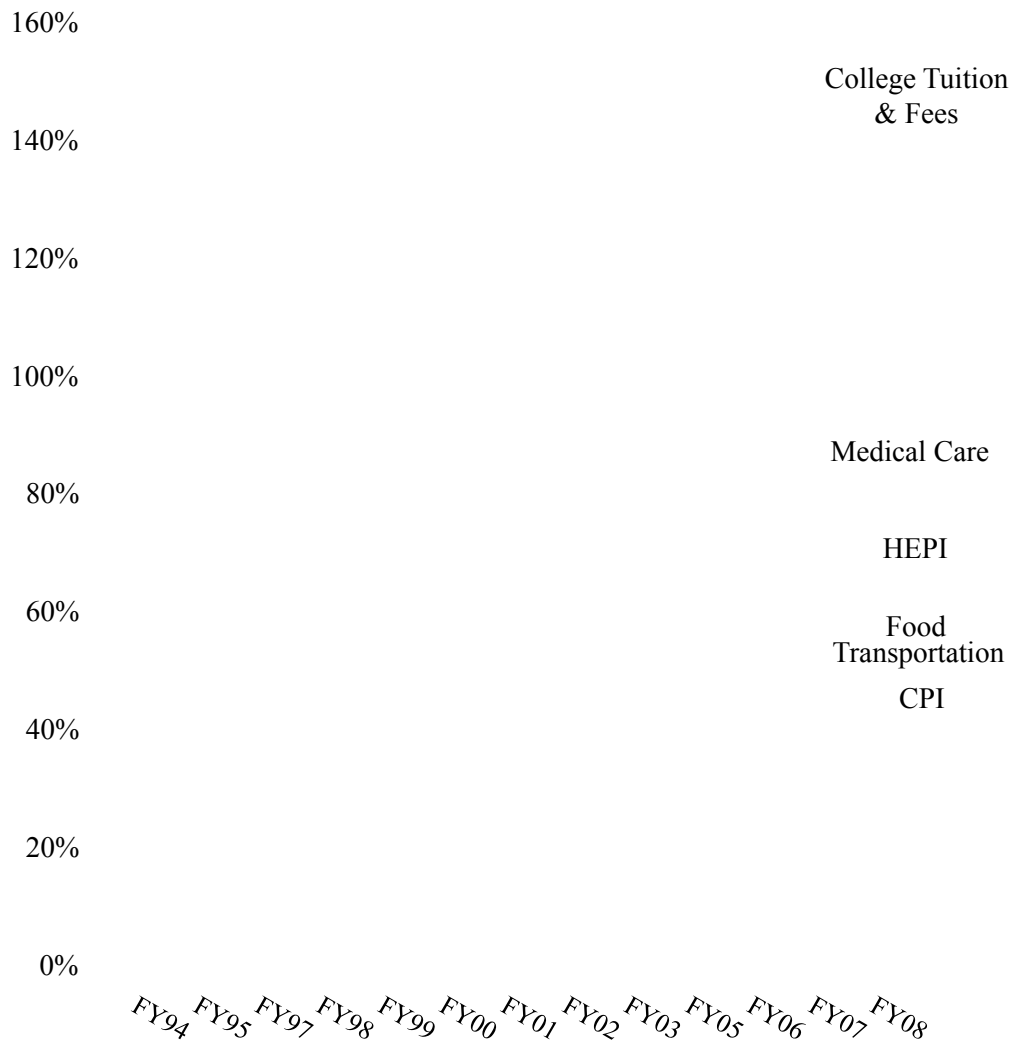


Figure 10. Measuring Up 2008 Indices and HEPI over 15-years in 2008 Constant Dollars

Note. The data were adapted from *Bureau of Labor Statistics: Databases, Tables & Calculators by Subject* (2008). Retrieved February 15, 2009, from <http://data.bls.gov/cgi-bin/dsrv>

2008 HEPI: Higher education price index, 2008 update (2008). Retrieved January 2, 2009, from http://www.commonfund.org/Commonfund/CF+Institute/CI_About_HEPI.htm

Table 1: Consumer Price Indices, 1982 to 2008

Year	HEPI	CPI	College Tuition & Fees	Medical Care	Housing	Food	Transportation
1982	93.9	96.5	90.3	92.5	96.9	97.4	97.0
1983	100.0	99.6	99.7	100.6	99.5	99.4	99.3
1984	104.8	103.9	109.9	106.8	103.6	103.2	103.7
1985	110.8	107.6	119.9	113.5	107.7	105.6	106.4
1986	116.3	109.6	129.6	122.0	110.9	109.0	102.3
1987	120.9	113.6	139.4	130.1	114.2	113.5	105.4
1988	126.2	118.3	150.0	138.6	118.5	118.2	108.7
1989	132.8	124.0	161.9	149.3	123.0	125.1	114.1
1990	140.8	130.7	175.0	162.8	128.5	132.4	120.5
1991	148.2	136.2	192.8	177.0	133.6	136.3	123.8
1992	153.5	140.3	213.5	190.1	137.5	137.9	126.5
1993	157.9	144.5	233.5	201.4	141.2	140.9	130.4
1994	163.3	148.2	249.8	211.0	144.8	144.3	134.3
1995	168.1	152.4	264.8	220.5	148.5	148.4	139.1
1997	178.4	160.5	294.1	234.6	156.8	157.3	144.3
1998	184.7	163.0	306.5	242.1	160.4	160.7	141.6
1999	189.1	166.6	318.7	250.6	163.9	164.1	144.4
2000	196.9	172.2	331.9	260.8	169.6	167.8	153.3
2001	206.5	177.1	348.8	272.8	176.4	173.1	154.3
2002	215.0	179.9	372.6	285.6	180.3	176.2	152.9
2003	221.2	184.0	403.9	297.1	184.8	180.0	157.6
2005	239.8	195.3	475.1	323.2	195.7	190.7	173.9
2006	251.8	201.6	507.0	336.2	203.2	195.2	180.9
2007	260.3	207.3	538.7	351.1	209.6	202.9	184.7
2008	269.7	215.3	572.3	364.1	216.3	214.1	195.5

Note. The data were adapted from *Bureau of Labor Statistics: Databases, Tables & Calculators by Subject* (2008). Retrieved February 15, 2009, from <http://data.bls.gov/cgi-bin/dsrv>

2008 HEPI: *Higher education price index, 2008 update* (2008). Retrieved January 2, 2009, from http://www.commonfund.org/Commonfund/CF+Institute/CI_About_HEPI.htm

The second component of the analysis was to research the Texas community college district data. This included ascertaining the full-time student equivalent data and revenues. These data and subsequent analysis are illustrated through tables and charts.

FTSE data were obtained from three sources to accommodate the timeframe of 1993 through 2008. Data for the fiscal years 1993 through 2001 were obtained from archival data (Ashworth, 1993; Ashworth, 1994; Ashworth, 1995; Ashworth, 1996; Brown, 1997; Brown, 1998; Brown, 1999; Brown, 2000; Brown, 2001). Data for the fiscal years 2002 through 2008 were acquired from the THECB: Contact hour data for credit courses were attained through the PREP (Profile Reports Electronically Produced) online research tool of the THECB (THECB, n.d.) and contact hour data for non-credit courses were attained from the Educational Data Center of the THECB (McIver, 2008). Contact hour data were assembled into a spreadsheet. Credit contact hour data were divided by 480. Non-credit contact hour data were divided by 900. Credit and non-credit data were then added together to obtain the annual FTSEs. These data were depicted in Figure 11 and further detailed in Table 2.

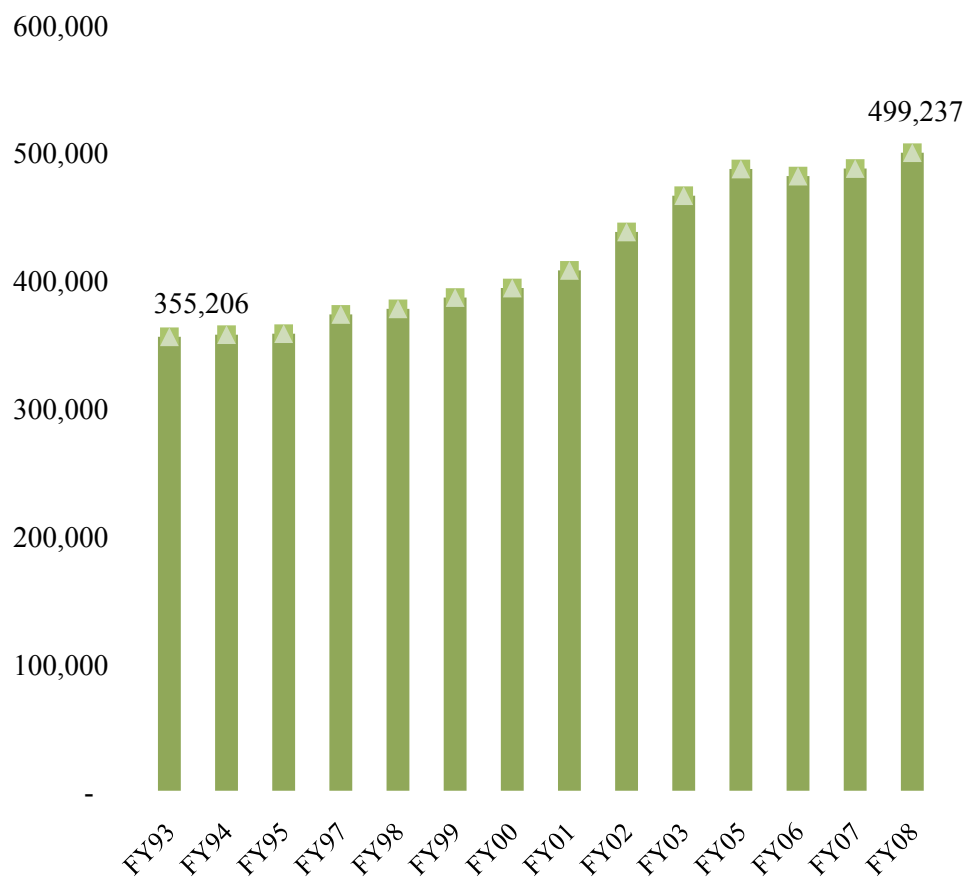


Figure 11. Texas Community College Districts' Full-Time Student Equivalent Growth

Note. The data were created from *Texas higher education data: Total contact hours by fund (of credit students)* (n.d.). Retrieved March 6, 2009, from <http://www.txhighereddata.org/approot/dwprodrpt/cntmenu.htm>

Jrhoursfystatefunded (2008). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Statistical Reports (1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001). Texas Higher Education Coordinating Board Documents. Austin, TX.

Table 2: Texas Community College Contact Hour and FTSE, 1993 to 2008

Year	Academic Credit	Technical Credit	Continuing Education	FTSE Credit	FTSE Continuing Education	Total FTSE
FY93	111,409,344	50,091,056	16,871,756	336,459	18,746	355,206
FY94	111,373,377	50,569,879	17,518,546	337,382	19,465	356,847
FY95	111,431,083	50,546,543	18,157,907	337,453	20,175	357,629
FY97	114,489,071	55,473,571	16,762,459	354,089	18,625	372,714
FY98	115,575,103	56,957,067	15,864,683	359,442	17,627	377,069
FY99	117,919,296	58,324,641	16,858,235	367,175	18,731	385,906
FY00	124,026,873	55,647,931	17,152,194	374,323	19,058	393,381
FY01	130,626,497	54,595,080	19,158,648	385,878	21,287	407,166
FY02	142,677,899	56,650,385	19,781,590	415,267	21,980	437,247
FY03	154,877,994	58,339,981	19,251,686	444,204	21,391	465,595
FY05	166,274,557	57,953,032	17,432,779	467,141	19,370	486,511
FY06	166,301,512	55,969,864	16,108,088	463,065	17,898	480,963
FY07	168,529,356	56,203,746	16,802,956	468,194	18,670	486,864
FY08	173,221,576	57,359,671	16,973,314	480,378	18,859	499,237

Note. The data were adapted from *Texas higher education data: Total contact hours by fund (of credit students)* (n.d.). Retrieved March 6, 2009, from <http://www.txhighereddata.org/approot/dwprodrpt/cntmenu.htm>

Jrhoursfystatefunded (2008). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Statistical Reports (1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001). Texas Higher Education Coordinating Board Documents. Austin, TX.

Revenues from the 50 Texas community college districts were ascertained. Data for all revenue sources were compiled and verified by each Texas community college district, through external audits. Financial data were detailed in each college's AFR. The AFRs for each Texas community college were combined for each year, excluding 1996 and 2004, by the Finance and Resource Planning Department of the THECB. Each college's fiscal year financial data were entered into spreadsheets for ease of analysis (Pinkard, 2009). The researcher retrieved archival data in the form of individual community college's AFRs for various years to substantiate the veracity of the yearly spreadsheets. No discrepancies were discovered, therefore, the data were accepted as accurate.

Revenues encompassed tuition, fees, state appropriations, local taxes, other, and total revenues. Tuition consisted of in-district, out-of-district, out-of-state/non-resident; TPEG credit and non-credit set asides; continental and international operations; and continuing education and non-state funded continuing education tuition. Fees contained auxiliary and operating fees of general, laboratory, registration, out-of-district, out-of-state, building/facilities use, technology/internet/computer access/automation, student services, student use, distance learning, security, and other fees. Appropriations included state appropriations, state group insurance, state retirement matching, higher education assistance fund (HEAF), and other appropriations. Local property tax revenues were comprised of maintenance and operations and general obligation bonds. Finally, other revenues included federal grants, state grants, private gifts/local grants, interest and other income, and investment income.

The revenue sources described above were organized into tables for analysis. Once the data were input into spreadsheets, calculations were then completed. The first calculation was to convert each category of revenue for each year into 2008 constant dollars. This was accomplished by multiplying the annual revenue for each category by the CPI for 2008, then dividing by the appropriate year's CPI. Once the revenues were converted into 2008 constant dollars, the data were then divided by the appropriate year's FTSE. This became the revenue per FTSE in 2008 constant dollars. The final calculation was to analyze the cumulative percentage change for each category. The formula for these calculations is $(B - A) / A$. Each calculation entailed the current year revenue per FTSE in 2008 constant dollars being subtracted from the 1993 revenue per FTSE in 2008 constant dollars. This amount was then divided by the 1993 revenue per FTSE in 2008 constant dollars. The resultant analysis is detailed in Figure 12 and Tables 3 through 10, which encompassed the annual CPI, FTSE, revenue, revenue in 2008 constant dollars, revenue per FTSE, and percentage change data.

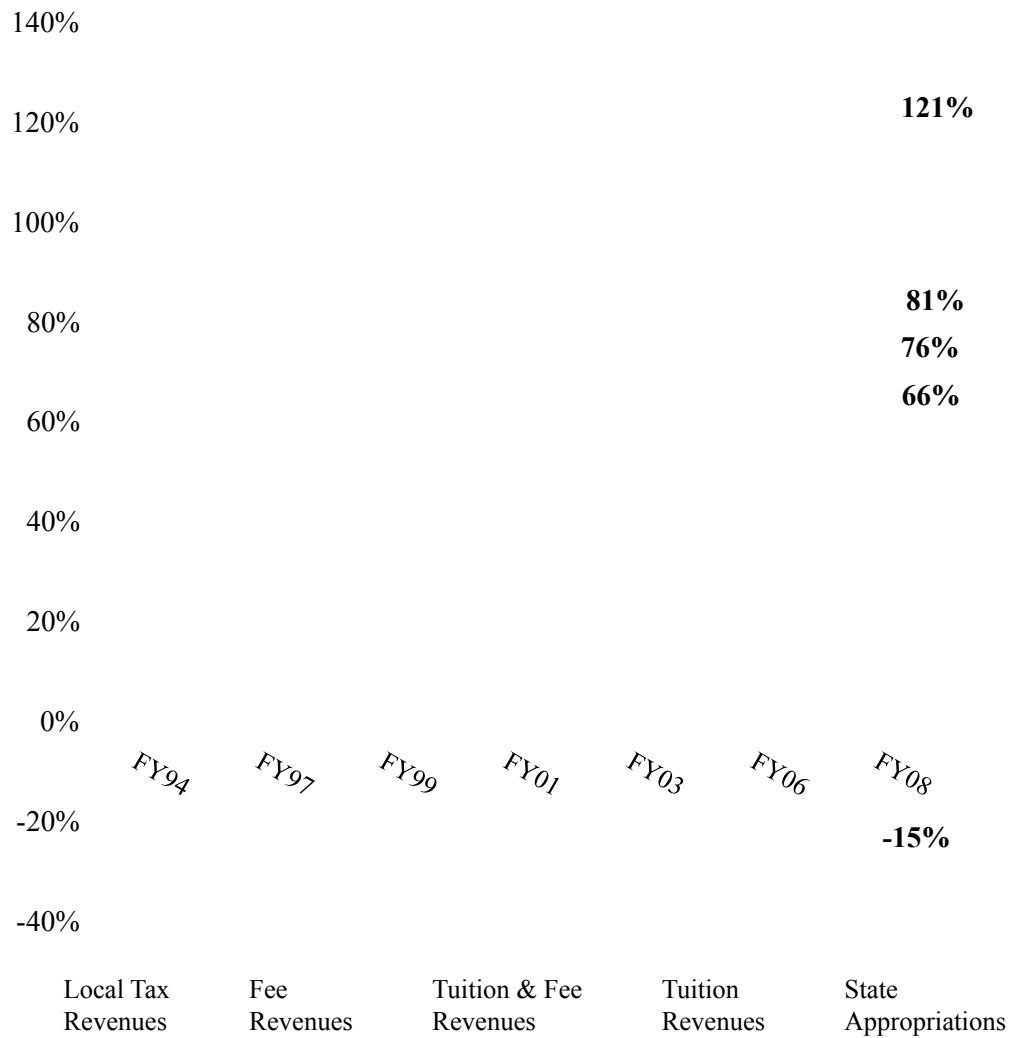


Figure 12. Revenues per FTSE in 2008 Constant Dollars

Note. Created from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Table 3: Texas Community College State Appropriations, 1993 to 2008

Year	CPI	FTSE	State Appropriations	State Appropriations (2008 Constant \$)	State Appropriations per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$620,576,071	\$924,649,757	\$2,603	
FY94	148.2	356,847	\$680,402,129	\$988,479,214	\$2,770	6%
FY95	152.4	357,629	\$687,304,677	\$970,989,231	\$2,715	4%
FY97	160.5	372,714	\$701,264,543	\$940,712,523	\$2,524	-3%
FY98	163.0	377,069	\$775,452,406	\$1,024,277,481	\$2,716	4%
FY99	166.6	385,906	\$806,121,931	\$1,041,779,532	\$2,700	4%
FY00	172.2	393,381	\$867,187,935	\$1,084,251,823	\$2,756	6%
FY01	177.1	407,166	\$895,589,304	\$1,088,780,711	\$2,674	3%
FY02	179.9	437,247	\$977,514,364	\$1,169,882,018	\$2,676	3%
FY03	184.0	465,595	\$933,924,791	\$1,092,808,746	\$2,347	-10%
FY05	195.3	486,511	\$941,403,068	\$1,037,823,373	\$2,133	-18%
FY06	201.6	480,963	\$972,227,229	\$1,038,310,710	\$2,159	-17%
FY07	207.3	486,864	\$1,039,121,333	\$1,079,018,917	\$2,216	-15%
FY08	215.3	499,237	\$1,104,926,800	\$1,104,926,800	\$2,213	-15%

Note. The data for state appropriations are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Table 4: Texas Community College Local Tax Revenues, 1993 to 2008

Year	CPI	FTSE	Local Tax Revenues	Local Tax Revenues (2008 Constant \$)	Local Tax Revenues per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$262,407,557	\$390,983,628	\$1,101	
FY94	148.2	356,847	\$279,179,911	\$405,588,882	\$1,137	3%
FY95	152.4	357,629	\$291,825,903	\$412,276,853	\$1,153	5%
FY97	160.5	372,714	\$343,927,955	\$461,362,745	\$1,238	12%
FY98	163.0	377,069	\$366,750,576	\$484,432,511	\$1,285	17%
FY99	166.6	385,906	\$425,708,233	\$550,157,621	\$1,426	30%
FY00	172.2	393,381	\$460,399,944	\$575,641,633	\$1,463	33%
FY01	177.1	407,166	\$513,728,829	\$624,547,476	\$1,534	39%
FY02	179.9	437,247	\$664,626,548	\$795,420,176	\$1,819	65%
FY03	184.0	465,595	\$742,886,826	\$869,270,447	\$1,867	70%
FY05	195.3	486,511	\$894,828,763	\$986,478,839	\$2,028	84%
FY06	201.6	480,963	\$927,555,841	\$990,602,953	\$2,060	87%
FY07	207.3	486,864	\$1,101,509,729	\$1,143,802,747	\$2,349	113%
FY08	215.3	499,237	\$1,213,303,270	\$1,213,303,270	\$2,430	121%

Note. The data for local tax revenues are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Table 5: Texas Community College Tuition and Fee Revenues, 1993 to 2008

Year	CPI	FTSE	Tuition & Fee Revenues	Tuition & Fee Revenues (2008 Constant \$)	Tuition & Fee Revenues per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$256,726,054	\$382,518,267	\$1,077	
FY94	148.2	356,847	\$279,701,900	\$406,347,221	\$1,139	6%
FY95	152.4	357,629	\$309,696,251	\$437,523,175	\$1,223	14%
FY97	160.5	372,714	\$368,516,409	\$494,346,968	\$1,326	23%
FY98	163.0	377,069	\$407,245,352	\$537,921,141	\$1,427	32%
FY99	166.6	385,906	\$430,407,255	\$556,230,331	\$1,441	34%
FY00	172.2	393,381	\$454,722,574	\$568,543,173	\$1,445	34%
FY01	177.1	407,166	\$497,325,464	\$604,605,671	\$1,485	38%
FY02	179.9	437,247	\$549,584,875	\$657,739,146	\$1,504	40%
FY03	184.0	465,595	\$618,443,548	\$723,656,257	\$1,554	44%
FY05	195.3	486,511	\$781,377,950	\$861,408,176	\$1,771	64%
FY06	201.6	480,963	\$798,115,875	\$852,364,793	\$1,772	65%
FY07	207.3	486,864	\$891,016,363	\$925,227,383	\$1,900	76%
FY08	215.3	499,237	\$947,468,327	\$947,468,327	\$1,898	76%

Note. The data for tuition and fee revenues are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Table 6: Texas Community College Tuition Revenues, 1993 to 2008

Year	CPI	FTSE	Tuition Revenues	Tuition Revenues (2008 Constant \$)	Tuition Revenues per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$174,562,104	\$260,095,119	\$732	
FY94	148.2	356,847	\$180,651,800	\$262,448,546	\$735	0%
FY95	152.4	357,629	\$204,354,803	\$288,702,114	\$807	10%
FY97	160.5	372,714	\$235,885,399	\$316,428,873	\$849	16%
FY98	163.0	377,069	\$250,736,736	\$331,192,463	\$878	20%
FY99	166.6	385,906	\$264,190,993	\$341,423,249	\$885	21%
FY00	172.2	393,381	\$279,724,803	\$349,742,098	\$889	21%
FY01	177.1	407,166	\$319,827,074	\$388,818,343	\$955	30%
FY02	179.9	437,247	\$374,337,575	\$448,004,463	\$1,025	40%
FY03	184.0	465,595	\$409,785,305	\$479,500,030	\$1,030	41%
FY05	195.3	486,511	\$546,249,983	\$602,197,952	\$1,238	69%
FY06	201.6	480,963	\$558,804,677	\$596,787,318	\$1,241	69%
FY07	207.3	486,864	\$622,047,685	\$645,931,518	\$1,327	81%
FY08	215.3	499,237	\$661,706,784	\$661,706,784	\$1,325	81%

Note. The data for tuition revenues are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Table 7: Texas Community College Fee Revenues, 1993 to 2008

Year	CPI	FTSE	Fee Revenues	Fee Revenues (2008 Constant \$)	Fee Revenues per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$82,163,950	\$122,423,148	\$345	
FY94	148.2	356,847	\$99,050,100	\$143,898,675	\$403	17%
FY95	152.4	357,629	\$105,341,448	\$148,821,062	\$416	21%
FY97	160.5	372,714	\$132,631,010	\$177,918,096	\$477	39%
FY98	163.0	377,069	\$156,508,616	\$206,728,678	\$548	59%
FY99	166.6	385,906	\$166,216,262	\$214,807,082	\$557	62%
FY00	172.2	393,381	\$174,997,771	\$218,801,075	\$556	61%
FY01	177.1	407,166	\$177,498,390	\$215,787,328	\$530	54%
FY02	179.9	437,247	\$175,247,300	\$209,734,683	\$480	39%
FY03	184.0	465,595	\$208,658,243	\$244,156,227	\$524	52%
FY05	195.3	486,511	\$235,127,967	\$259,210,224	\$533	55%
FY06	201.6	480,963	\$239,311,198	\$255,577,475	\$531	54%
FY07	207.3	486,864	\$268,968,678	\$279,295,865	\$574	66%
FY08	215.3	499,237	\$285,761,543	\$285,761,543	\$572	66%

Note. The data for fee revenues are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Table 8: Texas Community College Other Revenues, 1993 to 2008

Year	CPI	FTSE	Other Revenues	Other Revenues (2008 Constant \$)	Other Revenues per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$369,897,549	\$551,142,228	\$1,552	
FY94	148.2	356,847	\$376,854,836	\$547,489,722	\$1,534	-1%
FY95	152.4	357,629	\$399,642,600	\$564,594,821	\$1,579	2%
FY97	160.5	372,714	\$461,320,060	\$618,838,585	\$1,660	7%
FY98	163.0	377,069	\$498,017,289	\$657,819,732	\$1,745	12%
FY99	166.6	385,906	\$566,739,395	\$732,417,119	\$1,898	22%
FY00	172.2	393,381	\$568,028,082	\$710,209,931	\$1,805	16%
FY01	177.1	407,166	\$653,532,919	\$794,509,306	\$1,951	26%
FY02	179.9	437,247	\$585,367,504	\$700,563,534	\$1,602	3%
FY03	184.0	465,595	\$643,107,293	\$752,515,921	\$1,616	4%
FY05	195.3	486,511	\$789,285,826	\$870,125,991	\$1,789	15%
FY06	201.6	480,963	\$722,994,133	\$772,136,934	\$1,605	3%
FY07	207.3	486,864	\$895,461,587	\$929,843,283	\$1,910	23%
FY08	215.3	499,237	\$775,837,878	\$775,837,878	\$1,554	0%

Note. The data for other revenues are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Table 9: Texas Community College Total Revenues, 1993 to 2008

Year	CPI	FTSE	Total Revenues	Total Revenues (2008 Constant \$)	Total Revenues per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$1,509,607,231	\$2,249,293,880	\$6,332	
FY94	148.2	356,847	\$1,616,138,776	\$2,347,905,040	\$6,580	4%
FY95	152.4	357,629	\$1,688,469,431	\$2,385,384,081	\$6,670	5%
FY97	160.5	372,714	\$1,875,028,967	\$2,515,260,820	\$6,749	7%
FY98	163.0	377,069	\$2,047,465,623	\$2,704,450,865	\$7,172	13%
FY99	166.6	385,906	\$2,228,976,814	\$2,880,584,604	\$7,464	18%
FY00	172.2	393,381	\$2,350,338,535	\$2,938,646,560	\$7,470	18%
FY01	177.1	407,166	\$2,560,176,516	\$3,112,443,164	\$7,644	21%
FY02	179.9	437,247	\$2,777,093,291	\$3,323,604,874	\$7,601	20%
FY03	184.0	465,595	\$2,938,362,458	\$3,438,251,371	\$7,385	17%
FY05	195.3	486,511	\$3,406,895,606	\$3,755,836,379	\$7,720	22%
FY06	201.6	480,963	\$3,420,893,078	\$3,653,415,389	\$7,596	20%
FY07	207.3	486,864	\$3,927,109,012	\$4,077,892,331	\$8,376	32%
FY08	215.3	499,237	\$4,041,536,275	\$4,041,536,275	\$8,095	28%

Note. The data for total revenues are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Table 10: *Texas Community College Revenues per FTSE in 2008 Constant Dollars, 1993 to 2008*

Year	State Appropriations Per FTSE (2008 Constant \$)	Local Tax Revenues Per FTSE (2008 Constant \$)	Tuition Revenues Per FTSE (2008 Constant \$)	Fee Revenues Per FTSE (2008 Constant \$)
FY93	\$2,603	\$1,101	\$732	\$345
FY94	\$2,770	\$1,137	\$735	\$403
FY95	\$2,715	\$1,153	\$807	\$416
FY97	\$2,524	\$1,238	\$849	\$477
FY98	\$2,716	\$1,285	\$878	\$548
FY99	\$2,700	\$1,426	\$885	\$557
FY00	\$2,756	\$1,463	\$889	\$556
FY01	\$2,674	\$1,534	\$955	\$530
FY02	\$2,676	\$1,819	\$1,025	\$480
FY03	\$2,347	\$1,867	\$1,030	\$524
FY05	\$2,133	\$2,028	\$1,238	\$533
FY06	\$2,159	\$2,060	\$1,241	\$531
FY07	\$2,216	\$2,349	\$1,327	\$574
FY08	\$2,213	\$2,430	\$1,325	\$572

Note: The data were adapted from Tables 1 through 9.

After researching, calculating, and analyzing the data, Research Question One can be answered. Texas community college tuition and fee revenues per FTSE in 2008 constant dollars are not equal to *Measuring Up 2008* college tuition and fees. Texas community college tuition and fee revenues are, in fact, lower by approximately 90%: *Measuring Up 2008* college tuition and fees are 145%, and Texas community college tuition and fee revenues per FTSE in 2008 constant dollars are 76%. Figure 13 and Table 11 provide the graphical depiction and numerical detail of these data.

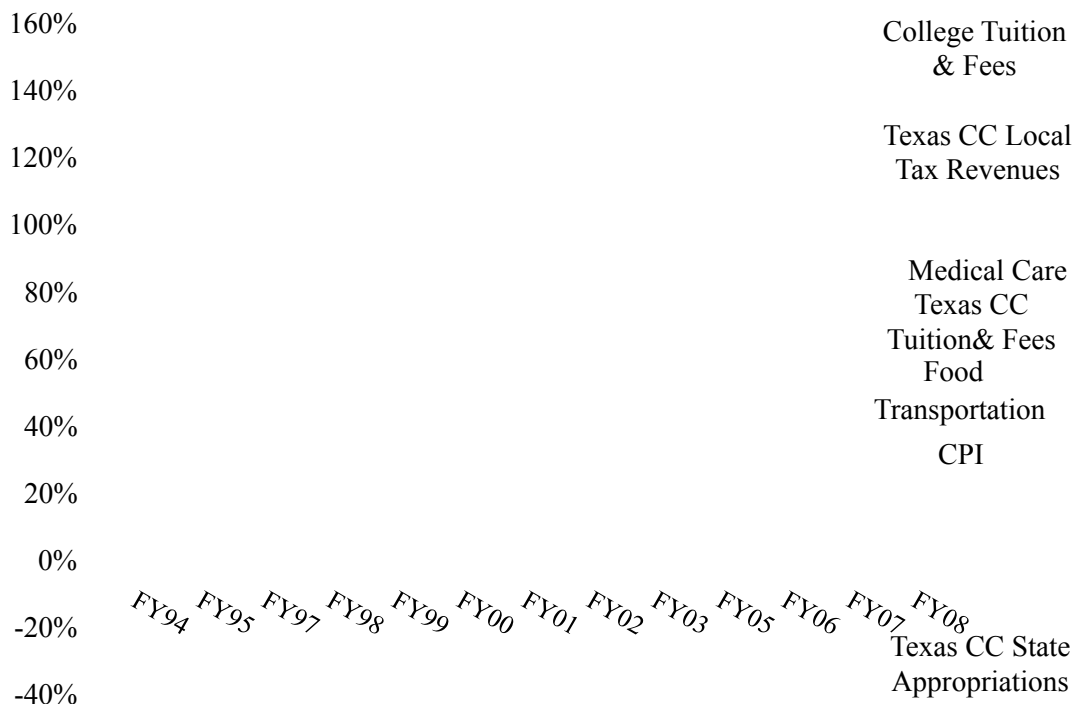


Figure 13. *Measuring Up 2008 over 15 years Comparing Texas Community Colleges in 2008 Constant Dollars*

Note: Created from Tables 1 through 9.

Table 11: *Measuring Up 2008 Comparative Data*

Description	<i>Measuring Up 2008</i> 1982-2007	<i>Measuring Up 2008</i> Indices From 1993-2008
CPI	106%	49%
College Tuition & Fees	439%	145%
Medical Care	251%	81%
Food	104%	52%
Housing	110%	53%
Transportation	85%	50%
Texas Community Colleges per FTSE (2008 Constant Dollars):		
State Appropriations		-15%
Local Tax Revenues		121%
Tuition Revenues		81%
Fee Revenues		66%
Tuition & Fees		76%

Note: The data were adapted from Tables 1 through 9.

Research Question Two

Have Texas community colleges' tuition and fee revenues increased equally to state appropriations when based on FTSE in 2008 constant dollars? To answer this research question, the data compiled in Tables 1 through 9 were drawn upon for analysis. The unequivocal answer is No. State appropriations per FTSE in 2008 constant dollars decreased **-15%** during the past 15 years. This equates to a **-1%** decrease in funding per year. During this same time period, tuition and fee revenues increased 76%. While it cannot be categorically stated that the increase in tuition and fee revenues was a direct result of the declining support from state appropriations, the data does support this conclusion. Table 12 and Figure 14 elucidate these data.

Table 12: *Texas Community College 15-year Comparative Data*

Description	Rate of Increase/(Decrease) From 1993-2008
Texas Community Colleges per FTSE (2008 Constant Dollars):	
State Appropriations	-15%
Local Tax Revenues	121%
Tuition Revenues	81%
Fee Revenues	66%
Tuition & Fees	76%

Note. The data were adapted from Tables 1 through 9.

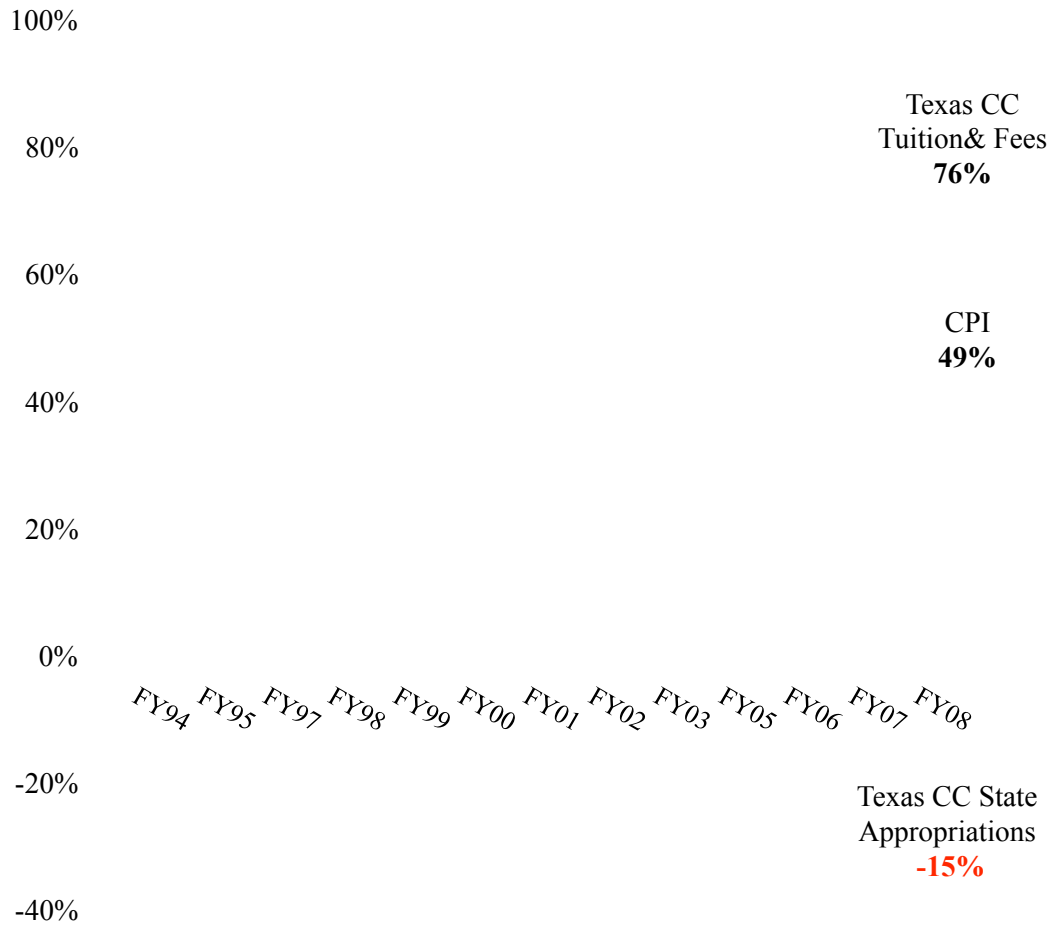


Figure 14. *The CPI, Tuition & Fees per FTSE, and State Appropriations per FTSE in 2008 Constant Dollars*

Note. Created from Tables 1 through 9.

Research Question Three

What category of revenues for Texas community colleges has the highest rate of increase per FTSE in 2008 constant dollars? To answer this research question, the data compiled in Tables 1 through 9 were again drawn upon for analysis. While state appropriations per FTSE in 2008 constant dollars decreased -15% during the past 15 years and tuition and fee revenues per FTSE in 2008 constant dollars increased 76%, the highest rate of increase was local tax revenues, which increased 121%. Consequently, local tax revenues have become the largest component of Texas community college revenue sources.

While a definitive correlation that proves a link between state appropriation decreases and tuition and fee revenue and local tax revenue increases cannot be proven in this study, the data does support this conclusion. It appears that students and the local tax payers have taken the impact of state appropriation shortfalls. Figure 15 and Table 13 provide evidence for this conclusion: During the 15-year period from 1993 to 2008, state appropriations decreased -33%; while local tax revenues increased 73% and tuition and fees increased 38%, based on FTSE in 2008 constant dollars.

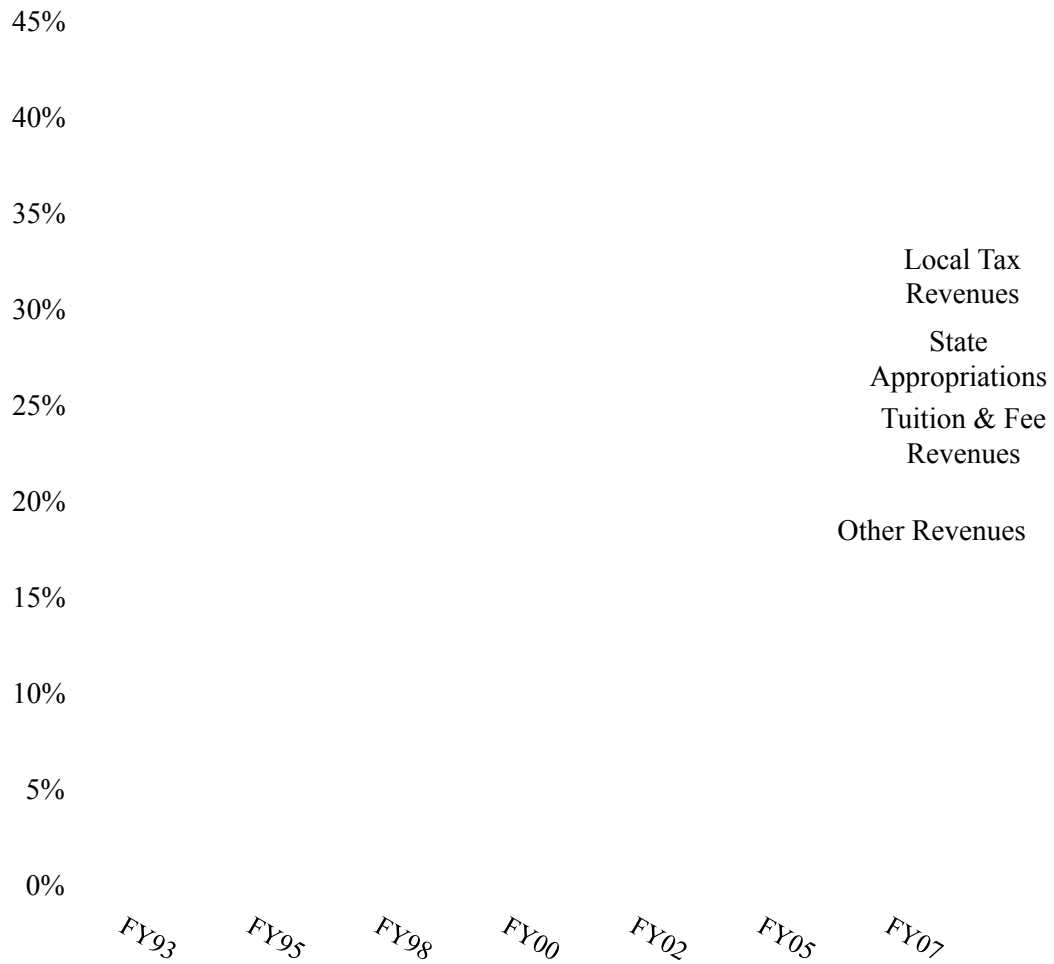


Figure 15. *Percentage of Revenues per FTSE Contributing to Total Revenues in 2008 Constant Dollars*

Note. Created from Tables 1 through 10.

Table 13: Texas Community Colleges Percentage of Revenues per FTSE Contributing to Total Revenues in 2008 Constant Dollars

Year	State Appropriations Per FTSE (2008 Constant \$)	Local Tax Revenues Per FTSE (2008 Constant \$)	Tuition & Fee Revenues Per FTSE (2008 Constant \$)	Other Revenues Per FTSE (2008 Constant \$)
FY93	41%	17%	17%	25%
FY94	42%	17%	17%	23%
FY95	41%	17%	18%	24%
FY97	37%	18%	20%	25%
FY98	38%	18%	20%	24%
FY99	36%	19%	19%	25%
FY00	37%	20%	19%	24%
FY01	35%	20%	19%	26%
FY02	35%	24%	20%	21%
FY03	32%	25%	21%	22%
FY05	28%	26%	23%	23%
FY06	28%	27%	23%	21%
FY07	26%	28%	23%	23%
FY08	27%	30%	23%	19%
15-YEAR PERCENT CHANGE	-33%	73%	38%	-22%

Note. The data were adapted from Tables 1 through 10.

Summary

This chapter presented detailed data analysis on the revenue categories for Texas community colleges during the past 15 years. These data provided answers to the three research questions. First, Texas community colleges' rates of increase of tuition and fee revenues were 70% lower than the national rate of increase, as compared to *Measuring Up 2008*. Second, state appropriations decreased -15% while tuition and fee revenues increased 76% over the 15-year period; a percentage difference of -607%. Finally, of the triad of major revenue sources community colleges in Texas have, local tax revenues increased the most: 121%. The final chapter draws conclusions as a result of the data analysis, and discusses recommendations and future research possibilities.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The National Governors Association is urging the secretary of education to temporarily waive a new federal requirement that states maintain their spending on higher education in the midst of deteriorating budget conditions across the nation. . . . “Governors take their responsibility to fund higher education very seriously, but the scope of the current economic decline will force states to cut spending across a wide variety of state services including health, education, transportation, and public safety,” the governors wrote. (Hebel, 2008, p. 1)

Data adapted from Knapp et al., (2008) clarified the triad of revenue sources on which community colleges generally rely. Knapp, et al., indicated that tuition and fees provided 16% of revenues; state appropriations provided 30%; and local taxes provided 18%. For Texas community colleges, these sources are slightly different for fiscal year 2008, as detailed in Table 13: tuition and fees provided 23% of revenues; state appropriations provided 27%; and local taxes provided 30%. As tuition and fee revenues and local tax revenues take on greater influence as a source of revenue, state appropriation declines will continue to impact affordability. Over the past 15 years, Texas state appropriations as a percent of total revenues have declined by 33% (Table

13). However, as Angel (1988) noted, during the shifting political attitudes toward taxation and revenue production that characterized the 1980s, community college funding became increasingly conflicted:

This issue [of community college funding] has become even more critical ... as leaders search for tax equity to provide the tax support necessary for operating quality community colleges and as the state of Texas reduces the level of state support. (p. 9)

Roueché (2004) confirmed, there are “draconian reductions in state and federal funding in the face of dramatic increases in student enrollment” (p. 4) Consequently, creativity is required, both internal and external to the college, as doing more with less is expected.

Summary of the Study

Since 2006, there have been five major college tuition and fee inflation charts promulgated through nationally available publications (Blumenstyk, 2008; Callan, 2006a; Callan, 2008; Wang, 2008; Wellman, 2006). These charts have garnered attention, both negatively and positively, surrounding the rising cost of higher education. However, these charts are problematic in four respects for community colleges in general, and Texas community colleges in particular.

First, they are based on the BLS index entitled “college tuition and fees” (BLS, 2008b). This price index represents:

sticker price tuition and fees less all types of grant aid except grants related to athletics and other student talents for undergraduate and graduate studies at 2-year or 4-year colleges, major universities, and professional schools. Room and board charges and textbook charges are not included. Data were collected from 88 metropolitan cities. (Callan, 2006a, p. 19)

The college tuition and fees index is a good approximation, but should not be substituted for specificity. This study contributed specificity for Texas community college annual revenues and FTSEs.

Second, the BLS price index for college tuition and fees includes “undergraduate and graduate studies at 2-year or 4-year colleges, major universities, and professional schools” (Callan, 2006a, p. 19). Unfortunately, college tuition and fee inflation charts do not differentiate between the types of higher education entities, as the Carnegie classification articulates 23 basic classifications of higher education institutions (The Carnegie Foundation for the Advancement of Teaching, 2008). Because college tuition and fee inflation charts do not differentiate between higher education classifications, community colleges are potentially perceived as more inflationary than reality. Including all higher education institutions into one chart does disservice to all of the institutions.

Third, existing charts do not illuminate the reality of the triad of revenues with which community colleges in most states must contend. The triad includes tuition and fees, state appropriations, and local tax revenues. As Table 13 represents, state appropriations as a percentage of total revenues for Texas community colleges have decreased over 33% during the past 15 years. This decrease has resulted in increases in tuition and fees and local tax revenues (Lederman, 2007).

Fourth, the existing charts imply that higher education expenditures are, at least tacitly, responsible for tuition and fee increases. According to Haycock (2006), “College costs have increased rapidly over the past two decades — far more rapidly than inflation, far more rapidly even than the cost of prescription drugs and health insurance, and far,

far more rapidly than family income” (p. 3). Reindl (2007) further verified the notion that costs, hence expenses are one of the main reasons college tuition and fees have increased: “The costs of providing higher education and the prices paid by students and their families have increased substantially” (p. 2). While this study does not address the increase and/or control of expenses, college tuition and inflation charts can be an inaccurate illustration of the reason for tuition and fee increases.

To accurately produce a tuition and fee inflation chart for Texas community colleges, research was conducted. The first data collected were the HEPI and consumer price indices for each year. The second data were the annual contact hour information and the resultant FTSE each year. The final data were the total revenues from state appropriations, local taxes, tuition, fees, and other. These revenues were converted to 2008 constant dollars using the average annual CPI data, divided by FTSEs per fiscal year for conversion to revenue per FTSE in 2008 constant dollars, and then analyzed for percentage changes.

The population used for this study was the 50 public community college districts in Texas. The data for each community college were aggregated by revenue type and contact hour data by year, to produce composite data for the state. The data were examined over a 15-year period beginning in 1993 through 2008. However, data for two years was not acquired: 1996 and 2006. Therefore, these two years’ data were excluded from the study.

The study was conducted to determine the answers to three research questions. These questions were:

1. Are Texas community colleges' tuition and fee revenues annual rates of increase equal to the *Measuring Up 2008* chart for college tuition and fees per FTSE in 2008 constant dollars?
2. Have Texas community colleges' tuition and fee revenues increased equally to state appropriations when based on FTSE in 2008 constant dollars?
3. What category of revenues for Texas community colleges has the highest rate of increase per FTSE in 2008 constant dollars?

Three primary data were required to answer the research questions. The first data were the price indices and percentage change of each. The second were the annual contact hour data and FTSE calculations for each year. The final data were the total revenues from state appropriations, local taxes, tuition, fees, and other, converted to 2008 constant dollars, and further divided by FTSE to produce revenue per FTSE. Then all the data were analyzed through percentage change calculations. The data were presented in tables and charts for visual clarity.

This study was undertaken with certain limitations, assumptions, and delimitations. While it was understood that affordability must be addressed on many fronts, this study has concentrated on the increase of revenues, but does not address expenditures that Texas community college districts may or have incurred. Nor did this study examine revenues prior to 1993, as the data were being limited by verifiability and consistency. It was the lack of consistency in IPEDS data that necessitated the sole use of THECB data.

Consistency was the paramount premise held throughout research and calculations. Four main assumptions defined this study. The first assumption was to

closely align the data collection with the *Measuring Up 2008* chart: Specifically to calculate tuition and fee revenues separately, but illustrate their rate of increase as a combined total. The second assumption was to calculate constant dollars using 2008 as the base. The third assumption was to use annual contact hours as the basis for FTSE calculations, which was necessitated by the research process. It was believed that using annual numbers would be more accurate than limiting the calculations to each fall semester, as is a general practice. The final assumption was to use the CPI as the basis for 2008 constant dollars, as opposed to the theoretically more accurate HEPI. This assumption allowed for a more accurate comparison to existing national college tuition and fee inflation charts, which use the CPI and not the HEPI.

Two delimitations also exist in this study. The first delimitation was to only investigate the 50 community college districts in Texas. This excluded other two-year institutions such as the Texas State Technical College system, Lamar two-year colleges, private two-year colleges in Texas, and colleges outside Texas. The final delimitation was to exclude revenues for the years 1996 and 2004, as this data were not available from the THECB. Excluding these two years did not impact the validity of the study as the trend analysis was driven by the years 1993 and 2008. The years in-between did not affect the trend outcome.

This study has provided descriptive quantitative data from 1993 to 2008 on the rate of change of revenues in 2008 constant dollars per full-time student equivalency (FTSE) for the 50 Texas public community college districts. It is anticipated this greater analysis of historical data will allow community college leaders to describe their

affordability challenges more accurately and, therefore, more effectively. With this study, each Texas community college has a resource for clarifying college tuition and fee inflation charts which may be used in opposition to Texas community colleges by policymakers regarding funding or other community college issues, as Table 14 has detailed.

Table 14: *Study Findings*

Description	1993-2008	Percentage Change
Growth of FTSE	41%	
Texas State Appropriations	-15%	
Texas Local Tax Revenues	121%	
Texas Tuition and Fee Revenues	76%	
College Tuition & Fees	145%	
CPI	49%	
HEPI	71%	
State Appropriations as % of Revenues	27%	-33%
Local Tax Revenues as % of Revenues	30%	73%
Tuition & Fee Revenues as % of Revenues	23%	38%
Other Revenues as % of Revenues	19%	-22%

Note: The data were adapted from Tables 1 through 10.

Conclusions

Even though the absolute dollar amounts of state appropriations for Texas community colleges have increased 73%, they have actually declined in constant dollars per FTSE and as a percentage of total revenues. This is detailed in Table 15.

Table 15: Texas State Appropriation Trends

1993 State Appropriations	\$620,576,071
2008 State Appropriations	\$1,104,926,800
Percentage Change	78%
1993 State Appropriations in Constant \$	\$924,649,757
2008 State Appropriations in Constant \$	\$1,104,926,800
Percentage Change	19%
1993 State Appropriations per FTSE in Constant \$	\$2,603
2008 State Appropriations per FTSE in Constant \$	\$2,213
Percentage Change	-15%
1993 State Appropriations as % of Revenues	41%
2008 State Appropriations as % of Revenues	27%
Percentage Change	-33%

Note: The data were adapted from Tables 1 through 10.

Colleges have attempted to offset these revenue declines with increased tuition and fees (Wattenbarger & Vader, 1986; Honeyman, Williamson, & Wattenbarger, 1991). The increase in tuition and fees by higher education has produced a shift in the “nearly universal perception that the cost of education is rising dramatically” (Immerwahr et al., 2007, p. 3).

The resultant focus on the rate of increase of tuition and fees has promulgated comparative inflation charts, which compare the annual rate of increase of tuition and fees price index against other national (Blumenstyk, 2008; Callan, 2006a; Callan, 2008; Wang, 2008; Wellman, 2006). The use of national price indices as the appropriate yardstick with which to measure specific higher education institutions does disservice to

all of the institutions. For example, private college tuition increases were at their highest in the early 1980s, while public universities tuition increases were at their highest in 2003-2004 (Hechinger, 2005, para. 12). Therefore, this study researched the reality of tuition and fee increases for the Texas 50 community college districts.

The findings of this study provided the answers to the research questions. As to the first research question: Are Texas community colleges' tuition and fee revenues annual rates of increase equal to the *Measuring Up 2008* chart for college tuition and fees per FTSE in 2008 constant dollars, the answer was *No*. Texas community colleges' rates of increase of tuition and fee revenues were 90% lower than the national rate of increase, as compared to *Measuring Up 2008*.

Regarding the second research question: Have Texas community colleges' tuition and fee revenues increased equally to state appropriations when based on FTSE in 2008 constant dollars, the answer was again *No*. State appropriations for Texas community colleges decreased -15% while tuition and fee revenues increased 76% over the 15-year period; a percentage change of -607%.

The third research question asked: What category of revenues for Texas community colleges has the highest rate of increase per FTSE in 2008 constant dollars? The answer was *local tax revenues*. Of the three major revenue sources community colleges in Texas have, local tax revenues increased 121% compared to 76% for tuition and fee revenues and -15% for state appropriations. The final chapter draws conclusions as a result of the data analysis, and discusses recommendations and future research possibilities.

Researcher's Conclusions

According to the National Governors Association and the National Association of State Budget Officers (2008),

For fiscal 2009, state spending is expected to decrease by 0.1 percent. This substantially lower rate of growth is the result of a weakening economy. States are forecasting declining economic growth and expect to make significant budget cuts in the coming fiscal years. (p. vii)

This expected decrease in state spending will almost certainly affect higher education appropriations, with implications for increased tuition and fees.

Declines in state appropriations affect community colleges in ways that are different from competitive admission higher education. Community colleges generally cannot cut enrollment; therefore, the pressure of additional students at these financially strapped institutions becomes very real. In declining economies, universities may further limit enrollments. Therefore, students who desire higher education will look toward community colleges. Wellman (2006) explained that unlike private institutions, community colleges do not have the same opportunities to either increase tuition or cut enrollment as a response to constrained revenues. "They are less able to fully replace lost state funds with tuition revenues . . . and historically have had less control over student admission access" (p. 9). As tuition and fee revenues and local tax revenues take on greater influence as a source of revenue, state appropriation declines will continue to impact affordability. State appropriation declines, consequently, became the focus of the researcher.

Conclusion One

In fiscal year 2001-02, local tax revenues began a precipitous increase. Figure 16 clarifies the point in time that revenues began to diverge: During fiscal year 2001-02.



Figure 16. Revenue Inflation per FTSE in 2008 Constant Dollars

Note. Created from Tables 1 through 10.

In 2002, Texas community colleges “received a seven percent midyear cut” (Hudson, 2008, p. 24). In fiscal year 2002-03, state appropriations markedly declined as a result of the midyear cut. “For the 2004-2005 biennium, Texas institutions of higher education

were appropriated from 2.2 percent less to 22.6 percent less” (p. 24). Consequently, in fiscal year 2003-04, tuition and fee revenues increased sharply.

One conclusion that can be drawn from the data is that Texas community colleges attempted to offset state appropriation declines with other means, before increasing tuition and fees. This is corroborated by local tax revenue increases prior to tuition and fee increases. This is also corroborated by reductions in total expenditures during the fiscal years 2000-01 through 2004-05, as depicted in Table 16.

Table 16: Texas Community College Total Expenditures, 2000 to 2008

Year	CPI	FTSE	Total Expenditures	Total Expenditures (2008 Constant \$)	Total Expenditures per FTSE (2008 Constant \$)	Annual Percent Change
FY00	172.2	393,381	\$2,303,416,410	\$2,879,979,462	\$7,321	6.7%
FY01	177.1	407,166	\$2,413,404,891	\$2,934,010,803	\$7,206	-1.6%
FY02	179.9	437,247	\$2,548,614,219	\$3,050,162,797	\$6,976	-3.2%
FY03	184.0	465,595	\$2,708,777,037	\$3,169,607,730	\$6,808	-2.4%
FY05	195.3	486,511	\$2,978,549,097	\$3,283,617,799	\$6,749	-0.9%
FY06	201.6	480,963	\$3,043,988,857	\$3,250,892,524	\$6,759	0.1%
FY07	207.3	486,864	\$3,291,585,800	\$3,417,967,886	\$7,020	3.9%
FY08	215.3	499,237	\$3,491,115,571	\$3,491,115,571	\$6,993	-0.4%

Note. The data for total expenses are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Conclusion Two

Based on the researcher’s knowledge of Texas state appropriations, a closer analysis was given to the category of state appropriations. There are two general categories of state appropriations: Basic and employee benefits/special. Basic

appropriations are to be used for instruction. More specifically, “Education Code §130.003(c) indicates that state funds must be used exclusively for the purpose of paying salaries of instructional and administrative forces...and the purchase of supplies and materials for instructional purposes” (Legislative Budget Board, 2009, p. 18). Employee benefits/special state appropriations are restricted in their use: They only fund employee health benefits and state retirement matching for designated community college employees.

As the data analysis progressed, subsequent questions arose: What is the trend of basic state appropriations?; and, What is the trend of state appropriations for employee benefits/special? The answer was what the researcher suspected. The state appropriation decrease of -15% over the 15-year study period this was primarily a result of an even greater decline in basic state appropriations. Basic state appropriations declined by -19% during the same 15-year period, while employee benefits/special state appropriations increased by 8%. This is detailed in Figure 17 and Tables 17 and 18, which detail and compare the two categories of state appropriations to local tax and tuition and fee revenues.

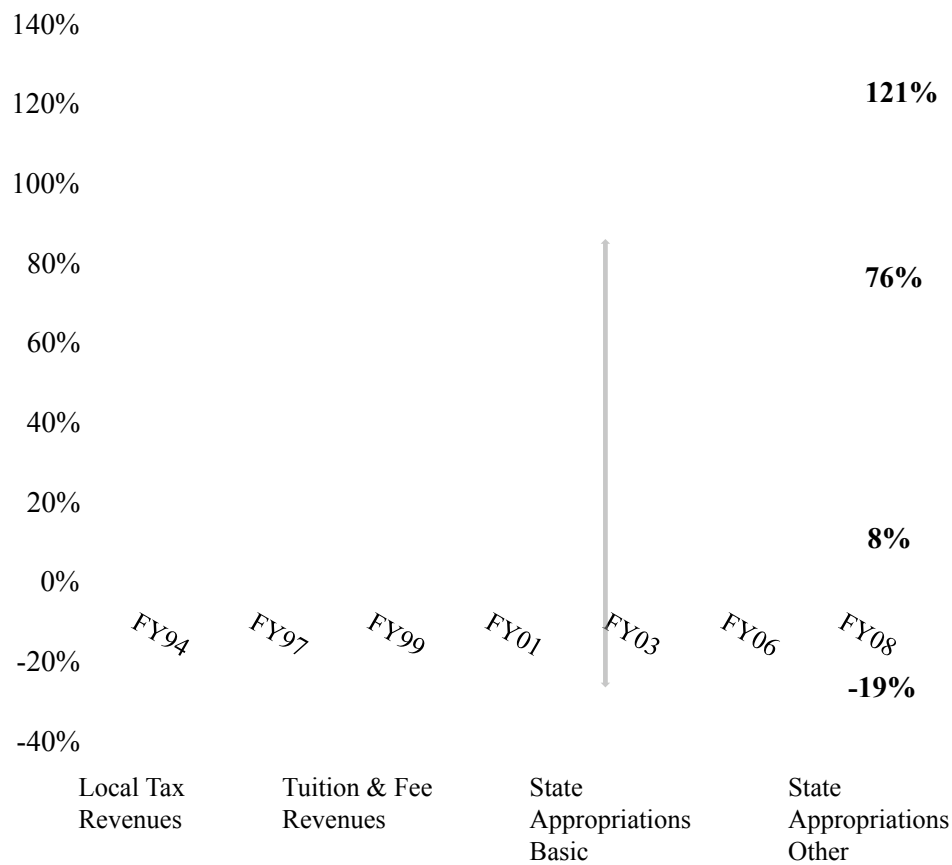


Figure 17. Breakdown of State Appropriations per FTSE in 2008 Constant Dollars

Note. Created from Tables 1 through 10, 17, and 18.

Table 17: Texas Community College State Appropriations Basic, 1993 to 2008

Year	CPI	FTSE	State Appropriations Basic	State Appropriations (2008 Constant \$)	State Appropriations per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$519,910,941	\$774,660,106	\$2,181	
FY94	148.2	356,847	\$570,700,187	\$829,105,684	\$2,323	7%
FY95	152.4	357,629	\$574,929,514	\$812,231,294	\$2,271	4%
FY97	160.5	372,714	\$580,886,601	\$779,231,326	\$2,091	-4%
FY98	163.0	377,069	\$657,777,422	\$868,843,266	\$2,304	6%
FY99	166.6	385,906	\$684,294,945	\$884,338,263	\$2,292	5%
FY00	172.2	393,381	\$720,858,335	\$901,294,786	\$2,291	5%
FY01	177.1	407,166	\$740,560,350	\$900,309,797	\$2,211	1%
FY02	179.9	437,247	\$793,207,464	\$949,304,873	\$2,171	0%
FY03	184.0	465,595	\$735,920,353	\$861,118,803	\$1,850	-15%
FY05	195.3	486,511	\$762,665,912	\$840,779,616	\$1,728	-21%
FY06	201.6	480,963	\$783,479,987	\$836,734,086	\$1,740	-20%
FY07	207.3	486,864	\$816,153,755	\$847,490,387	\$1,741	-20%
FY08	215.3	499,237	\$876,871,556	\$876,871,556	\$1,756	-19%

Note. The data for state appropriations basic are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Table 18: Texas Community College State Appropriations Employee Benefits/Special, 1993 to 2008

Year	CPI	FTSE	State Appropriations Other	State Appropriations (2008 Constant \$)	State Appropriations per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$100,665,130	\$149,989,650	\$422	
FY94	148.2	356,847	\$109,701,942	\$159,373,530	\$447	6%
FY95	152.4	357,629	\$112,375,163	\$158,757,938	\$444	5%
FY97	160.5	372,714	\$120,377,942	\$161,481,197	\$433	3%
FY98	163.0	377,069	\$117,674,984	\$155,434,215	\$412	-2%
FY99	166.6	385,906	\$121,826,986	\$157,441,270	\$408	-3%
FY00	172.2	393,381	\$146,329,600	\$182,957,038	\$465	10%
FY01	177.1	407,166	\$155,028,954	\$188,470,914	\$463	10%
FY02	179.9	437,247	\$184,306,900	\$220,577,146	\$504	19%
FY03	184.0	465,595	\$198,004,438	\$231,689,943	\$498	18%
FY05	195.3	486,511	\$178,737,155	\$197,043,757	\$405	-4%
FY06	201.6	480,963	\$188,747,242	\$201,576,624	\$419	-1%
FY07	207.3	486,864	\$222,967,578	\$231,528,530	\$476	13%
FY08	215.3	499,237	\$228,055,244	\$228,055,244	\$457	8%

Note. The data for state appropriations employee benefits/special are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Conclusion Three

While a definitive correlation that proves a link between state appropriation decreases and tuition and fee revenue and local tax revenue increases cannot be proven in this study, the data does support this conclusion. As state appropriations began to

decline in the early 2000's, local tax revenues and then tuition and fee revenues began substantial increases. The data illustrated that students and the local tax payers have taken the impact of state appropriation shortfalls. Figure 18 and Table 13 provide evidence for this conclusion: During the 15-year period from 1993 to 2008, state appropriations decreased -33%; while local tax revenues increased 73% and tuition and fees increased 38%, based on FTSE in 2008 constant dollars.

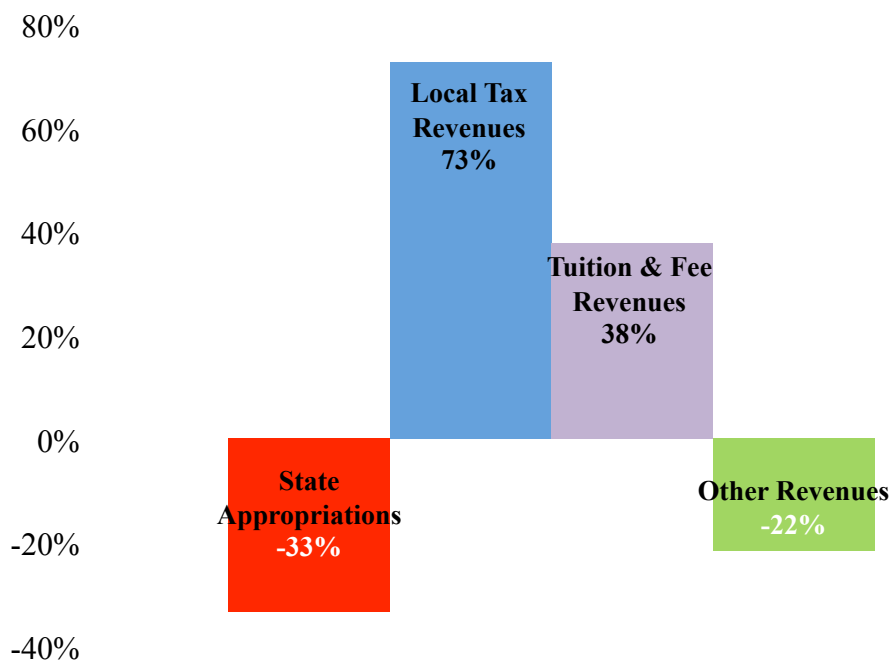


Figure 18. Percentage Change for Revenues per FTSE Contributing to Total Revenues in 2008 Constant Dollars

Note. Created from Tables 1 through 10 and 13.

Recommendations

During the course of this study, two areas of future research became apparent. One was an exploration of the expenditures of the 50 Texas community colleges. The second was an exploration of local tax revenues for the 50 Texas community colleges. Both of these have implications to the perception and reality of increasing tuition and fees being charged to students.

The NCPPHE (2009) explained, “The American people, according to recent public opinion research, believe that college access is declining; that maintaining college opportunity and affordability is a crucial issue; *and that colleges and universities will drive up tuition and spending rather than look to better ways to spend the money they have* (p. 1, emphasis added). While it is understood that affordability must be addressed on many fronts, this study did not address expenditures that Texas community college districts may incur.

However, the researcher conducted a preliminary examination of expenses. Table 19 has described total expenditures of Texas community colleges per FTSE in 2008 constant dollars for the years 1993 through 2008, excluding 1996 and 2004.

Table 19: Texas Community College Total Expenditures, 1993 to 2008

Year	CPI	FTSE	Total Expenditures	Total Expenditures (2008 Constant \$)	Total Expenditures per FTSE (2008 Constant \$)	Percent Change
FY93	144.5	355,206	\$1,398,665,556	\$2,083,992,320	\$5,867	
FY94	148.2	356,847	\$1,510,980,942	\$2,195,133,129	\$6,151	5%
FY95	152.4	357,629	\$1,586,341,209	\$2,241,102,502	\$6,267	7%
FY97	160.5	372,714	\$1,736,088,858	\$2,328,879,373	\$6,248	7%
FY98	163.0	377,069	\$1,888,924,743	\$2,495,037,816	\$6,617	13%
FY99	166.6	385,906	\$2,048,002,719	\$2,646,705,459	\$6,858	17%
FY00	172.2	393,381	\$2,303,416,410	\$2,879,979,462	\$7,321	25%
FY01	177.1	407,166	\$2,413,404,891	\$2,934,010,803	\$7,206	23%
FY02	179.9	437,247	\$2,548,614,219	\$3,050,162,797	\$6,976	19%
FY03	184.0	465,595	\$2,708,777,037	\$3,169,607,730	\$6,808	16%
FY05	195.3	486,511	\$2,978,549,097	\$3,283,617,799	\$6,749	15%
FY06	201.6	480,963	\$3,043,988,857	\$3,250,892,524	\$6,759	15%
FY07	207.3	486,864	\$3,291,585,800	\$3,417,967,886	\$7,020	20%
FY08	215.3	499,237	\$3,491,115,571	\$3,491,115,571	\$6,993	19%

Notes. The data for total expenses are adapted from *All years* (2009). Texas Higher Education Coordinating Board Resource Document. Austin, TX.

Containment of expenditure increases, when compared to revenue increases, could have been the result of better space utilization, distance education and/or Virtual College of Texas (VCT) opportunities, and other cost cutting measures implemented by Texas community colleges. Most notably is the reduction in expenditures from FY 2000 through FY 2006.

As can be seen from the above data, total expenditures have increased 19% during the 15-year period, while total revenues have increased 28% during the same time (see

Table 9. *Texas Community College Total Revenues, 1993 to 2008*). The expectation, based on prevailing literature, was that expenditures are not being controlled and would, therefore, surpass the rate of inflation (NCPPE, 2009). While the data for Texas community colleges expenditures gives a glimpse into total expenditures, further research on expenditures could yield opportunities for improvement for Texas community colleges. For example, did distance education opportunities result in reduced expenditures? The second question regarding expenditures is: Have Texas community colleges utilized their facilities more efficiently during the 2000s than in prior years? The third question for future research is: Have accounting regulations, such as GASB 34/35, affected expenditure increases/decreases?

The second recommendation for future research centers on local tax revenues. As the data revealed in Table 4: *Texas Community College Local Tax Revenues, 1993 to 2008*, local tax revenues had the highest increase per FTSE in 2008 constant dollars of all the Texas community college revenue sources. Local tax revenues increased 121%. There are two areas of potential exploration of local tax revenues: current economic implications to local property taxes and what caused the historic growth in local tax revenues.

The first data to be researched is the value of the property being assessed. Due to the decline in the U.S. economy, property values are falling (Wotapka, 2008). These can have a detrimental effect on community colleges in Texas, as local tax revenues produce 30% of Texas colleges' total revenues, which is detailed in Table 14: Study Findings.

The second data to be researched would answer the question: What has caused the increase in local tax revenues? There are at least three possible answers to this question. The first data to research are the increase or decrease in property values. Was the increase in local tax revenues a result of property value increases from economic development? The second data to research are the tax rates. Was the increase in local tax revenues due to community colleges' increasing the property tax rates? The third data to research are the increase in property assessments due to annexations. Was the increase in local tax revenues due to community colleges' annexing new territory? Any one, or a combination of the three, could be the reason for the increase in local tax revenues. However, more research is needed to determine the reality.

Summary

Since 2006, there have been five major college tuition and fee inflation charts disseminated through nationally available publications (Blumenstyk, 2008; Callan, 2006a; Callan, 2008; Wang, 2008; Wellman, 2006). These charts have garnered attention about the rising cost of higher education. This study has contributed fourfold to clarifying tuition and fee revenue inflation data for Texas community colleges.

First, this study contributed specificity, not simply a national index, for Texas community college annual revenues per FTSE in 2008 constant dollars. Second, this study illuminated the difference between a national index including all types of higher education and Texas community colleges. Third, this study illustrated one factor for Texas community college tuition and fee revenue increases: The rapid decline in state appropriations. Finally, this study introduced preliminary data that demonstrated Texas

community colleges have addressed tuition and fee increases through the control of expenses, as total expense increases for Texas community colleges are less than half the increase in CPI.

Ultimately, more research needs to be done. Two areas of future research were uncovered as a result of this study. One was a more thorough exploration of the expenditures of the 50 Texas community colleges, which could lead to new cost-saving opportunities for community colleges. The second subject for future research is to ascertain the underlying determinants that caused the large increase in local tax revenues. This would include the analysis of property valuations, local tax rates, and local tax revenue increases due to annexation.

This study focused on the rate of increase of tuition and fees per FTSE in 2008 constant dollars for the 50 Texas community colleges. Moreover, this study used the entire population data, not just sample data. This greater analysis of historical data allows community college leaders to describe their affordability challenges more accurately and, therefore, more effectively.

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VITA

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Danette is currently Vice President for Academic and Community Initiatives at Temple College. During her ten years with Temple College, her responsibilities have included management of the departments of the Central Texas Tech Prep Consortium; Business and Community Education; Tech Prep Statewide Assessment and Evaluation; off-site centers in Cameron and Taylor; Temple College Foundation; Division of Technology including the departments of CIS, GIS, CAD, Criminal Justice, Management and Business, Welding, and Automotive. Danette was instrumental in the start-up and realization of the nationally recognized Texas Bioscience Institute,

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