

THE 150-HOUR RULE:
HOW POLICY DECISIONS AFFECT THE SUPPLY OF PUBLIC ACCOUNTANTS

By

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The 150-Hour Rule: How Policy Decisions Affect the Supply of Public Accountants

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Nearly every jurisdiction now requires accounting students to earn 150 credit hours before receiving certification as a public accountant. This study examines the number of candidates sitting for the exam and their subsequent performance given the increased educational requirement. The net effect of these trends is then calculated, and empirical results confirm that the number of first-time candidates passing all parts of the exam is profoundly reduced in the presence of the 150-hour rule. However, an analysis of states allowing candidates to sit for the exam with only 120 hours while requiring that they obtain 150 for licensure exhibits no such reduction in supply of successful first-time exam candidates.

I. Introduction

State boards of accountancy hold the exclusive authority to grant the licenses required to practice public accounting within their borders. The ultimate purpose of this regulation, as articulated by the American Institute of Certified Public Accountants (AICPA), is to protect the public interest.¹ In order to achieve this goal, it is necessary to both define what characteristics serve the public good and to establish how those characteristics can be cultivated. This study seeks to contribute to the discussion concerning the certification policy decisions made by state boards and their ultimate efficacy in protecting the public.

Most state boards require several criteria to be satisfied before issuing a license to practice as a public accountant. Primarily, a candidate must pass the Uniform CPA exam, and there is usually an aspect of work experience and ethical standards required. Education is also a key component in every jurisdiction's particular mix of requirements, and on that head there has been much debate. In what has become known as the 150-hour rule, the vast majority of state boards now require candidates to complete an extra 30 credit hours above a typical bachelor's degree in order to be eligible for certification. There are obvious advantages to this policy, but it comes with corresponding costs.

The central tenet of the movement to increase the educational requirement, as stated by University of Central Florida professor Henry R. Anderson, is a desire to prepare students for the increasing demands of the profession and the ever-expanding requisite knowledge base. Coupled with the technical demands is a sense that the profession requires commitment, integrity, and the so-called soft skills, which the increased education is meant to promote.² The

¹ American Institute of Public Accountants and National Association of State Boards of Accountancy, "Uniform Accountancy Act," 5th Edition (2007): 2-1.

² David A. Costello, "Education and Licensure Requirements for Certified Public Accountants," *National Association of State Boards of Accountancy* (2008): 7.

associated costs have been studied in some detail, and Raghunandan, et. al capture them saying, "Accounting students facing an additional 30-semester hours will not only incur incremental direct costs for a fifth year of study but will face increased opportunity cost by having to forego wages from deferring their employment for the period."³ An objective analysis of the facts should reveal whether or not the added educational requirement justifies the additional costs.

II. *Background*

The 150-hour policy was initially proposed in the late 1950's as a way of increasing professional competency in accounting. The rule did not get its first trial for decades until 1983, when Florida implemented a law requiring candidates to obtain 150 credit hours for licensure. All the while, the AICPA, in conjunction with National Association of State Boards of Accountancy (NASBA), continued to push for more widespread adoption of an increased educational requirement for public accountants. Part of that campaign included the Commission on Professional Accounting Education and their report supporting the need for 150 hours of education in the profession,⁴ which was released in the early 1980's.

The next big change developed over the latter half of the nineties when another dozen jurisdictions implemented an increased educational requirement for licensure. The adoption of the 150-hour rule continued steadily in the succeeding years with most states at least having plans for implementation in place by 2000. Currently, all but six jurisdictions have a 150-hour requirement for licensure making the 150-hour rule the policy of choice in the sphere of public accounting.⁵

III. *Theory and Hypotheses*

The Uniform CPA Exam, though only one of several criteria for certification, offers the best insight into potential accountants' technical knowledge and ability. Therefore, it is an obvious choice for quantifying and comparing the quality of CPAs. Several studies have been conducted on the effect of the 150-hour rule on candidate performance on the exam. Grant et. al found that increased education did increase success on the exam, though they also found that other inputs such a review courses offered just as much of an advantage.⁶ Raghunandan, et. al found that increased education did have a significant positive impact on exam passage rates, along with

³ K. Raghunandan, W. J. Read, and C. D. Brown, "The 150-hour rule: does it improve CPA exam performance?" *Managerial Auditing Journal* 18 (2003): 31.

⁴ Costello, *Education and Licensure Requirements for Certified Public Accountants*, 8.

⁵ "Jurisdictions That Have Passed the 150-Hour Education Requirement," Available from http://www.aicpa.org/BecomeACPA/Licensure/DownloadableDocuments/150_Hour_Education_Requirement.pdf.

⁶ C. T. Grant, C. S. Ciccotello, and M. Dickie, "Barriers to professional entry: how effective is the 150-hour rule?" *Journal of Accounting and Public Policy* 21, no. 1 (2002): 77.

SAT scores and review courses.⁷ Both of these studies focused on the particular mix of education, experience, and innate ability of an individual candidate and their subsequent performance on the exam.

Robert Jackson took a different approach by examining the results of first-time candidates on the CPA exam given the overall regulatory environment in which they took the exam. He tested several independent variables in his regression of passing percentages, including whether a state required established residency or an accounting concentration to sit for the exam, and of course, whether the 150-hour rule had been adopted. His analysis revealed a significant positive correlation between the increased education requirement and passage rates. Indeed much of the literature reports that passage rates on the Uniform CPA Exam increase with higher levels of education. Assuming that the education covers the material tested by the exam, this is no great surprise. However, requiring that education represents a barrier to entry for prospective public accountants. As is typical of such barriers, one would expect that fewer candidates progress through the education and make it to the CPA exam. It is these two effects that I seek to verify first in my analysis.

Hypothesis 1: The implementation by a jurisdiction of the 150-hour requirement for licensure as a CPA results fewer first-time candidates sitting for the Uniform CPA Exam.

Hypothesis 2: The implementation by a jurisdiction of the 150-hour requirement for licensure as a CPA results in higher rates of first-time candidates passing all parts of the exam.

These two trends, if validated, would have opposing effects on the number of first-time test takers passing the exam, but the overall number of successful first-time candidates could remain constant if these two forces change in equal magnitude. However, I hypothesize that this will not be the case. The aforementioned studies all sought to establish covariance between the various independent variables and passing rates, one of which being the educational requirement. Though various correlations were evident, the number of independent variables made it difficult to talk about causality. None of the studies dealt with the absolute numbers of students sitting and passing the exam. I expect that the increased education requirement will improve the performance of candidates who would have failed the exam without the extra training. But this gain will not be enough to offset the number of candidates lost who would have passed but were discouraged from sitting for the exam by the increased requirement. If passing the exam is a reasonable proxy for obtaining licensure, this hypothesis has will reveal the effect of the 150-hour rule on the supply of public accountants.

Hypothesis 3: The implementation by a jurisdiction of the 150-hour requirement for licensure as a CPA results in a reduced number of first-time exam takers passing all parts of the exam.

In an effort to offset the barriers erected by the increased educational requirement, many states have adopted a 120/150 plan, which allows candidates to sit for the exam with only 120 credit hours but requires the extra 30 hours for licensure. This allowance is currently in place in 22

⁷ Raghunandan, Read, and Brown, *The 150-hour rule: does it improve CPA exam performance?*, 36.

jurisdictions, nearly half of all those having a 150-hour rule. By giving students more flexibility in determining their path to certification, this distinction, I theorize, will go some way toward mitigating any adverse effect the 150-hour rule might have had on supply.

Hypothesis 4: The implementation by a jurisdiction of the 120-hour requirement in order to sit for the Uniform CPA Exam, with a 150-hour requirement for licensure, does not significantly reduce the number of first-time exam takers passing all parts of the exam.

IV. *Data*

The data for this study come from two sources. First, the AICPA produces a list of the education requirement status for every jurisdiction using the Uniform CPA exam. This list offers both the adoption and implementation dates of 150-hour legislation. Additionally, there is a marker for whether or not a particular state allows candidates to sit for the exam with only 120 credit hours before obtaining the 150 requisite for licensure. For the purposes of this analysis, implementation dates were rounded to the nearest year. For example, if a state implemented their 150-hour rule in June, for this study they would be considered to have made the change at the beginning of that year. If a state implemented their requirement in October, they would be considered as having done so at the beginning of the next year.

Candidate information was obtained from NASBA's annual publication *Candidate Performance on the Uniform CPA Exam* from 1985 through 2010.⁸ Initially, the exam was administered in a paper-and-pencil format over two days once every May and once every November. Candidates were required to take at least two parts of the exam depending upon state standards, and were considered first-time candidates whenever their first sitting for any parts occurred. For my analysis I took both the number of first-time candidates sitting for the exam and the percentage of first-time candidates passing all parts of the exam for each year and each jurisdiction.

In an effort to keep up with changing technology, the Uniform CPA Exam underwent a massive overhaul in the year 2004, and the debut of the computer-based test (CBT) brought a complication to the idea of first-time candidacy. The CBT is broken up so that only one part of the exam is ever taken at a given time, and the NASBA decided to define first-time status based on whether or not a candidate had previously attempted that particular section of the exam. Given this change in the administration of the exam, it is now difficult to track which candidates passing all parts of the exam as first-time sitters. Since 2004, no data on the number of first-time candidates sitting for all parts of the exam are available, however a percentage-passing rate on all parts of the exam for first-time candidates is published.⁹ Given this complication, the majority of my analysis focuses on the years 1985-2003, with a break for both 1986 and 1992, years for which no data could be obtained.

⁸ I owe my sincerest thanks to the University of Arizona Document Delivery Team. Their effort to secure this data through Interlibrary Loan made this paper possible.

⁹ National Association of State Boards of Accountancy, *CPA Candidate Performance on the Uniform CPA Exam*, (New York, 1985-1996, Nashville, 1997-2010: NASBA, 1985-2010)

V. *Analysis*

Each jurisdiction is considered as having three time periods relative to their adoption of the 150-hour rule. The pre-period (period=0) is defined as starting the year data is first available, 1985, and ending the year a 150-hour rule was enacted. Most enactments pre-date implementation by several years, and it is the ramp-up period (period=1) that spans this time. Finally, the post-period (period=2) covers from the year of implementation up to the final year for which all data are available, 2003.

It was my expectation that the ramp-up period would be somewhat difficult to interpret given a likely rush of candidates—some being under-prepared—sitting for the exam before the increased education requirement went into effect. For the analysis, I largely ignore it in favor of the pre- and post- periods. I judged the lag between the year of enactment and the year implementation sufficient to warn students early in their accounting studies that 150 hours of education would be required to receive certification, so the entire post-period represents the effect of the 150-hour rule.

For each year, I took the number of first-time candidates sitting for the exam by jurisdiction (NSIT) and then multiplied it by the percentage of first-time candidates passing all parts of the exam in each jurisdiction (PPASS). The result represents the number of first-time candidates passing all parts of the exam (NPASS). These three numbers: *NSIT*, *PPASS*, and *NPASS* were then averaged over the given time periods defined for that state (period=0, period=1, and period=2). The resulting mean provides a picture of each jurisdiction under the both a 120-hour minimum for licensure and a 150-hour minimum.

In order to see the broad effect of the 150-hour rule, each state's three averages for each of the three defined periods were then averaged together—both mean and median—to show the overall trend occurring across the country as jurisdictions enacted and implemented the 150-hour rule. The result of this univariate analysis is presented in Table 1. Table 2 shows the percentage change from *period=0* to *period=2* for both the means and medians of *NSIT*, *PPASS*, and *NPASS*.

Table 1

<i>Time Period Means</i>				
Mean	Variable	period=0	period=1	period=2
	NSIT	994.967	872.418	419.429
	PPASS	16.79%	15.35%	19.00%
	NPASS*	197.485	139.296	86.619
Median	Variable	period=0	period=1	period=2
	NSIT	626	516	246.5
	PPASS	16.09%	15.16%	17.49%
	NPASS*	90.151	68.068	41.026

Table 2

Percentage Change from Pre- to Post- Periods

Mean	Variable	Percent Change
	NSIT	-57.84%
	PPASS	13.18%
	NPASS*	-56.14%

Median	Variable	Percent Change
	NSIT	-60.62%
	PPASS	8.70%
	NPASS*	-54.49%

*It is important to note that in this national aggregation, NPASS does not appear to be the product of NSIT and PPASS. This is because of the skew of the distribution and the way that both of the numbered variables (NSIT and NPASS) are weighted based on the relative size of their population while PPASS, being a ratio rather than an absolute number, is not.

Next I performed a regression analysis meant to test the significance of these trends amongst other variables. My model was as follows:

$$Y = \alpha + \beta_1 \text{Rampup} + \beta_2 \text{Post} + \beta_3 \text{Rampup}x120 + \beta_4 \text{Post}x120 + \beta_5 \sum \text{Year Controls}$$

where Y was either *NSIT*, *PPASS*, or *NPASS*. The use of *Rampup* and *Post* corresponds to the previously defined time periods in this analysis, namely *period=1* and *period=2*. The *x120* distinction refers to those states having a 120/150 option, allowing students to sit for the exam with only 120 hours, but requiring that they obtain 150 for licensure. A control for each year in the study was put into the regression to rule out the possibility that overall trends of CPA exam popularity were affecting the results, rather than the 150-hour rule.¹⁰ The results for β_2 , the coefficient on the variable for the post-period, are shown for each of the three regressions in Table 3. Table 4 contains the results for β_4 , the coefficient for the post-period in states allowing candidates to sit with only 120 credit hours.

¹⁰ Doctoral candidate Curtis Hall was invaluable in helping me craft and run my model for this analysis.

Table 3

Regression Results for Post-Period

Parameter	t Value	Pr > t
Y=NSIT	-5.44	<.0001
Y=PPASS	2.34	0.0196
Y=NPASS	-4.76	<.0001

Table 4

Regression Results for Post-Period in States with a 120/150 Distinction

Parameter	t Value	Pr > t
Y=NSIT	-0.44	0.6578
Y=PPASS	4.35	<.0001
Y=NPASS	1	0.3172

VI. *Results*

The results presented in Tables 1 and 2 show a profound change as jurisdictions implemented a 150-hour rule. After implementation, the number of candidates sitting for an exam decreased dramatically, in support of *Hypothesis 1*. The increased education also resulted in a statistically significant increase in the percentage of first-time candidates passing all parts of the exam, confirming *Hypothesis 2*. The aggregate product of these two effects, however, measured as the number of first-time candidates passing all parts of the exam, validates *Hypothesis 3* by showing a decrease of over half in successful exam takers after a 150-hour rule is implemented.

The regression analysis confirms this reality. When testing the number of sitters for the exam, β_2 , the coefficient for the post-period, is both negative and significant, which further confirms *Hypothesis 1*. Changing the dependent variable to the *PPASS* gives a positive and significant result for β_2 , in support of *Hypothesis 2*. Finally, *Hypothesis 3* is validated by a β_2 that is both negative and significant. *Hypothesis 4* relates to those states with a 150-hour requirement for certification, but allowing candidates to take the exam with only 120 credit hours. The hypothesis is primarily concerned with the number of exam passers, so the regression of interest is where $Y = NPASS$. The resulting coefficient, β_4 , is insignificant and confirms the null hypothesis that having a 120/150 structure does not decrease the number of students successfully passing the CPA exam. The year controls, all being statistically insignificant, eliminate the possibility of any nationwide trends affecting the results.

VII. *Implications*

The reduction in the supply of CPA candidates due to the revised educational requirement is profound. One interpretation is that this effect was intentional, that it was done in an effort to bring the supply of accountants back into balance with a level of demand it was perceived to be outpacing. If erecting this barrier to entry was the goal, the 150-hour rule has been a complete success. However, this reduction might not have been considered, but appeared an unintended consequence of a policy meant to promote professional competency. If improving exam performance was the focus of the 150-hour rule, it can only be considered a limited success. A report by NASBA from 2008 suggests that the former was not the goal, and it goes on to state the consequences of creating barriers to entry: “If the number of CPA candidates begins to decrease there is a potential threat to the ability of boards to protect the public interest. The number of CPA candidates is one of the most important concerns of the profession today.”¹¹ In light of this claim, the results of this study are all the more important.

Of particular interest is the fact that allowing students to sit for the exam with only 120 while requiring 150 for licensure does not have the same detrimental effect on supply. In one way, this structure could give students enough freedom that the barrier to entry represented by the rule is overcome. It is to be hoped at the same time that the increased education requirement is giving students the added preparation for a career in accounting. However, the results might also suggest that the test is not doing its job. If students can take and pass the exam without the extra education, but they need that education to be competent practitioners, is the exam really testing competency?

Further research could contribute to this discussion by bringing this study up to date and adding a more nuanced approach to different factors affecting supply. Primarily, much might have changed over the last seven years during which time the exam has been administered by computer. The overhaul was undertaken in an effort to more closely match the Uniform CPA Exam with the demands of the field, and as such, the CBT exam might represent a better proxy for professional competence. My analysis of first-time candidates from 2004–2010 showed sizable increase in passing rates on all parts of the exam, and if the number of candidates sitting has remained constant, then the number of candidates passing ought to have increased.

Also of interest would be a study on the connection between passing all parts of the exam and obtaining certification as a public accountant. The Uniform CPA Exam is used by many other branches of accounting as a measure of technical ability, and a candidate may take the exam with no intentions of pursuing a career in public accounting. Conversely, candidates from other areas of the field who previously might have taken the CPA exam as a measure of professional competence might now opt to take a different certification exam in order to avoid the education requirement. If this is the case, their presence in the pool of first-time candidates would give an inaccurate view of the supply of public accountants. And even if a candidate does desire a career in public accounting, passing the exam is a necessary but not sufficient criterion for obtaining licensure. In this study the progression from exam to licensure was assumed, but further research is needed to establish at what rate exam passers actually become licensed practitioners.

¹¹ Costello, *Education and Licensure Requirements for Certified Public Accountants*, 16.

VII. *Conclusion*

Accountants are charged with protecting the public interest, and accounting boards are trusted with responsibility of maintaining standards that will provide for the fulfillment of this goal. Having a greater number of proficient accountants alone will not ensure that the public will be protected, but maintaining a healthy supply of technically competent accountants will certainly contribute to the long-term sustainability of the profession. Historically, implementation by a state of a 150-hour rule results in an average reduction in the number of successful CPA candidates by half. However, allowing students to sit for the exam with 120 hours but requiring the 150 for licensure negates that effect. This reality carries implications for decisions about the content of CPA exam and its ability to test professional competency. Accounting departments at various universities will also care about the content of the exam as well as the challenges and decisions facing both their undergraduate and graduate student populations. Most fundamentally, this research ought to be considered by state boards grappling with how best to promote the profession and regulate it at the same time. In coming to conclusions about what course to take in this balancing of costs and benefits, they should be ever mindful of potentially encouraging unintended consequences.

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