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Obscure U: Complexity and Complicity in For-Profit University Financial Statements

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CLAREMONT MCKENNA COLLEGE

**Obscure U: Complexity and Complicity in For-Profit University
Financial Statements**

SUBMITTED TO

PROFESSOR MATTHEW MAGILKE

AND

DEAN PETER UVIN

BY

CAROLINE COUNTS

FOR

SENIOR THESIS

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Abstract

The prominence and size of for-profit universities (FPUs) today has led to increased regulation and oversight. One important regulation is the 90/10 rule which states that FPUs cannot receive more than 90% of their revenue from government Title IV funds. The regulations require publicly traded FPUs to not only comply with the 90/10 rule but also to disclose their score on their financial statements. There is little research, however, studying the quality of these disclosures. My paper studies the readability and complexity of the 90/10 score disclosure contained in FPU financial statements in relation to the 90/10 score itself. My findings suggest that as the 90/10 score increases, the readability of the disclosure decreases. I find that the percent change in 90/10 score is matched with large percent change in word count showing the greater the increase in 90/10 score the greater the increase in words in the disclosure. I also find that the traditional readability index, the Gunning Fog Index, is an unreliable measure of the complexity of FPU financial statements because of the prevalence of understood but complex industry specific words. I find also that as the 90/10 score increases, the likelihood that the FPU reports the prior year score decreases. I argue that publicly traded FPUs use tactics to increase the complexity of their disclosures when the 90/10 score is high or increasing.

Chapter 1: Introduction

1.1 Problem Orientation

In the case of a proprietary institution of higher education...such institution will derive not less than ten percent of such institution's revenues from sources other than funds provided under this subchapter (Title IV Funds).

-Higher Education Act of 1965

Section 487 (d)(4) of the Higher Education Act of 1965, as amended (HEA), requires the secretary of Education to submit an annual report to Congress containing information regarding the amount and percentage of each for-profit institution's revenues from Title IV sources and non-Title IV sources as provided by the institution in its audited financial statements.

-United States Department of Education

There is extensive research surrounding For-Profit university systems, but none that focuses on the financial statements of the publicly traded companies that operate them. The For-Profit Universities, FPU, are regulated by the government as providers of education and also as publicly traded business. The 90/10 rule, as taken from the Higher Education Act of 1965 HEA, prevents FPU from receiving more than ninety percent of their revenues from Title IV, government financial aid, sources. This is to encourage FPU to generate revenue from non-government sources and student contributions. The publicly traded companies that own these institutions are required to disclose their score in their annual report. In this study, I propose to examine the relation between the 90/10 score and the clarity of the disclosure of the financial statements. More specifically, I seek to examine whether the increase in the 90/10 score or high levels of a 90/10 score are reflected in increasingly complex disclosures. A high

score is bad and increases risk for the institution, and I will examine if there is evidence of companies attempting to bury the scores in the complex disclosures.

The implications for this study are wide reaching , affecting students, analysts, investors and the government. If the study shows there is a relationship between financial statement complexity and 90/10 score then it will create a movement to examine the financial statements, specifically the section which discusses the disclosures more closely. If readers of the financial statements are interested in accurately predicting the risk of the company surpassing the 90% threshold and losing a major source of revenue, then they will have to prepare to look for additional sources of information or practice close reading, as increased complexity can decrease ability to make accurate predictions.

In my study, I run three separate regressions comparing different measures of complexity using data from fiscal years 2007 to 2014 to measure the effects of the 90/10 score on the complexity of the disclosure. My findings suggest that as the 90/10 scores increase, either as raw scores or as a percent change in score, the disclosure becomes increasingly complex. The larger the change in 90/10 scores from the previous year, the greater the change in word count. A Fog Index Score, a typical measure of readability, is shown to decrease with the 90/10 score; however, I argue that the Fog Index score is not a reliable measure in this specific situation. I also found that the higher the 90/10 score, the more likely the report was to include the score from the previous year but the higher the change in the 90/10 the less likely they are to include the score from the previous year.

My paper proceeds as follows. The second section of this chapter discusses the history and rise of FPU's, outcomes and student debt at FPU's, and the recent trends in litigation and regulation of the industry. Chapter 2 is a review of relevant literature in this subject area ranging from the subject of financial statement clarity to quality of FPU's. Chapter 3 states my hypothesis with regard to three techniques for measuring complexity. Chapter 4 discusses my data and methodology. Chapter 5 contains my results in the form of regressions and analysis. Chapter 6 is my conclusion and thoughts for future research in the area.

1.1 Background to the Research Problem

1.1.1 History of Industry

For-Profit Universities have seen large growth in the last 40 years. In 1974, they granted only 0.4% of all degrees but by 2006 they granted 6% of all degrees (Hentschke). Current estimations place the percent of students enrolled in degree programs at FPU's to be around 12%. The FPU's, specifically the ones examined in my study, are typically part of super systems, which are multistate, multi campus, and largely online university systems that are publicly traded. These grow easily because of their economies of scale and the ability to educate many students with fewer faculty members by using online classes. There are many factors that have contributed to their rapid growth in the last half-century with a leading cause being the returns from and demand for education. Increasingly, the labor market requires or expects at least a bachelor's degree from candidates. What was once "the symbol for success and the ticket to the middle class for the post-World War II generations

has slowly become the new high school diploma”(Selingo). Education has been shown to have positive returns in aspects such as income, employment and quality of life. This need for degrees has driven up the demand for all education, but has especially impacted FPU's because of their ability to grow easily. FPU's have also found a niche market in targeting less traditional students. Minority and low-income students are enrolled in FPU's at much higher rates than in traditional universities. At FPU's, 38% of degrees are granted to minority students compared to 19% and 16% at public and private traditional universities respectively (Henteshcke). FPU's typically enroll older students and part time students, often people working while earning their degree.

The publicly traded FPU's, as I focus on in my study, have additional aspects to their history as well as a later timeline. DeVry Inc. went public in 1991 and by 2000, thirteen additional providers of FPU's had gone public. They have grown quickly since then and saw great success during the 2008 recession as enrollment increased when recently laid off employees sought higher education. CNN Money reports indicate that the success of the FPU's stock depends on the employment outcomes of the students. The stocks have not been doing well recently because of high default rates and low performance from graduates. These factors, including the 90/10 rate become business risks for the companies and are considered in addition to the financial information when making decisions about the stocks.

1.1.2 Federal Aid and Defaults at FPU's

For-Profit Universities, including publicly traded ones are eligible for Title IV funds. These are federal aid programs given to students on a need basis. The student

has the responsibility to pay the lender, the government, which pays the university. Studies have shown that “students attending for-profit institutions have the lowest available personal and family resources to contribute to higher education costs relative to students in other sectors”(Cellini 138) Because the FPU disproportionately enroll minority and low income students, they receive a disproportionate share of Title IV funds. Cellini also found that FPU enroll around 10% of all students but receive approximately 20% of all Title IV funds. More troubling is that FPU receiving Title IV funds charge tuition 78 percent higher than education programs that are ineligible for Title IV funds (Cellini 142). This suggests that there is an institutional problem with FPU and their ability to increase tuition prices knowing that their enrollment will not drop, because the majority of their students will not shoulder the cost, but instead will just receive increased financial aid in the form of government loans and grants. This takes the risk away from the FPU and places it on the government who is the main lender to students seeking financial aid.

An additional concern with the large amount of Title IV funds going to FPU is the high loan default rates. *The New York Times* recently published an article about the growing student debt crisis and default rates. The data from the 2010 cohort show the default rate at FPU is 28% compared 16% at even the least selective four - year traditional universities (Dynarski).

1.1.3 Recent Trends and Future of Regulation

In its current form, the 90/10 regulation requires that less than 90% of cash based revenues for FPU come from Title IV funds. If a FPU is beyond the 90% threshold for more than two years it loses its eligibility to participate in Title IV

programs, which would significantly hurt the institutions ability to operate. Higher Education is highly regulated due to the fact that the government provides nearly 60% of all student aid in the country. The HEA looks to establish credibility and eligibility for schools that receive government funding to ensure that it isn't going to schools that aren't reaching certain outcome standards. Many argue that the 90/10 rule isn't strict enough because it fails to include federal funds schools receive through tuition assistance provided to veterans or military students. Because these funds are not Title IV funds, they are excluded from the calculations despite also being government funds. Members of Congress are pushing to increase the standards by either including DOD/ GI Bill funds in the calculation of 90/10 scores or lowering the threshold to 85/15 to account for this source.

Chapter 2: Literature Review

Prior research on the clarity of financial statement disclosures for For-Profit Universities is essentially non-existent. Despite the large amount of government funding and stockholder's investments, the quality of their disclosures has not been monitored or researched. Research, however, has been done on many of the topics that have come together to form the basis for my research. These studies fall into three major categories, first, legal, regulatory, and performance outcomes research related to For-Profit Universities; second, the for-profit universities as publicly traded entities and the importance of disclosures and third as studies analyzing the effects of complex financial statements.

2.1 The For-Profit University Systems

There is expansive literature regarding FPU's including studies into their quality as measured by graduation outcomes, their high loan default rates, the role of disclosures and need for increased regulation.

Alderdice (2014) examines the role of disclosures on the decisions making of prospective students. This paper focused not on the financial statement disclosure but the otherwise public disclosures including 90/10 scores that FPU's are required to make to prospective students. The finding of this study was that because for many low income and non-traditional college students, FPU's are their only option, the disclosures have little effect on their decision-making. My paper focuses more on analysts and investors and the disclosures in the financial statements rather than the disclosure of the rates to students.

In Said's (2011) study "Assessing the Efficiency of For-Profit Colleges and Universities for the Time Period 2005-2009," he compares graduation rates and total assets against inputs of total enrollment, number of full time staff, number of full time faculty, academic and institutional support expenses and total student grants to determine efficiency of the schools. This is relevant to my study because the concern over high 90/10 scores is justified for two reasons, one being concern of a school losing accreditation and then revenue for the company, and second concern regarding the government's role in providing 90% of the revenue these underperforming universities. This second point is made relevant through Said's study, which showed that FPU's are operating at low efficiency and are low performing.

Lastly, Cooley (2012) presents research showing the legal need for reform in the industry. She establishes many legal loopholes and failures of the regulation and requirements for the FPU's. This motivated my research because her research showed how schools can lower their 90/10 scores and other disclosures, so I know their high scores are possibly manipulated, anyway. This study establishes a background for an intention to keep the 90/10 scores low, which would motivate the way scores are disclosed and presented on the financial statements.

2.2 For-Profit Universities as Publicly Traded Companies

Ortmann (2001) analyzes the reasons for the increase of publicly traded higher education groups. Published in 2001, following 10 IPOs in 5 years in the FPU's group, the paper looks at why analysts are recommending the investment. Though the reports was published before the increase in regulation, the paper still provides valuable insight into the investment aspect of the FPU's. The paper cites the need for tech knowledge and the shift to a technology and service economy as the main source for the growth and confidence of investors in the market. Interestingly, the second most important reason for investment is because of the predictable revenue and government funding as a consistent and reliable revenue source. Reliance on government funding is the main issue that enters the 90/10 debate (Ortmann) Because the government is a predicable revenue source and provides up to 90% of the revenue, FPU's are seen as safe investments. Analysts would be concerned if the 90/10 was getting too high because the company would lose a main source of revenue, which would impact an analyst's decision to invest in a company.

The most relevant research on the complexity of financial statements in the industry comes from a US Department of Education Audit report titled “Transparency of Proprietary Schools’ Financial Statement Data for Federal Student Aid Programmatic Decision Making,” (2013) This report looks at the transparency of the financial statements from the position of the government in terms of allowing FPU’s to receive financial aid. While they use the 90/10 rule as justification for their audit and discuss its presence on the annual report, they focus more on the Income Statements of the companies. They concluded that the financial statements are, in fact, not transparent which was evident when they observed that 20% of FPU’s reported 3 or fewer line items in the expense section of the income statement. They also comment on the lack of consistency in reporting. My research is similar but focuses on the specific disclosure of the 90/10 rule.

2.3 Readability of Financial Statements

There is a great deal of research on the effects of readability of financial statements. Lahavy et al.(2011) examined the readability of annual reports and the resulting level of accuracy of analyst reports. They found that financial statements considered less readable as measured by the Gunning Fog Index, hereafter Fog Index, had greater levels of uncertainty in analyst reports and lower accuracy of predictions made in the reports.

Further, research has been done that reveals an aspect of clouding negative information by having lower readability of financial statements. In his study, Li (2008) concluded that firms with lower earnings have financial statements that are more difficult to read. He determined the readability of the financial statements by

looking at both the Fog Index and length of the document word count. He suggests companies try to hide negative results by making the annual report more difficult to read. While the length could be attributed to explaining the reasons for low earnings, the Fog Index score corresponds to the complexity of the words used. He explains, "Viewed collectively, the evidence in this paper suggests that managers may be opportunistically structuring their annual reports to hide adverse information from investors" (Li). My research adds to this by focusing on the specific industry of For-Profit universities and the specific 90/10 disclosures.

The research of Loughran and McDonald (2011) suggests an opposing view on the use of the Fog Index claiming it is an inaccurate measure when applied to financial statements. They argue that because finance jargon, which is understood by investors, results in high Fog Indexes, it scores annual reports as more complex than they are. According to their study, the document size of the 10-K outperforms the Fog Index in determining readability of financial statements.

Chapter 3: Hypothesis

While there has been research from a legal and government side of the 90/10 laws, there is little to no research regarding the reporting of these numbers in the financial statements and the effects on the users of financial statements. Based on the information in the Literature Review, there is support for an association between vague disclosures and proximity to the 90% threshold. I have structured my hypothesis to support this relationship. I will examine three different features of the disclosure that contribute to a more vague reading of the section.

Hypothesis 1: As the percent change in 90/10 Scores increases so will the percent change in word count

In his study, Li found that “Because the information-processing cost of longer documents is presumed to be higher, assuming everything else to be equal, longer documents seem to be more deterring and more difficult to read. Therefore, the length of an annual report could be used strategically by managers in order to make an annual report less transparent and to hide adverse information from investors.” Applying this to my study, I hypothesize that as the 90/10 score increases and becomes closer to the threshold, an undesirable position for the company, they will try and hide this information by also increasing the word count of the section disclosing this information. If the paragraph becomes longer, it is less likely to be read, which would benefit the institution attempting to hide this increased risk. I chose to examine the percent increase in word count because the word count of the paragraphs varies by company so to examine the change in length it is better to look at the change in word count by the company.

Hypothesis Two: The higher the 90/10 score the higher the Fog Index Score

The Gunning Fog Index is an established method of calculating the readability of a section. It has been applied successfully to the study of financial statements such as in Miller’s (2010) study where the Fog Index to is found to be significant in comparing readability to trading volume. In my study, a higher Fog Score would indicate a higher level of complexity of the disclosure. This would indicate that the paragraph would be more difficult to understand or increase the likelihood that it would be skipped over when being read. If the 90/10 score is high and the

institution is looking to disguise that fact or make it less clear, they could do that by increasing the complexity of the paragraph where they disclose the score. Because of the incentive to make the score less transparent if it is high, it seems likely that a high 90/10 score would be correlated with a high Fog Index score.

Hypothesis Three (a): A higher 90/10 score increases the likelihood that the prior year data will be not be disclosed

If an institution has a high 90/10 score and is approaching the cutoff, then it is likely that they will not show the data from previous years in an attempt to disguise trends. If the reader of the financial statements doesn't have a comparison for the current score it is more difficult to determine the effect of the severity of the level.

Hypothesis Three (b): As the percent change in score increases the likelihood that prior year data will not be disclosed is higher.

Building off of 3b, it seems likely that the scores and prior year data would be most relevant in companies where their 90/10 score is increasing by a large percent over a year. A score that is increasing by a large percent can be troublesome to investors, especially if it were already near the limit. If scores are increasing rapidly, the company would not disclose the prior year score so the reader of the financial statements cannot make a quick comparison or see the large increase.

Chapter 4: Methodology

4.1 Data Sources

My hypotheses involve analyzing the financial statements in publicly traded for-profit universities. I will obtain the publicly reported data by obtaining the companies' annual reports and Form 10-Ks, for the years examined. The financial

statements are public knowledge and audited by an independent auditor to provide reasonable assurance they are free from material misstatement.

4.2 Measuring Readability of 90/10 Disclosures and Variables

Using a variety of methods I will assign scores and values to the paragraph describing the 90/10 rule, giving the disclosure a 90/10 score and scores on my criteria.

- a. **90/10 score:** The score is disclosed in the paragraph as a percent, showing what percent of the cash based revenues come from Title IV funds. The calculation of this amount is audited.
- b. **Number of Words:** Using a simple online tool I copied the paragraph typically beginning “The 90/10 Rule” to calculate the number of words in the paragraph. For this calculation words included in graphs/charts were not included in the calculation. To calculate the percent change in words I simply subtracted the number of words in the prior year discussion from the number in this year’s discussion and divided by the number of words in the prior year. The word count varied from 98 to 1561 words
- c. **Gunning Fog Index Score:** To calculate the Gunning Fog Index Score I used an online tool that applied the formula

$$Score = .4(Average Sentence Length + 100 \frac{Complex Words}{Total Words})$$

This gave me an index score, which ranged from 14.74 to 28.22. The scores, in general, are high and indicate the need for advanced reading skills to understand the statements. Because of the nature of financial statements and the users of financial statements the Gunning Fog Index scores are less useful

as a level of readability and more used to compare scores and see the increase and decrease in complexity. The drawbacks of the Gunning Fog Index scores and applicability to financial statements are discussed more in the literature review.

- d. Prior Year Data:** I assigned the 10-K a score for including the 90/10 score from at least one prior year in the current year's disclosure. Reports received a 1 for including the data and a 0 if they only included the current year or had no prior year data included. The presence of prior year data is important for establishing trends in the number and looking at changes over years. I would consider it more clear if the prior year data was included as well.

Scored but Not Tested

- e. Aggregating Data:** Many of the firms had multiple schools within them each reporting a different 90/10 score. Firms varied in their reporting of the 90/10 score and were given a 1 if they disaggregate the data for each school (or a 1 if they only have 1 school so it was not applicable) or a 0 if they present a weighted average. A weighted average does not show how close one individual school might be to hitting the 90/10 mark and because the consequence are felt on an institution by institution basis and not a company by company it is important to show all of them.
- f. Veterans and Funds:** Funds received from the GI Bill or the VA are not included in the calculation of the 90/10 score. These funds however are still from the government and in an effort to increase the accountability there are attempts in Congress to have them counted in the 90/10 score or to decrease

it to an 85/15. Changing the threshold or including those funds would pose a great risk to the companies. If the 10-K included a discussion of this increased risk or future change it was scored a 1 and if there was no mention then a 0.

- g. Current Year Data:** The data from the current year is the most important for seeing if the school is at risk of surpassing the 90/10 level and losing funding. Some companies did not include this year's number, instead, only showing the prior year. 10-Ks received a score of 1 for having the current year and 0 for not. This was generally consistent across company and wouldn't change year over year for a company.

4.3 Population and Sample

This study covers the 11 publicly traded proprietary institutions for the years 2007-2013. See Appendix One for the name and ticker of each of the firms in the study. The publicly traded entities often have multiple university systems within them or multiple campuses separately reported for the 90/10 government data. The following table shows the process by which the final years and data were determined. One firm, American Public Education (APEI), was intentionally excluded despite being a publicly traded For-Profit university system. It was excluded because of its unique focus and demographic of veteran students. Because the majority of funds for Veteran's education are excluded from the 90/10 calculations their levels of 90/10 were insignificant and confounded many of the tests.

Reason	#	Notes
All Firms 2007-2011	78	Total Possible Entries
Years before IPO	(3)	Company did not exist in these years
No Score Reported	(5)	Ex: No schools exceeded 90% this year
No score change	(11)	First year of data no ability to see percent change (only excluded in calculations looking at percent change)
Company Poor Fit	(7)	APEI serves primarily veteran students, low 90/10
Final Data Points	52	

Chapter 5: Results and Analysis

5.1 Percent Change in 90/10 Score and Percent Change in Word Count

This section presents the results and analysis of my study. The first results are displayed in Table I and use the percent change in the 90/10 level as the independent variable and the percent change in word count as the dependent variable. This looks to explain H1, if the percent increase in the 90/10 score corresponds with an increase in the number of words in the section that discloses it. The percent change in word score is used to see a relationship between increasing the number of words for each company over the time frame as opposed to just looking at the number of words because those results would be disguised because some companies report in the high 800s and some in the low 200s so I look to examine the change in number of words reporting. This test showed that there is a significant relationship between the percent change in 90/10 score and the percent change in number of words reported. If there is a 1% change in the 90/10 score that is shown as a increase of 8.1253 in the percent change of number of words. This is consistent with my hypothesis because as the 90/10 score is increasing companies are trying to hide or bury that information by also increasing the length of the of the

section describing the score and rule. The increased length could, however, also be an indication they were attempting to explain the causes of the increased score in detail.

Table I

Linear Regression							
Regression Statistics							
<i>R</i>	0.45043						
<i>R-square</i>	0.20289						
<i>Adjusted R-square</i>	0.18695						
<i>S</i>	1.01028						
<i>N</i>	52						
Percent Change in Words = 0.18587 + 8.12528 * Percent Change in 90/10							
ANOVA							
	<i>d.f.</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p-level</i>		
<i>Regression</i>	1.	12.98944	12.98944	12.72642	0.00081		
<i>Residual</i>	50.	51.03336	1.02067				
<i>Total</i>	51.	64.02279					
	<i>Coefficient</i>	<i>Standard Error</i>	<i>LCL</i>	<i>UCL</i>	<i>t Stat</i>	<i>p-level</i>	<i>H0 (5%)</i>
Intercept	0.18587	0.14348	-0.10232	0.47406	1.29543	0.20112	<i>accepted.</i>
Percent Change in 90/10	8.12528	2.27764	3.5505	12.70006	3.56741	0.00081	<i>rejected.</i>
<i>T (5%)</i>	2.00856						
<i>LCL - Lower value of a reliable interval (LCL)</i>							
<i>UCL - Upper value of a reliable interval (UCL)</i>							

5.2 90/10 Score and Fog Index Score

In Table II, the independent variable is the 90/10 score and looks at the Fog Index Score as the dependent variable. This analysis showed that there is a negative relationship between 90/10 Score and Fox Index. There is a .35 point decrease in Fog score for every 1 increase in the 90/10 score. This finding is contradictory to my hypothesis, H2, which predicted that the higher the score the more complex /lower the readability of the passage would be to detract from the high score. This shows instead that as the 90/10 score increases and approaches 90% the ability to read

the paragraph explaining it actually becomes easier. The Fog Index has been found to not be the most reliable method of predicting readability in financial statements because of the financial jargon that is considered difficult because it is polysyllabic but understood by most analysts. In their study they found “that the words, *financial, company, interest, agreement, including, operations, and period* account for almost 7% of all words with more than two syllables”(Loughran, McDonald). This can be extended to my study as words common to the industry including *institution, proprietary, eligibility, consecutive, and participate* are all easily understood by analyst looking at universities but increase the Fog Index Score.

Table II

Linear Regression						
Regression Statistics						
<i>R</i>		0.6458				
<i>R-square</i>		0.41706				
<i>Adjusted R-sq</i>		0.40735				
<i>S</i>		2.7386				
<i>N</i>		62				
fog score for "90/10" paragraph = 49.60154 - 0.35111 * reported score						
ANOVA						
	<i>d.f.</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p-level</i>	
<i>Regression</i>	1.	321.95018	321.95018	42.92694	1.44648E-8	
<i>Residual</i>	60.	449.99739	7.49996			
<i>Total</i>	61.	771.94757				
	<i>Coefficient</i>	<i>Standard Error</i>	<i>LCL</i>	<i>UCL</i>	<i>t Stat</i>	<i>p-level</i>
Intercept	49.60154	4.32324	40.95377	58.2493	11.47323	0.
reported score	-0.35111	0.05359	-0.4583	-0.24391	-6.55187	1.44648E-8
<i>T (5%)</i>	2.0003					
<i>LCL - Lower value of a reliable interval (LCL)</i>						
<i>UCL - Upper value of a reliable interval (UCL)</i>						

5.3 90/10 Score and Disclosure of Previous Year Score

This test looks to examine the relationship between the level of the 90/10 score and the disclosure of the score from previous years. My hypothesis, H3(a), is that as a

firm's 90/10 score increases higher, the company is less likely to disclose the data from the year before. The test, as shown in Table III, below, showed that as 90/10 scores increase the likelihood of disclosing the previous year's score also increase. This is opposite from my hypothesis because it shows that firms with higher scores are more likely, rather than less likely, to disclose their previous years' score. To further examine this I performed an additional test, shown in Table IV, which looked at the percent increase in score and the disclosure of previous years. This test supported my hypothesis showing that as the percent increase of an FPU's 90/10 score increases the likelihood that they disclose the previous year decreases. This is logical because if companies don't show the previous year, you cannot immediately see the increase in score. This relationship however, was not statistically significant.

Table III

Linear Regression							
Regression Statistics							
<i>R</i>		0.47439					
<i>R-square</i>		0.22505					
<i>Adjusted R-square</i>		0.21213					
<i>S</i>		0.44369					
<i>N</i>		62					
Prior Year (1=Yes 0=No) = - 2.34974 + 0.03624 * Reported Score							
ANOVA							
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p-level</i>		
<i>Regression</i>	1.	3.43016	3.43016	17.42413	0.0001		
<i>Residual</i>	60.	11.81177	0.19686				
<i>Total</i>	61.	15.24194					
	<i>Coefficient</i>	<i>Standard Error</i>	<i>LCL</i>	<i>UCL</i>	<i>t Stat</i>	<i>p-level</i>	<i>H0 (5%)</i>
Intercept	-2.34974	0.70043	-3.7508	-0.94868	-3.35473	0.00138	<i>rejected</i>
Reported Score	0.03624	0.00868	0.01887	0.05361	4.17422	0.0001	<i>rejected</i>
<i>T (5%)</i>	2.0003						
<i>LCL - Lower value of a reliable interval (LCL)</i>							

Table IV

Linear Regression							
Regression Statistics							
R		0.23148					
R-square		0.05358					
Adjusted R-square		0.03466					
S		0.48266					
N		52					
Prior Year Disclosed = 0.64028 - 1.83084 * Percent Change in 90/10 Score							
ANOVA							
	<i>d.f.</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p-level</i>		
Regression	1.	0.6595	0.6595	2.8309	0.0987		
Residual	50.	11.6482	0.23296				
Total	51.	12.30769					
	<i>Coefficient</i>	<i>Standard Error</i>	<i>LCL</i>	<i>UCL</i>	<i>t Stat</i>	<i>p-level</i>	<i>H0 (5%)</i>
Intercept	0.64028	0.06855	0.50259	0.77796	9.34044	1.51682E-12	<i>rejected</i>
Percent Change in 90/10 Score	-1.83084	1.08815	-4.01644	0.35477	-1.68253	0.0987	<i>accepted</i>
<i>T (5%)</i>	2.00856						
<i>LCL - Lower value of a reliable interval (LCL)</i>							
<i>UCL - Upper value of a reliable interval (UCL)</i>							

Chapter 6: Conclusion

My findings overlap with previous studies suggesting that complexity and length of financial statements can confuse investors. This study applies those findings to FPU's and high scores on regulatory tests. The level of score on the 90/10 test determines the way in which the number is disclosed on the financial statements.

When examining the percent change in 90/10 score, I find a significant positive relationship between the increase in 90/10 score and increase in the number of words in the paragraph. This indicates an attempt to increase the complexity of the disclosure making readers less likely to closely read or read, in entirety, the section disclosing the score. This benefits the companies because it disguises the larger increases in score by making it less likely to be seen or fully examined. Both Lehavay and Li found the same result that increased word count leads to a less accurate reading of the financial statements.

When looking at the 90/10 score, I find that the Fog Index Score is significant. It, however, is significant in opposition of my hypothesis, suggesting that the higher the 90/10 score the lower the Fog Index Score. This result likely stems from the fact that the Fog Index Score has been shown to be unhelpful when applied to financial statements because of the level of jargon that registers has high complexity but is understood by most readers of financial statements. I make the argument that this is especially applicable in the case of the financial statements of FPU's because not only are the typical financial words present but education specific language as well. For these reasons, the Fog Index is not an accurate predictor of complexity in this situation and should not be considered.

In considering binary options for disclosures, I examined if the companies chose to disclose the prior year's score in addition to the required current year. My findings showed that a higher 90/10 score is positively correlated with disclosing the prior year. This again contradicted my hypothesis, which figured that FPU's with high scores would be less likely to report previous year data. The findings show the converse: FPU's with high scores more often include the previous year data. These findings were significant. To dig further into the relationship, I examined the relation between the percent change in 90/10 score and the disclosure of the prior year. When the score increases by a larger amount, the company is less likely to report the previous year's score. This is likely because if there is a large increase, then companies wouldn't want readers to calculate the difference. This finding however was not statistically significant.

It would be useful for further research to be repeated in the future with more data. Current data is limited as there are not many publicly traded companies and the number of years available is small. The 90/10 disclosures have only been required on the financial statements since 2007. Further to see a percent change requires an additional year of data, which limits current data. Similarly, if regulatory changes, such as the 85/15 change or including veterans are enacted, the research could be repeated to see how the quality of disclosures is affected. Another route for continued study would be to use an advanced program or system to analyze the text. The program could detect tone or word patterns, which could have an effect on the clarity.

While the size of the industry means the data is limited, there were many significant relationships between the 90/10 scores and measures of clarity. This is important because complexity reduces the benefits of the reading of financial statements. As the government audit of these companies showed, the industry is lacking consistency in reporting and while the audit focused on the financial statements, it can be extended to the disclosures, because as my studies have shown, they grow increasingly complex as the 90/10 score increases. While my research cannot prove the intention to deceive readers of financial statements it shows there is correlation between high 90/10 scores and decreased clarity in the disclosures. These institutions – all receive large amounts of government funding, as shown by high 90/10 scores – should be accountable and transparent in their presentation of the data.

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Appendix One

<u>Name</u>	<u>Ticker</u>
Grand Canyon	LOPE
Apollo Education Group	APLO
DeVry Education Group	DV
Corinthian Colleges	COCO
ITT Educational Services	ESI
American Public Education	APEI
Bridgepoint Education	BPI
Capella Education Group	CPLA
Career Education Corporation	CECO
Education Management Corporation	EDMC
Universal Technical Institute	UTI