

The relationship between 150-credit hours, accounting credit hours and CPA pass rates

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ABSTRACT

One of the most significant changes to the accounting profession in the last 20 years has been legislation requiring 150 college credits to become a Certified Public Accountant (CPA). The law has not been adopted uniformly across all jurisdictions. Some jurisdictions require the additional credits beyond a bachelor's degree prior to sitting for the exam, while other jurisdictions require the additional credits only for licensure. The number and type of required accounting credits is also inconsistent between jurisdictions. For example, required accounting credits vary from a minimum of 12 accounting credits in New Hampshire to a minimum of 38 accounting credits in Puerto Rico. While previous research has studied the 150-hour requirement's effect on CPA Exam pass rates, this study expands on this literature by controlling for the amount of accounting credits required by a jurisdiction. Specifically this study seeks to discover if there is a relationship between CPA Exam pass rates and the number of required accounting credits and if this relationship (if one is found) is consistent between jurisdictions that require 150 credits to sit for the exam and those that require the 150 credits only for licensure.

Keywords: 150-hour requirement, CPA exam pass rates, accounting credit hours

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INTRODUCTION

Charles Lyell once said, “Never call an accountant a credit to his profession; a good accountant is a debit to his profession.” The accounting profession prides itself as one that commands respect as an intellectually challenging field of study, which includes certification via an uniform exam. The first CPA exam was administered in New York in 1896 (AICPA, 2011). Years later, in 1956, a recommendation was made by the Commission on Standards and Experience for Certified Public Accountants to require a graduate degree for accounting (NASBA, 2008). The issue in question was the appropriate balance between academic education and work experience students needed to succeed in the accounting world. Approximately 10 years later, in 1969, the American Institute of CPAs realized that five years of education was becoming necessary for CPAs. The AICPA’s rationale came from State Boards of Accountancy hearing a call for improved accounting education. The need for five years of education was partly brought about by the expansion of client services, the growth of information technology, the increase in accounting declarations, the recognition of the value of education over unstructured experience, and the desire for the public to recognize the accounting profession as demanding (NASBA, 2008). The focus eventually moved away from requiring a graduate degree or five years of education to requiring 150 credit hours of college education or what is now known as the 150-hour requirement.

In 1979, Florida became the first state to adopt the 150-hour requirement, implementing it in 1983 (NASBA, 2008). Florida was previously one of the only states to require candidates to graduate college before the uniform CPA exam was implemented and continued to be a leader when it came to the 150-hour requirement. Florida saw an increase in their average pass rate after implementing the 150-hour requirement, which attracted the attention of universities who saw a need for expanding their education standards as well. The revamping of many programs was based on a number of factors, including the increase in needed knowledge of general education and management, the increase in required accounting literature, revised sequence of accounting courses, the CPA exam becoming more textbook oriented, and the increasing presence of technology (NASBA, 2008). Another argument made by the Study Group on Conditions of Excellence in American Higher Education, further supported expanding education requirements and pointed out that engineering, architecture, and other professional programs already required 5 or 6-year programs because students could not learn all of the necessary educational aspects in just 4 years.

In order to confirm the need for added education within the accounting profession, the AICPA polled its members in 1988 about whether 150 hours of college education should be required for membership. The overwhelming affirmative vote resulted in the AICPA requiring all new members after 2000 to have 150 hours of college education (NASBA, 2008). According to Dr. Rick Elam, the best reason for the 150-hour requirement was, “to protect the public from incompetent individuals who might attempt to sell auditing services to the public” (NASBA, 2008).

There have been multiple studies completed on the 150-hour requirement and its affect on CPA exam pass rates. This study adds to this area research, by adding an additional factor that may affect the CPA exam pass rates; accounting credit hours required to sit for the CPA exam. This project explores whether the variable of accounting credit hours may help explain why previous studies have reported inconsistent results. CPA exam results by state for 2012

were analyzed to discover any relationship between the requirements to complete 150 credit hours to sit for exam, the number of accounting credit hours required and overall pass rates.

LITERATURE REVIEW

In recent years, the discussion about the 150-hour requirement has focused on whether it should be a requirement to sit for the exam or licensure. NASBA took up this issue in a draft report issued in 2008 (NASBA, 2008). The 120/150 (120 credits to sit for the exam, but 150 credits needed to be licensed) model has been adopted by some states to allow students to sit for the exam who may have unique circumstances, such as those with less time or money. Some boards implemented the 150-hour requirement and then repealed it because there was not enough evidence that indicated the increased educational requirement had improved CPA exam performance. States with the 120-hour requirement believe that the lesser amount of educational hours means the program is more focused on material that could appear on the CPA exam. The most common reason states switched to the 120-hour requirement was to decrease the loss of candidates taking the CPA exam, as exam candidates decreased significantly when states implemented the 150-hour requirement (NASBA, 2008).

NASBA (NASBA, 2008) analyzed CPA exam pass rates from 2004-2007 and found a definite link between advanced degrees and higher first time pass rates in all areas of the exam. However, there was no significant difference in the pass rates in the states that allow students to sit for the exam after only completing 120 hours versus those states that require all 150 hours be completed. Since a significant difference was not found in CPA exam pass rates, these results can be interpreted as calling into question whether the 150-hour requirement results in more technically competent candidates.

This possible interpretation is one reason why NASBA's results and analysis have been met with controversy. NASBA's own Education Committee has issued a response to the report (NASBA Education Committee, 2008) which calls for its removal from NASBA's website (the draft report is still available on the website as of the end of 2013). The Education Committee calls into question the assertion that test scores are an indicator of competence. They believe more research must be done in the area before conclusions are reached. One area specifically mentioned for further research is whether there "is a relationship between the number of accounting hours required by a state to sit for the exam and test scores" (NASBA Education Committee, 2008, p. 3). This current study focuses on this area by analyzing pass rates. While it is noted that pass rates are not the same as test scores, it is believed pass rates are what is most important to the profession since passing the exam is one barrier to entrance into it.

Past research studies were reviewed to gain an understanding of previous findings in regard to the relationship of 150-hour requirement and CPA exam pass rates. One such study was conducted by Allen and Woodland (2006). They studied the 150-hour requirement and the correlation between the number of CPA exam candidates, the number of candidates that passed the exam, and CPA pass rates. During the period of study (1991-2002), most states that implemented the 150-hour requirement required it to be fulfilled before sitting for the exam. The study used logarithms to provide evidence that there is a correlation between the 150-hour requirement and the number of students taking the exam, the number of students who pass the exam and pass rates. The authors found after the 150-hour requirement there was a decline in number of candidates who sat for the exam by 36% and a 31.5% decrease in the number of candidates who passed the CPA exam. No evidence found the 150-hour requirement was

associated with overall pass rates, but they did find a significant increase of 3% in the pass rates for candidates who were taking the exam for the first time. The authors point out this is a percentage increase not a percentage point increase. A state with a 20% pass rate before the 150-hour requirement could expect a 20.6% pass rate after implementation.

Another 150-hour requirement study was conducted by Boone and associates (2006) to research the association between the 150-hour requirement, accounting programs at various schools, and CPA pass rates. A sample of 43,711 first-time CPA exam candidates from 520 accounting programs was analyzed. During the period studied (1998-1999), the implementation of the 150-hour requirement typically meant it must be fulfilled in order to sit for the exam. The authors found that, on average, where the 150-hour requirement was present, the candidates had higher pass rates.

Gary P. Briggs and Lerong He (2012) also researched whether the 150-hour requirement has improved CPA exam pass rates. They gathered CPA exam pass rates from NASBA from the period of 2004 to 2007 for each section and subdivided the data between jurisdictions that require 150 credit hours to sit for the exam and those that do not. Significantly higher pass rates were found in the areas of auditing and regulation in jurisdictions that require 150 credit hours to sit for the exam. There was no significant difference between the pass rates in the two types of jurisdictions in the areas of financial accounting and reporting or business environment and concepts.

Studies that researched factors besides the 150-hour requirement that possibly affect CPA exam results were also reviewed. For example, Howell and Heshizer (2008) examined characteristics such as GPA, SAT score, graduate degree, AACSB accreditation, age and classroom or self-study CPA review program. From a sample of certified public accountants, the study discovered that those who passed the examination on attempt number one or two (as compared to attempt three or four) had a higher GPA and SAT score and were more likely to have obtained a graduate degree in addition to graduating from an AACSB accredited institution. This study illustrates that there may be numerous factors that affect success on the CPA exam.

Lindsay et al. (2009) chose to focus on the design of undergraduate accounting programs and how the programs affect the CPA pass rates on the Business Environment and Concepts section of the CPA Exam. Several characteristics were taken into consideration for this study including the number of semester hours in courses covered by the CPA exam section, entrance exam scores of the schools' freshmen, if the school was AACSB accredited, and whether the schools were public or private institutions. At the completion of the study, the authors found that the number of cost and managerial accounting hours was one factor that was consistently a significant determinant of success on the Business Environment and Concepts Section of the CPA exam. More importantly, the study shows how the accounting programs at schools are different and how these differences may affect the results of the candidates who sit for the exam.

HYPOTHESIS

This current study adds to the literature about the 150-hour requirement by also focusing on the number accounting hours required to become eligible to sit for the CPA exam. Previous studies have looked at the 150-hour requirements affect on CPA exam pass rates (e.g. NASBA, 2008, Allen and Woodland, 2006, Boone et. al, 2006 and Briggs and He, 2012) and in most cases overall pass rates when looked at collectively (all sections together) were not found to be significantly improved when the 150-hour requirement needed to be fulfilled to sit for the exam.

However, Lindsay, Tan and Campbell (2009) found that more required hours of cost and managerial accounting courses were positively associated with increased pass rates for the Business Environment and Concepts section of the CPA exam. Their study only included schools in jurisdictions that did not require 150 credit hours to sit for the exam.

Since the CPA exam is considered an academic accounting exam, it is expected that the results found by Lindsay, Tan and Campbell (2009) will translate to all sections of the exam whether looked at collectively or separately. Namely, additional accounting hours are expected to result in higher overall pass rates. Further, since previous research has failed to show a consistent significant relationship between the having the 150-hour requirement to sit for the exam and improved overall CPA exam pass rates, the absence or presence of the 150-hour requirement to sit for the exam is not expected to affect the results.

Therefore, the hypotheses proposed are:

Hypothesis 1: The requirement of additional accounting hours will have a positive effect on collective overall CPA exam pass rates when the 150-hour requirement to sit for the exam is present.

Hypothesis 2: The requirement of additional accounting hours will have a positive effect on overall CPA exam pass rates broken down by section when the 150-hour requirement to sit for the exam is present.

Hypothesis 3: The requirement of additional accounting hours will have a positive effect on collective overall CPA exam pass rates when the 150-hour requirement to sit for the exam is absent.

Hypothesis 4: The requirement of additional accounting hours will have a positive effect on overall CPA exam pass rates broken down by section when the 150-hour requirement to sit for the exam is absent.

METHOD

Information in regards to the presence or absence of 150-hour requirement and the number of accounting hours required was obtained from Becker Professional Education's website and confirmed with NASBA's website. The jurisdictions were divided into two separate categories: 150 hours required to sit for the CPA Exam and 150 hours not required to sit for the CPA Exam. The information was further divided by the number of accounting hours required by each jurisdiction: 24 hours or less of accounting courses required or 27 hours or more of accounting courses required. The categories are based on the requirements of each jurisdiction as of October/November 2013. Every jurisdiction has the authority to establish unique requirements to sit for the exam so there are considerable variances between jurisdictions. Jurisdictions sometimes also vary their requirements depending on work experience or the type of services to be performed. The requirement of what was believed to apply to most current candidates was used to categorize a jurisdiction. The overall CPA exam pass rates for each jurisdiction were obtained from the NASBA 2012 Uniform CPA Examination Candidate Performance report.

RESULTS

After the overall 2012 Uniform CPA Examination results were separated into the categories noted above, Chi-square analysis with alpha of .05 was performed to detect any significant relationships within categories. Significant relationships were found in all cases. These results are not reported since large sample sizes, such as those found in this study, make most relationships reported by Chi-square analysis appears to be significant. Therefore, in order to determine if these relationships were meaningful and indicated association within the respective categories, further analysis was performed using Cramer's V Coefficient.

The first analysis was performed on pass rates for those states that require 150 credit hours to sit for the CPA exam and those that do not. Little to no association was found (Cramer's V Coefficient = .030). When pass rates for those states requiring twenty four accounting hours or less were compared to those states requiring twenty seven accounting hours or more, once again little to no association was detected (Cramer's V Coefficient = .024). This same pattern of little to no association was found in all groupings of categories. Results are presented in Table 1 (Appendix).

Analysis was then performed on the same categories but broken down by exam section. These results are presented in Tables 2 – 5 (Appendix). With the reduced sample sizes, some of the relationships are not significant. It is recognized even the relationships that are reported as significant may only be the result of large sample sizes. However, since showing that there is no significant relationship is important, the p-values for the Chi-square analysis with an alpha of .05 are reported along with the Cramer's V Coefficients. Even when broken down by section, little to no association was found.

DISCUSSION AND CONCLUSION

As noted previously, one justification for the 150-hour requirement, is "to protect the public from incompetent individuals who might attempt to sell auditing services to the public," according to Dr. Rick Elam (NASBA, 2008). Since the CPA exam is seen as a test of technical competence, whether the 150-hour requirement affects overall CPA exam pass rates appears to be an appropriate area for research

This study adds to the discussion about the 150-hour requirement by focusing on the added element of how many accounting hours are required to be eligible to sit for the CPA exam. Overall CPA exam pass rates for 2012 were reviewed by state broken down by both whether the state required 150 credits hours be completed before sitting for the exam and by how many accounting hours were required.

As reported in Table 1, little to no association was found between the requirement of completing 150 credit hours to sit for the exam and overall pass rates for all sections. Furthermore, when the states were subdivided between those that require 24 hours or less of accounting coursework and those that require 27 hours or more of accounting coursework, still little to no association with overall pass rates for all sections was found.

In Tables 2 – 5, overall pass rates were further analyzed broken down by exam section. Once again, little to no association was found between the presence or absence of the 150-hour requirement to sit for the exam and overall pass rates even when further subdivided by the number of accounting hours required.

Overall, the results of the study provide no evidence that by themselves the presence or absence of the 150-requirement to sit for the exam or the number of accounting hours required is a significant predictor of CPA exam results. All four hypotheses must be rejected. It is possible that these factors may contribute with many others to CPA exam success, but it does not appear that a candidate can improve their chances of passing the CPA exam simply by completing more academic credits even if the credits are within accounting areas.

LIMITATIONS

One limitation of the study is that it did not consider data from years other than 2012. Other years may exhibit different behavior, which could alter the results of this study. It is possible that some schools in a state may have had poor results for 2012 year while at the same time, several schools in a different state could have had an uncharacteristically good year. If these schools represent a large proportion of the candidates from a state, pass rates for particular states could be significantly affected.

In addition, institutional factors such as AACSB accreditation and faculty background in terms of education and experience were not factored into this study. These factors may affect the quality of instruction received by CPA candidates. If the faculty and the school are more equipped to teach their students then this may affect the results within states.

Also, demographics with respect to CPA candidates and schools were not addressed. Variables such as gender, GPA, socio-economic class, age, school size, and admissions standards may impact CPA pass rates.

Finally, it is possible that a refinement of the category of the number of accounting hours required to sit for the exam could lead to different results. The minimum number of accounting hours required does not necessarily represent the actual number of accounting hours obtained by a candidate. A study at the institution level such as that conducted by Lindsay, Tan and Campbell (2009) or an even more precise study at the candidate level could produce different results.

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APPENDIX

Table 1 – Overall CPA Exam Pass Rates - All Sections

Category	Total Sections	Pass Rate Percentage	Cramer’s V Coefficient
150 Credit Hours to Sit	73,929	51.15%	.030
Less than 150 Credit Hours to Sit	171,260	47.85%	
Required Accounting Hours <= 24	170,696	48.05%	.024
Required Accounting Hours => 27	74,493	50.66%	
150 Credit Hours to Sit and Required Accounting Hours <= 24	20,455	51.76%	.027
Less than 150 Credit Hours to Sit and Required Accounting Hours <= 24	150,241	47.55%	
150 Credit Hours to Sit and Required Accounting Hours >= 27	53,474	50.91%	.008
Less than 150 Credit Hours to Sit and Required Accounting Hours >= 27	21,019	50.03%	

Less than 150 Credit Hours to Sit and Required Accounting Hours ≤ 24	150,241	47.55%	.016
Less than 150 Credit Hours to Sit and Required Accounting Hours ≥ 27	21,019	50.03%	
150 Credit Hours to Sit and Required Accounting Hours ≤ 24	20,455	51.76%	.008
150 Credit Hours to Sit and Required Accounting Hours ≥ 27	53,474	50.91%	

Table 2 - Overall CPA Exam Pass Rates – AUD

Category	Total Sections	Pass Rate Percentage	Chi-square p-value	Cramer's V Coefficient
150 Credit Hours to Sit	20,094	48.46%	<.001	.021
Less than 150 Credit Hours to Sit	46,140	46.21%		
Required Accounting Hours ≤ 24	45,991	46.35%	<.001	.016
Required Accounting Hours ≥ 27	20,243	48.13%		
150 Credit Hours to Sit and Required Accounting Hours ≤ 24	5,573	48.77%	<.001	.018
Less than 150 Credit Hours to Sit and Required Accounting Hours ≤ 24	40,418	46.01%		
150 Credit Hours to Sit and Required Accounting Hours ≥ 27	14,521	48.34%	.3371	.007
Less than 150 Credit Hours to Sit and Required Accounting Hours ≥ 27	5,722	47.59%		
Less than 150 Credit Hours to Sit and Required Accounting Hours ≤ 24	40,418	46.01%	.0254	.010
Less than 150 Credit Hours to Sit and Required Accounting Hours ≥ 27	5,722	47.59%		
150 Credit Hours to Sit and Required Accounting Hours ≤ 24	5,573	48.77%	.5816	.004
150 Credit Hours to Sit and Required Accounting Hours ≥ 27	14,521	48.34%		

Table 3 – Overall CPA Exam Pass Rates – BEC

Category	Total Sections	Pass Rate Percentage	Chi-square p-value	Cramer's V Coefficient
150 Credit Hours to Sit	16,853	56.66%	<.001	.050
Less than 150 Credit Hours to Sit	39,990	51.23%		
Required Accounting Hours <= 24	39,837	51.46%	<.001	.042
Required Accounting Hours => 27	17,006	56.06%		
150 Credit Hours to Sit and Required Accounting Hours <= 24	4,735	56.22%	<.001	.035
Less than 150 Credit Hours to Sit and Required Accounting Hours <= 24	35,102	50.82%		
150 Credit Hours to Sit and Required Accounting Hours >= 27	12,118	56.83%	.0014	.024
Less than 150 Credit Hours to Sit and Required Accounting Hours >= 27	4,888	54.15%		
Less than 150 Credit Hours to Sit and Required Accounting Hours <= 24	35,102	50.82%	<.001	.022
Less than 150 Credit Hours to Sit and Required Accounting Hours >= 27	4,888	54.15%		
150 Credit Hours to Sit and Required Accounting Hours <= 24	4,735	56.22%	.4703	.006
150 Credit Hours to Sit and Required Accounting Hours >= 27	12,118	56.83%		

Table 4 - Overall CPA Exam Pass Rates – FAR

Category	Total Sections	Pass Rate Percentage	Chi-square p-value	Cramer's V Coefficient
150 Credit Hours to Sit	18,188	49.88%	<.001	.025
Less than 150 Credit Hours to Sit	41,961	47.16%		
Required Accounting Hours <= 24	41,834	47.42%	<.001	.017
Required Accounting Hours => 27	18,315	49.28%		
150 Credit Hours to Sit and Required Accounting Hours <= 24	5,043	51.52%	<.001	.030
Less than 150 Credit Hours to Sit and Required Accounting Hours <= 24	36,791	46.86%		
150 Credit Hours to Sit and Required Accounting Hours >= 27	13,145	49.26%	.9371	.001
Less than 150 Credit Hours to Sit and Required Accounting Hours >= 27	5,170	49.32%		
Less than 150 Credit Hours to Sit and Required Accounting Hours <= 24	36,791	46.86%	<.001	.016
Less than 150 Credit Hours to Sit and Required Accounting Hours >= 27	5,170	49.32%		
150 Credit Hours to Sit and Required Accounting Hours <= 24	5,043	51.52%	.0064	.020
150 Credit Hours to Sit and Required Accounting Hours >= 27	13,145	49.26%		

Table 5 - Overall CPA Exam Pass Rates – REG

Category	Total Sections	Pass Rate Percentage	Chi-square p-value	Cramer's V Coefficient
150 Credit Hours to Sit	18,794	50.31%	<.001	.029
Less than 150 Credit Hours to Sit	43,169	47.18%		
Required Accounting Hours <= 24	43,034	47.37%	<.001	.023
Required Accounting Hours => 27	18,929	49.86%		
150 Credit Hours to Sit and Required Accounting Hours <= 24	5,104	51.14%	<.001	.028
Less than 150 Credit Hours to Sit and Required Accounting Hours <= 24	37,930	46.86%		
150 Credit Hours to Sit and Required Accounting Hours >= 27	13,690	50.01%	.5123	.005
Less than 150 Credit Hours to Sit and Required Accounting Hours >= 27	5,239	49.48%		
Less than 150 Credit Hours to Sit and Required Accounting Hours <= 24	37,930	46.86%	<.001	.017
Less than 150 Credit Hours to Sit and Required Accounting Hours >= 27	5,239	49.48%		
150 Credit Hours to Sit and Required Accounting Hours <= 24	5,104	51.14%	.1685	.010
150 Credit Hours to Sit and Required Accounting Hours >= 27	13,690	50.01%		