ACCOUNTING ETHICS: LEGISLATING ETHICAL BEHAVIOR

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ABSTRACT

Recent accounting scandals resulted in a call for more accountability in the accounting profession.. To that end, various professional and government organizations have pressured the states to add an ethics component to continuing education requirements. This paper studies licensure requirements in the United States to empirically test if these efforts increase ethical behavior within the profession. Based on the data collected, the various licensure and continuing education requirements have no predictive value on disciplinary action taken against CPAs. This study, however, reveals various opportunities for future research and study of the effectiveness of regulation in promoting ethical behavior in CPAs.

DEVELOPMENT OF HYPOTHESES

This study is a result of my interest in whether ethical behavior can be imposed on Certified Public Accountants (CPAs) by the states through regulation of licensure and continuing professional education (CPE) requirements. Specifically, many states are struggling with recommendations by the American Institute of Certified Public Accountings (AICPA) to impose more stringent education requirements to entry to the profession and from the National Association of State Boards of Accountancy (NASBA) to impose a minimum ethics requirement on CPE for CPAs.

The Pennsylvania State Board of Accountancy has taken the position that an ethics requirement will not improve the behavior of CPAs in the profession. This has been a point of discussion in the Education Committee of the Pennsylvania Institute of Certified Public Accountants (PICPA) over the past several months.

From the issues raised by the recommendations made above and in the PICPA Education Committee meetings this paper sets out to test the following six hypotheses developed before any statistical analysis:

- H1: States with an ethics requirement in their periodic CPE requirements for CPAs will have a lower incident of disciplinary action against CPAs than states which do not.
- H2: States with a greater initial licensure requirement for higher education and experience will have a lower incidence of disciplinary action against CPAs than states which do not.
- H3: Requirements that a CPA candidate be a minimum age, a United States citizen, or have contacts with the state will not have an impact on the incidence of disciplinary action in that state.
- H4: States with shorter reporting periods for CPE will have a lower incidence of disciplinary action against CPAs than states with longer reporting periods.
- H5: Mandating CPE in the areas of accounting and auditing, tax, and ethics will reduce the incidence of disciplinary action on CPAs.
- H6: Lower incidents of disciplinary action will be seen in states with a higher discipline-specific education requirements, higher experience requirements, more required minimum CPE credits per year, and higher discipline specific CPE requirements.

These hypotheses were developed before the collection of data, but after investigation of what data was available for study.

DATA COLLECTION

To test these hypotheses, this study gathers the requirements for being licensed as a CPA in each of the fifty United States and the District of Columbia along with each state's CPE requirements. Using data on disciplinary action taken by the AICPA, this paper attempts to test whether efforts to increase educational requirements of candidates and mandating CPE in specialized areas, specifically ethics, has any effect on the behavior of CPAs and results in a reduced number of disciplinary actions.

The data gathered consists of fifty-one observations which include the fifty states and the District of Columbia. Using tables provided by the AICPA's website (http://www.aicpa.org) and National

Association of State Boards of Accountancy (NASBA) website (http://www.nasba.org), along with verification at individual state boards of accountancy websites, information was gathered on requirements for initial licensure as a CPA as well as license renewal and CPE requirements. Where possible, requirements in effect prior to 1998 were used to account for a lag between implementation of policies on licensure and the ultimate impact on behavior of CPAs in each state. It would not be reasonable, given the purpose of this paper, to expect policies put in effect recently to have an immediate impact on behavior of CPAs and the ultimate disciplinary actions taken against them.

Using data published by the AICPA in *The CPA Letter*, as summarized on the AICPA website, information was gathered on the number of disciplinary actions taken against members from the various states and the District of Columbia. No distinction was made from one type of disciplinary action to another for purposes of this paper.

DATA SUMMARY

A list of the variables obtained for this paper appears in Table 1. While all states required candidates to take and pass the Uniform Certified Public Accountants Exam (CPA Exam), each state legislates additional requirements and qualifications to be certified in that state.

The first five variables use dummy variables to indicate whether the state imposes a specific requirement on its candidates for licensure. A variable of one (1) is used if the state requires the characteristic of its candidates and zero (0) if it does not. These variables include the imposition of the following requirements: a minimum age for application; United States citizenship; residency in the state; employment in the state; and maintenance of an office in the state.

The sixth and seventh variables collected deal with the educational background required of candidates for licensure. Most states have minimum educational requirements to sit for the CPA Exam and enter the profession. The requirement typically has two components: a minimum level of higher education and a minimum number of credits in accounting while in higher education. Most states require some level of college education. This variable is quantified as the minimum number of years of college required to sit for the CPA exam and be licensed in the state. One state's minimum requirement is a high school diploma. Therefore, it is quantified as zero (0) years. A bachelor degree is indicated as four years, while those states that require either a graduate degree or 150 hours of college credit are indicated with five years. Additionally, most states require a minimum number of credits in the accounting and accounting-related fields. This variable is quantified using the minimum number of credits required.

The final two variables related to minimum licensure requirements are the experience requirements of each state. Many states have different levels of educational and experiential requirements for entering the profession. As it would be unrealistic to quantify the number of CPAs licensed at the various levels of education, this paper only quantifies the experience requirements for the minimum acceptable educational requirement for that state. This experience typically takes place in the public accounting field. The data point used for each state is the minimum years of public accounting experience required of a candidate with the minimum educational background defined as the number of years of higher education. Since most states allow non-public accounting experience to be used toward this requirement, a dummy variable was created to indicate whether the state did allow non-public accounting experience (indicated as a one) or did not (indicated with a zero).

Next, data was collected on the license renewal and minimum CPE requirements of each state. The license renewal data is composed of the number of years between each renewal of a CPA license.

The CPE requirements include the number of years between each reporting date of compliance with CPE requirements (the reporting period) and the number of CPE credit hour required. First, many states mandate a minimum number of CPE hours each year, regardless of the length of the reporting period. Next, each state has a minimum number of credit hours required for each reporting period. Since reporting periods vary, this variable was standardized by dividing the total credits required in each reporting period by the years in the reporting period. This variable was the same for forty-nine of the fifty states and, therefore, is not relevant to the study of differences between state licensure and education requirements. Lastly, some states mandate CPE credits in specific areas. The three areas where mandates are issued are accounting and auditing, tax, and ethics. The number of credits mandated in each of these areas was also standardized by dividing the number of credits required in a reporting period by the number of years in the reporting periods.

Lastly, data was gathered from the AICPA on disciplinary action taken against its members during 2003. Disciplinary actions were not distinguished as to

severity of conduct or severity of penalty. The total number of disciplinary actions effective in 2003 was tallied for each state. To standardize this data, the number of disciplinary actions in each state was divided by the population of each state (in millions) according to the 2000 United States census.

METHODOLOGY

The information gathered above was analyzed using the appropriate statistical tools to address each hypothesis. Before performing specific statistical tests on the six hypotheses, a correlation matrix was created with the variables collected for this study. This matrix (Appendix A) shows a strong correlation (here defined as any correlation above .60) between the state requirement of residence, employment, and maintenance of an office in the state. Additionally, there is a strong correlation between employment in the state and maintenance of an office within the state. There is also a high correlation between the mandatory requirement of CPE credit in tax and the requirement of CPE credit in ethics. While these high correlations do not necessarily represent causality, their existence must be considered when the analysis of any hypothesis involves two or more variables with high correlations.

Simple and multivariate regression analysis were used to calculate the estimated coefficients for each variable in each hypothesis. A two-tailed t-test with fifty (50) degrees of freedom (except as otherwise noted) and the related p-value were used to determine the statistical significance of the variable at a significance level of $\alpha < 5\%$.

DATA ANALYSIS

To follow is a discussion of each hypothesis and the results of the data analysis for each hypothesis.

Hypothesis 1

The first hypothesis (H1) hypothesizes states with an ethics requirement (E) in their periodic CPE requirements for CPAs will have a lower incident of disciplinary action (D) against CPAs than states which do not. Stated as a formula, the hypothesis is:

$$\hat{Y}_D = \beta_E E + \varepsilon$$

The hypothesis can be summarized as follows:
H_0: $\beta_E = 0$
H_A: $\beta_E \neq 0$
Upon performing a simple regression with disciplinary action as the dependent variable and ethics requirement as the independent variable, we fail to reject the null hypothesis. Although the regression results in a β_E of -0.026, this coefficient has a t-statistic of -0.3909 and p-value of 0.6975 indicating this coefficient is not statistically significant. We can therefore say with 95% certainty that the ethics requirement is not a valid predictor of disciplinary action against CPAs. It must be noted, however, that many of the disciplinary actions resulted from infractions committed in the early 1990's, before the implementation of some of the mandatory ethics requirements. Therefore, this leaves room for future research.

Hypothesis 2

The second hypothesis (H2) hypothesizes that states with a greater initial licensure requirement for higher education and experience will have a lower incidence of disciplinary action against CPAs than states which do not. To test this hypothesis, a regression analysis was performed using disciplinary action (D) as the dependent variable and years of higher education (HE), required credits of accounting (AE), experience in public accounting (PX), and whether the state allows non-public experience toward this requirement (NX) as the independent variables. Since there does not appear to be significant correlation between these variables (according to the correlation matrix in Appendix A), these variables appear to be independent of one another. Stated as a formula the hypothesized model is:

$$\hat{Y}_D = \beta_{HE}HE + \beta_{AE}AE + \beta_{PX}PX + \beta_{NX}NX + \varepsilon$$

This hypothesis can be expressed as follows for each of the four independent variables:

(1) H_0: $\beta_{HE} = 0$
H_A: $\beta_{HE} \neq 0$

(2) H_0: $\beta_{AE} = 0$
H_A: $\beta_{AE} \neq 0$

(3) H_0: $\beta_{PX} = 0$
H_A: $\beta_{PX} \neq 0$

(4) H_0: $\beta_{NX} = 0$
H_A: $\beta_{NX} \neq 0$

Upon running the regression analysis, coefficients were found for each independent variable as listed in Table 2 below.

It is clear that none of the variables tested are statistically significant and the null hypothesis, therefore is not rejected. Upon review of the ANOVA results, the F statistic of 1.6358 (where $F_{critical} = 2.57$ at

an $\alpha < 5\%$) indicates it is not likely any of the independent variables influencing the dependent variable. Additionally, the t-statistics in Table 2 fail to meet the critical t as illustrated by the p-values in excess of the α of 0.05 indicating that we fail to reject the null hypothesis for each of the four independent variables. Therefore, we can say with 95% confidence that higher education, accounting education, public experience, and non-public experience have no predictive value as to whether CPAs are more or less likely to be subject to disciplinary action.

Hypothesis 3

The third hypothesis (H3) hypothesizes that requirements a CPA candidate be a minimum age, a United States citizen, or have contacts with the state will not have an impact on the incidence of disciplinary action in that state. Dummy variables are used for the state requiring the candidate to be a minimum age (A) (18 or 19 years for most states), a U.S. citizen (C), a resident of the state (R), employed within the state (EM), and maintain an office (O) within the state. The correlation analysis indicates a high degree of correlation between residency, employment, and maintenance of an office which raises the risk of multicollinearity. This hypothesized relationship can be expressed in the following formula:

$$\hat{Y}_D = \beta_A A + \beta_C C + \beta_R R + \beta_{EM} EM + \beta_O O + \varepsilon$$

This hypothesis can be expressed as follows for each of the four independent variables:

(1) $H_0: \beta_A = 0$
$H_A: \beta_A \neq 0$

(2) $H_0: \beta_C = 0$
$H_A: \beta_C \neq 0$

(3) $H_0: \beta_R = 0$
$H_A: \beta_R \neq 0$

(4) $H_0: \beta_{EM} = 0$
$H_A: \beta_{EM} \neq 0$

(5) $H_0: \beta_O = 0$
$H_A: \beta_O \neq 0$

An initial review of the regression results shows the F statistic (0.1651) fails to meet its critical value (2.57) indicating it is not likely any of the independent variables influence the dependent variable at an $\alpha < 5\%$. It is clear from the results in Table 3 that we fail to reject each of the five null hypotheses and there is no relationship between the variables of age, citizenship, residency, employment, or maintenance of an office in the state and the likelihood of disciplinary action against CPAs. None of the coefficients reach the critical value of t (± 2.0086) nor do any of the p-values reach an α of 5% or less.

Hypothesis 4

The fourth hypothesis (H4) is: states with shorter reporting (RP) periods for CPE will have a lower incidence of disciplinary action against CPAs than states with longer reporting periods. Therefore, reporting periods (RP) is the independent variable in a simple regression. Stated as a formula, this hypothesized relationship is:

$$\hat{Y}_D = \beta_{RP} RP + \varepsilon$$

The hypothesis can be expressed as follows:

$H_0: \beta_{RP} = 0$
$H_A: \beta_{RP} \neq 0$

Since one state does not have CPE requirements to maintain CPA licensure, this state was not included in the analysis. Therefore, the regression of H4 has forty-nine (49) detrees of freedom and a t of ± 2.0096. A review of the regression results indicates a t statistic of -0.3909, which fails to reach the critical value. Additionally, the p-value of this coefficient is 0.6975, well above the α of 5%. Therefore, the null hypothesis is not rejected leading to the conclusion, with 95% confidence, that disciplinary actions against CPAs are not influenced by the length of the reporting periods for CPE compliance.

Hypothesis 5

The fifth hypothesis (H5) is as follows: mandating CPE in the areas of Accounting and Auditing (AA), Tax (T), and Ethics (E) will reduce the incidence of disciplinary action on CPAs. This relationship can be expressed in the following formula:

$$\hat{Y}_D = \beta_{AA} AA + \beta_T T + \beta_E E + \varepsilon$$

They hypotheses for each coefficient can be expressed as follows:

(1) $H_0: \beta_{AA} = 0$
$H_A: \beta_{AA} \neq 0$

(2) $H_0: \beta_T = 0$
$H_A: \beta_T \neq 0$

(3) $H_0: \beta_E = 0$
$H_A: \beta_E \neq 0$

After setting disciplinary action as the dependent variable and accounting and auditing, tax, and ethics as the independent variables, a multivariate regression model was run. The results of the regression model appear in Table 4 below. Due to the high correlation between tax and ethics, there is a risk of multicollinearity.

Based on these results, we fail to reject the null hypothesis on each of the three coefficients. Each coefficient reaches neither critical t (±2.0086) nor $\alpha <$ 5%. Therefore, the hypothesized relationship between mandated CPE in accounting and auditing, taxation, and ethics, is not supported by the statistical results. Given this result and the fact that the model yields an F statistic of 0.7583 where $F_{critical} = 2.24$, the correlation of tax and ethics does require additional analysis.

Hypothesis 6

The sixth hypothesis (H6) focuses on the education within the profession. It simply states that lower incidents of disciplinary action will be seen in states with a higher discipline-specific education requirements, higher experience requirements, more required minimum CPE credits per year, and higher discipline-specific CPE requirements. The hypothesis specifically looks at the how accounting education (AE); public experience requirements (PX); minimum CPE requirements (ME); and mandated accounting and auditing (AA), taxation (T), and ethics (E) CPE credits as independent variables. As indicated above, taxation and ethics are highly coordinated and must, therefore be reviewed with care. The relationship hypothesized here can be summarized in the following formula:

$$\hat{Y}_D = \beta_{AE}AE + \beta_{PX}PX + \beta_{ME}ME + \beta_{AA}AA + \beta_T T + \beta_E E + \varepsilon$$

They hypotheses for each coefficient can be expressed as follows:

(1) $H_0: \beta_{AE} = 0$
$H_A: \beta_{AE} \neq 0$

(2) $H_0: \beta_{PX} = 0$
$H_A: \beta_{PX} \neq 0$

(3) $H_0: \beta_{ME} = 0$
$H_A: \beta_{ME} \neq 0$

(4) $H_0: \beta_{AA} = 0$
$H_A: \beta_{AA} \neq 0$

(5) $H_0: \beta_T = 0$
$H_A: \beta_T \neq 0$

(6) $H_0: \beta_E = 0$
$H_A: \beta_E \neq 0$

The results of the regression model appear in Table 5 below. The results of this regression model indicate that there is no statistical significance of any of the six variables as they relate to disciplinary action taken against CPAs. None of the variables meet or exceed the critical t (±2.0086) nor do they reach an $\alpha < 0.05$.

SUMMARY OF RESULTS

Upon analyzing the multiple regression results it can be stated with 95% confidence that none of the six hypotheses set forth at the beginning of this paper are correct in their prediction. It appears from these results that neither the specific requirements for CPA licensure, nor any of the CPE credit requirements for license renewal, have any influence on the likelihood of disciplinary action taken on CPAs by the AICPA. This is a surprising result and is very important to the profession as it considers measures to improve its licensing requirements. States are looking for ways to improve ethical behavior of CPAs through regulatory schemes. The results found here indicate that the variables currently used to license and regulate the CPA profession are not effective in improving ethical behavior from accountants.

POINTS FOR FURTHER RESEARCH

After analyzing this data, there is room for improvement on the models created herein through the data collected and the approaches taken.

First, due to issues related to availability of data, the variable of disciplinary action taken against CPAs for ethical violations was taken from *The CPA Letter*, a publication of the AICPA as summarized on the AICPA website. However, not all CPAs in the United States are members of the AICPA. In fact, the AICPA's membership has been declining over the past several years. Clearly, a better proxy for this variable would be actual disciplinary action taken by individual state a board of accountancy against CPAs licensed in that state. While some state boards of accountancy post this information on their websites, not all states have this information readily available.

Second, the standardization used for disciplinary action was population of the state based on the year 2000 United States Census. This standardization assumes the number of CPAs licensed in each state is proportional to the population in that state. As with any assumption, this must be tested for validity by reviewing the number

of CPAs licensed in each state. A better proxy for standardization would be the actual number of CPAs in the state; however, this information was not available from the NASBA the AICPA, or an individual state board of accountancy. Future studies could survey each state board of accountancy to determine the number of CPAs licensed in each state to allow for a more valid standardization of the number of disciplinary actions taken against CPAs.

Third, the CPA profession has been changing over the past ten years. These changes have caused many states to implement more strict education requirements (specifically 150 credit hours of higher education) for entry into the profession. Additionally, many states have begun adding mandatory ethics credits to their CPE requirements for license renewal. As this is done, studies of the differences in means of disciplinary actions before such changes and after such changes should be done. However, the timing of these studies is crucial given the way disciplinary actions arise in the profession.

Last, the selection of data for disciplinary action must be done with care. Many disciplinary matters that were resolved and effective in 2003 (and therefore included in this study) were for ethical infractions as many as ten years before the resolution (dating back to 1993). When testing for improvement in behavior of CPAs before and after further regulation of the profession, the researcher should be careful to account for this issue. Specifically, the researcher should allow for at least one reporting period to allow for all CPAs to have undergone any ethical training mandated by such a change. Additionally, they should only be reviewing breaches of ethical duty resulting from action after the regulatory change. Alternatively, he or she could account for infractions by those CPAs licensed after the change versus those licensed prior to the change.

CONCLUSION

While this study fails to validate any of the hypotheses established at the outset, it is a useful piece of research for the profession. Although it does not validate these hypotheses, it exposes the failure of relationships that the profession assumes to be legitimate. Additionally, the data analysis leads to a more thorough understanding of how future research into this matter should be conducted.

Table 1
Variables Collected

Variable	Description
Licensure Requirements	
Age (A)	Candidate must be of a minimum age
Citizenship (C)	United States citizenship
Residency (R)	Residency in the state of licensure
Employment (EM)	Employment in the state of licensure
Office (O)	Maintenance of an office in the state of licensure
Higher Education (HE)	Number of years of higher education required for licensure
Accounting Education (AE)	Number of credits of required in accounting
Public Experience (PX)	Years of experience required in public accounting
Non-Public Experience (NX)	Years of experience acceptable in non-public accounting
License Renewal Requirements	
Renewal (RN)	Years between license renewals
Reporting (RP)	Years between review of CPE credits earned
Minimum CPE per year (M)	Minimum CPE required per year
Average CPE per year (CE)	Average CPE credits per year
A & A (AA)	Average CPE in accounting and auditing
Tax (T)	Average CPE in taxation per year
Ethics (E)	Average CPE in ethics per year
Discipline (D)	Number of disciplinary actions taken by the AICPA on CPAs in the state per 1 million residents of the state

Table 2
Regression Results (H2)

Variable	Coefficient	t-statistic	p-value
Education (HE)	-0.1713	-1.0359	0.3056
Accounting Education (AE)	-0.0212	-1.0359	0.0632
Public Experience (PX)	-0.1073	-1.9037	0.1877
Non-Public Experience (NX)	-0.3236	-1.1348	0.2623

Table 3
Regression Results (H3)

Variable	Coefficient	t-statistic	p-value
Age (A)	-0.0355	-0.1804	0.8577
U.S. Citizen (C)	-0.3673	-0.7512	0.4564
Residency (R)	-0.0787	-0.2383	0.8128
Employment (EM)	-0.0008	-0.0016	0.9988
Maintain an Office (O)	-0.0364	-0.0717	0.9432

Table 4
Regression Results (H5)

Variable	Coefficient	t-statistic	p-value
Accounting and Auditing (AA)	-0.0041	-0.1252	0.9009
Taxation (T)	-0.0298	-0.2418	0.8100
Ethics (E)	-0.0022	-0.0198	0.9843

Table 5
Regression Results (H6)

Variable	Coefficient	t-statistic	p-value
Accounting Education (AE)	-0.1873	-1.5567	0.1267
Public Experience (PX)	-0.0510	-0.5794	0.5652
Minimum CPE per year (ME)	-0.0013	-0.1911	0.8493
Accounting and Auditing (AA)	-0.0003	-0.0076	0.9940
Taxation (T)	-0.0184	-0.1375	0.8913
Ethics (E)	-0.0127	-0.1141	0.9097

Appendix A
Correlation Table

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