The Excuse for Research in Accounting Education

By Michael Schemmann[1] 16 September 2019

Accounting

Accounting is a convention for the recognition, recording, valuation and reporting of historical business transactions based on a two thousand year old tradition from Mesopotamia that became known as Venetian bookkeeping, explained by the mathematician and Franciscan monk, Fra Luca Bartolomeo de Pacioli in his work *Summa de arithmetica, geometria. Proportioni et proportionalita* (Venice, 1494), that became a bestseller printed on the newly invented Gutenberg press

Pacioli's book is a synthesis of the mathematical knowledge of the time. It contained the first printed work on algebra written in the vernacular (*i.e.*, the spoken language of the day), including one of the first published descriptions of the bookkeeping method that Venetian merchants used during the Italian Renaissance using the technique of self-balancing double-entry bookkeeping.[2]

The system Pacioli advocated includes most of the accounting cycle as we know it today, describes the use of journals and ledgers, and warned that a person should not go to sleep at night until the debits equaled the credits. The ledger had accounts for assets (including receivables and inventories), liabilities, capital, income and expenses — the account categories that are reported on an organization's balance sheet and income statement. He demonstrated year-end closing entries and proposed that a trial balance be used to prove a balanced ledger.

Luca Pacioli is widely considered the "Father of Accounting". Additionally, his treatise touches on a wide range of related topics from accounting ethics to cost accounting. He introduced the Rule of 72, a method for estimating an investment's doubling time, more than 100 years before Napier and Briggs. (Wikipedia, "Luca Pacioli")

Pacioli's work postulates the convention that is still the foundation of financial accounting today; has only become more complex over the past five hundred years, and is reproduced in a booklet of only 108 pages, whereas the Financial Accounting Standards Board's (FASB) *Accounting Standards Codification* online at an annual subscription of $1,034 USD comes to some 800 printed pages (A4, 2 inches thick).[3] Underlying complexity is simplicity, a fact that accounting standard setters tend to ignore — the principle-based IFRS International Financial Reporting Standards not as much as the rule-based Accounting Standards Codification of US-GAAP.

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[2] Luca Pacioli. 1492. "The Rules of Double-Entry Bookkeeping." Republished by Michael Schemmann 2010 through IICPA Publications, available at Amazon.com, 108 pages, $6.75 USD - https://www.amazon.com/Rules-Double-Entry-Bookkeeping-Particularis-scripturis/dp/1453702024

[3] Michael Schemmann. 2010. "Financial Accounting and Reporting: IFRS and US-GAAP Codification Professional Study Guide." ThaiSunset Publications, aAvailable at Amazon.com Kindle $9.95, Paperback $38.95. https://www.amazon.com/Financial-Accounting-Reporting-Codification-Professional-ebook/dp/B005FBD7C2

The Business School

Come now the thousands of business schools worldwide, university-level institutions that teach a number of subjects from accounting to finance, strategy, economics, entrepreneurship, organizational behavior, information systems, international business, logistics, marketing, public relations, research methods, real estate, taxation among others, and of course commercial law but little in accounting IT, including data science or analysis, computer science and programming, or management information systems… yet.

Founded in 1759 – Aula do Comércio (Trade Class) in Lisbon, instituted on 19th May 1759 by the Marquis de Pombal, was the first official school for the teaching of professional technical commerce in the world, to specialize in the teaching of accounting, providing a model for the development of similar government-sponsored schools across Europe, paving the way for business schools to start.[4] The world's first business school founded in 1819 is *École supérieure de commerce de Paris* (ESCP Europe) with campuses in Berlin, London, Madrid, Paris, Torino and Warsaw.

Harvard Business School at Harvard University was not founded until 1908; the first program in the world to offer the MBA, ranked by the Financial Times consistently as the Number 1 or 2 in the world based exclusively on AACSB/EQUIS accreditation and the demand for research publications, as well as alumni's weighted average salaries three years after graduation — Harvard's alumni earn $205,000, Stanford's $228,000, a year, not bad for the top school's reputation.

Research

When we say "it's academic" — never mind the once popular quiz competitions for high school students on TV — people know it to mean "of little importance."

The question is, does accounting as a rule-based convention, like the "rule of the road"[5] of driving on the left or on the right hand side of the road, really lend itself to research, except perhaps application research on the affects of the standards in order to change their interpretation.

Research findings presented in the form of doctoral dissertations must add to the body of knowledge something that was not known before. What can be added to accounting conventions that we already know because they are embedded in the standards promulgated by the FASB as US-GAAP or the IASB in the IFRS.

Accounting research at universities leading to the doctorate degree — or to comply with the publication requirements of the accreditation agency AASBC, for example — are typically surveys on contrived non-accounting issues masquerading as science by resorting to mathematics, in particular complex statistics, to come up with findings no one needs to know. In the main, the

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[4] Lima Rodrigues, Lucia & Gomes, Delfina & Craig, Russell. (2011). "Aula do Comércio: Primeiro estabelecimento de ensino técnico profissional oficialmente criado no Mundo?"

[5] The majority of armed horsemen in England were right-handed, riding on the left side of the road in order to hit with their sword or weapon by the right hand.

dissertations, theses or papers are addressed to, are read by other researchers and referred to as resources by other researchers in the productions of their dissertations, theses or papers with hardly any original thinking. Most academic papers are produced by a pair or group of authors to share the burden, although we know there is no such a thing as collective wisdom (as opposed to collective intelligence to make life easier through the application of acquired knowledge).

PhD v. CPA

In the United States, the professional accounting designation held in the highest regard is the CPA, Certified Public Accountant, or the CA, Chartered Accountant, in Great Britain and Commonwealth, entitling the licensee to perform the attest function of public companies' financial statements with respect to their fairness in the presentation of the entities' financial positions.

CPA candidates are tested in a rigorous examination on their *knowledge* of fundamentals of the business environment, financial reporting, auditing, tax and commercial law. The applicants' *skills* in applying their knowledge are tested by simulations. The education requirements for admission to sit for the U.S. CPA exam include 150 credit hours in accounting, which, depending on the college or university, may lead to the simultaneous conferring of a BSc degree in Accounting and an MBA.

There is no requirement of BA or MBA students to read the research papers of their professors, which would only digress from the already very broad, but not very deep, body of knowledge that in the CPA exam. Conversely, there is no requirement for doctoral accounting applicants to have passed the CPA exam to hold a state's practice license. The majority of accounting professors today are theorists of an art that does not need to be useful, only scientific; and it assumes that characteristic by employing mathematics in the form of statistics, and lots of it, the more complex, the higher the chance of peer-reviewed publication.

The AICPA used to hire armies of recently qualified CPAs whose knowledge of the exam content was more current then that of the already specialized older ones, to grade the written CPA exam before it was computerized. The AICPA did not hire accounting professors with a deep understanding of a small corner in the niche of the ivory tower.

When I was chair of an accounting department in Central Asia, I elevated the VP Administration and Finance of our university, a CPA, to Assistant Professor to teach two summer courses in accounting — every one else was on summer vacation. The CPA received very impressive and favorable student evaluations. When the faculty of business returned, I took a heavy load of criticism for appointing a CPA with a Master's in Divinity, but also some smiles.

Both of my older sons graduated with doctoral degrees in engineering from Ivy League universities. To become licensed PE, engineers must complete a four-year college degree, work under a Professional Engineer for at least four years, pass two intensive competency exams and earn a license from their state's licensure board. Then, to retain their licenses, PEs must continually maintain and improve their skills throughout their careers. (National Society of Professional Engineers nspe.org) My oldest holds a number of patents for plasma ignition systems, the younger one built America's longest 2.3 mile wide cable-stayed bridge, the John James Audubon Bridge crossing the Mississippi in Louisiana. And I trust his judgment when he said to me, that it doesn't matter were you study, what matters is what you do there. His dissertation (1997) at Stanford University became the textbook for the design of cable-stayed bridges and the challenges from wind demands typically arising from the three fundamental effects: mean (static), background (gust), and inertial (buffeting).[6]

The reason for the great shortage of accounting faculty in America is the impending retirement of current instructors, says Sue Haka, president of the American Accounting Association. "43% of accounting professors are 55 years of age or older. For each year in the next decade, 500 to 700 of these accounting professors will retire, while only 140 new accounting faculty will enter the field." ("Where Have All the Accounting Professors Gone? Roger CPA Review Team.) The academic AAA has teamed up with the practice AICPA to recruit licensed CPAs to go and teach. Eligible applicants must meet the following criteria:[7]

- CPA required.
- At least three years of professional accounting experience, with a portion of that experience being within the last three years at the time of enrollment.
- U.S. citizenship or permanent resident status (green card holder).
- Earned an undergraduate or a master's degree in accounting.
- Either a GMAT score of 650 or higher (must be less than five years old) or in good standing within current PhD program.
- Intend to teach and research at a U.S. AACSB-accredited university upon graduation.
- Have either:
    - Applied to a full-time accounting PhD program and awaiting word on acceptance
    - Received acceptance into a full-time accounting PhD program
    - Matriculated in a full-time accounting doctoral program and pursuing appropriate coursework.

Here are some things to consider in assessing whether to go back to school to earn a doctorate, writes the AICPA:[8]

- A Ph.D. is a research degree. If teaching is the only side of the faculty equation that interests you, you may want to pursue a different avenue to the classroom. For instance, many universities seek lecturers and adjunct faculty to meet classroom demand. Seek an opportunity to meet with college and university accounting program administrators to investigate potential teaching opportunities.
- What disciplinary area of accounting interests you? Tax? Audit? Managerial accounting? Accounting information systems? Financial accounting? Since different programs have different areas of expertise, making this decision early will help you determine which programs to apply to.

[6] "A Modern Marvel Crosses the Mighty Mississippi," https://academic.csuohio.edu/duffy_s/CVE_601_Struct_3.pdf
[7] Adrienne Gonzalez, "Desperate for More Accounting Professors, the AICPA Is Literally Paying People to Take the PhD Track," goingconcern.com Education, 15 January 2019.
[8] See also: "A Ph.D. for me? Really? If you are a CPA with recent practical experience and a love for the profession, the academic accounting community is ready to embrace your talents.
https://www.aicpa.org/interestareas/youngcpanetwork/resources/career/accounting-doctorate.html

- Doctoral programs usually take four to five years to complete. Can you commit this time?
- You won't necessarily have to live on *ramen noodles* again. Many universities offer fellowships and assistantships to help offset the costs of a doctoral education.

How important is a doctoral degree in accounting education compared to the professional state-licensed CPA, because the doctoral degree itself says little about the teaching ability, although it may have been a requirement like the dissertation "in partial fulfillment ofthe requirements for the degree of Doctor of Philosoph."

For any instructor, there are always the accounting textbooks with questions and suggested solutions that are written by CPAs from which he can teach, and doctor has teaching asstistants who help him/her to prepapre the material for class, and with whom s/he can discuss each and every word in the exam questions. And s/he can throw students' questions back at the class and turn them into assignments, giving him/her time until next class to find the answers and discuss them, while the CPA with a pletora of practical experience can create simulations and think outside box.

A student's question may be, "where does a bank get the money before it can lend it out to the borrower?" The doctoral instructor, leaning on the memory of his economics class, will cite the common fairy tale told by the Federal Reserve, that commercial banks play an important role in the financial system and the economy, that, as a key component of the financial system, banks allocate funds from savers to borrowers in an efficient manner, concluding "the money banks lend out comes from the savings deposits of other customers." [9]

Not so the CPA who simply "book it" by drawing T-accounts and enter the debits and credits of the transaction to see the effects on the balance sheet, the income statement, and the cash flow. CPAs are trained as auditors including bank audits:

> "First of all the bank must debit the borrower's loans receivable account to the credit of the borrower's deposit account.
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> "No pre-existing funds are involved until the bank must settle the check that the depositor has written, and it settles it in the daily payment clearing system of the clearing house or the central bank by compensating outgoing with incoming payments, borrowing any shortfall and deposting any surplus from other institutions overnight at the federal funds rate.
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> "If the bank cannot borrow to cover its adverse balance in the daily payments clearing because the banks don't trust each other, then we have another Global Financial Crisis as we had in 2007 and the Secretary of the U.S. Treasury, and the Chairman of the Federal Reserve who is anwerable to him or her, agree to step in by bailing out the payment system with its high-powered central bank money, which it also creates out of nothing, crediting the banks and/or firing up the money printing press."[10]

[9] "What is the economic function of a bank?" Federal Reserve Bank of San Francisco, 2001 at https://www.frbsf.org/education/publications/doctor-econ/2001/july/bank-economic-function/
[10] Ben S. Bernanke. 2015. The Courage to Act: A Memoir of a Crisis and Its Aftermath." New York: W.W. Norton & Company, Inc.

The doctoral instructor's explanation of the lending process points to the bank's pre-existing funds, which sounds plausible but is false, while the CPA's explanation represents the facts of bank-lending, which is the creation of money out of nothing through the art of double-entry bookkeeping, opening the next question of how the creation of such assets (loans receivable) and the corresponding liability (customer deposits) can be in compliance with IFRS, with the definition of an asset (and the corresponding liability) when it is not "a resource controlled by the bank as a result of past events, and from which future economic benefits are expected to flow to the bank" but the creation by was o double-entry bookkeeping.[11] Isn't the purpose of bookkeeping the recording of past transactions, not the source for the creation of assets and liabilities?

Good questions which the late Yale Professor, Irving Fisher (1935), researched and published in his "100% Money"[12] book (see also the "Chicago Plan" presented by economist at the University of Chicago[13]), and John Kenneth Galbraith (1975) commented in his book entitled "Money. Whence It Came. Where It Went.", saying "The process by which banks create money is so simple that the mind is repelled." [14]

Doctoral Dissertations

Let us have a look at three doctoral dissertations chosen at random from a published list of doctoral dissertation of the Department of Accounting of the University of Oregon Graduate School because of their great number and free accessibility, [15] considerating in particular what is the contribution to the body of knowledge that is relevant to, and necessary for, BA or MBA university students who are already facing an overbearing and complex set of accounting standards.

• "The Interaction of Incentive and Opportunity in Corporate Tax Avoidance: Evidence from Financially Constrained Firms" by Wu, Kaishu (Deaprtment of Accounting and the Graduate School of the University of Oregon, 2018-09-06)

> Abstract: I hypothesize and find that the variation in corporate tax avoidance is jointly determined by firms' incentive and opportunities to avoid taxes. Specifically, the positive relation between financial constraints (my proxy for an incentive to avoid taxes) and tax avoidance is significantly stronger for firms with high tax planning opportunities (TPO), where TPO is the distance between a firm's actual and predicted ETRs. I further show that firms with TPOs based on high permanent (temporary) book-tax differences exhibit more permanent (temporary) book-tax differences under financial constraints. From a risk perspective, I find no evidence that financially constrained firms with low TPO exhibit more tax risk but some evidence that those with high TPO do so. In general, the findings in this

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[11] Michael Schemmann. 2015. "Putting a Stop to Fictitious Bank Accounting. With a Plan to Redeem the US and Euro Area National Debts." IICPA Publications available at Amazon.com.

[12] Irving Fisher. 1935. "100% Money. Designed to keep checking banks 100% liquid; to prevent inflation and deflation; largely to cure or prevent depressions; and to wipe out much of the National Debt." New York: Adelphi Company. See also Irving Fisher (1936) brief summary in the *Economic Forum*, entitled "100% Money and the Public Debt," available at Amazon. https://www.amazon.com/100-Money-Public-Irving-Fisher-ebook/dp/B003YJEWZI

[13] Jaromir Benes and Michael Kumhof (2012), "The Chicago Plan Revisited," IMF Working Paper at https://www.imf.org/external/pubs/ft/wp/2012/wp12202.pdf

[14] John Kenneth Galbraith. 1975. "Money. When It Came. Where It Went." Boston: Houghton Mifflin.

[15] "Accounting Theses and Dissertation," https://scholarsbank.uoregon.edu/xmlui/handle/1794/10288

paper provide evidence consistent with an incentive-opportunity interaction story to help explain differences in corporate tax avoidance.

Critique of Kaishu Wu's dissertation:

This dissertation covers a survey, a statistical exercise concerning human behavior and has little if anything to do with the body of knowledge of accounting as a basis for the law, regulations or techniques of avoidance of tax liability.

The candidate concludes the obvious without adding any recommendations for further study, namely, that those entities that are financially constrained but have tax planning opportunities using them, while those financially constrained entities that do not have tax planning opportunities, are not using them, and that as a consequence the latter are, of course, less exposed to tax risk (meaning tax audit, reassessment, and penalties).

The candidate appears to have been the assistant of his doctor-father who is also the chairperson of the dissertaion committee, the former CPA and highly-reputed Dr. David A. Guenther (University of Washington, Oxford, and MIT), citing and using the elaborate formulas and tables developed by them in Guenther, D., R. Wilson and K. Wu. 2019. "Tax Uncertainty and Incremental Tax Avoidance," *The Accounting Review*, publication forthcoming. The *Accounting Review* is a bimonthly peer-reviewed academic journal of the AAA, the American Accounting Association of university instructors of accounting, which gives itself the name "Thought leader in accounting."

• "Individual Executive Characteristics and Firm Performance: Evidence from CEP Narcissism" by Rebeca Pérez (Department of Accounting and the Graduate School of the University of Oregon, June 2017).

> Abstract: Narcissism refers to persistent feelings of grandiosity, a need for admiration, and a lack of empathy (American Psychiatric Association 2013). The literature has found narcissism to be associated with individuals making decisions for a firm that fulfill their egos rather than maximize firm value. The literature in psychology, however, suggests that when firms face financial distress, narcissism could be a desirable trait in an individual, enabling the CEO to take the necessary risks and make the necessary decisions for the firm to recover. I study the context under which a firm may benefit from a narcissistic CEO. In this study, I use two measures from prior literature (CEO photo-prominence in the annual report and a CEO's use of first-person personal pronouns) to form a combination measure to investigate whether firms in financial distress are more likely to appoint a CEO with more narcissistic traits. I find some evidence to support this hypothesis. I also examine whether the association between narcissism and future firm performance is affected by the economic conditions of a firm and the visibility of the firm. I find results consistent with firm financial distress increasing a narcissistic CEO's effect on firm performance in low-visibility firms.

Critique of Rebeca Pérez' dissertation:

Once again, as so often, this dissertation, too, is about a survey, a statistical exercise, of corporate human behavior, that narcissism in a CEO as a need for grandiosity and a lack of empathy, is described as a desirable trait enabling the CEO "to take the necessary risks and make the necessary decisions for the firm to recover." The rules of professional conduct of state boards of accountancy demand quite the opposite, namely, that professional accountants are to conduct themselves with the Public Interest in mind, with Integrity, Objectivity, Independence, and with Due Care.

> "Integrity principle… To maintain and broaden public confidence, members should perform all professional responsibilities with the highest sense of integrity… It is the quality from which the public trust derives and the benchmark against which a member must ultimately test all decisions… among other things, honest and candid… not be subordinated to personal gain and advantage." [16]

> "We add texture to the conclusion of Duchon and Drake (Journal of Business Ethics, 85, 2009, 301) that extreme narcissism is associated with unethical conduct." [17]

• A most interesting and typical academic accounting career by German immigrant Anne Beyer began at Stuttgart University, and via a PhD at Northwestern (2006) to Stanford University's Business School where she received the MBA Distinguished Teaching Award in accounting for 2013, and the MSx Teaching Excellence Award for 2018.[18] Professor Dr. Anne Beyer does not hold a CPA or related professional accounting or finance designation.

Professor Beyer was selected by a teaching award committee of five students who analyzed the students' nominations for forty "most beloved professors which changed the course of students' professional lives, course evaluations, contributions to curriculum development, involvement with students outside the classroom" and teaching styles.

Examples from the students' recommendations include, "watch Professor Francis Gonzalez incorporating news on a daily basis to see the practical applicability as opposed to just theoretic concepts," "providing insights during the summer when working on an operations case, replying within 24 hours promising follow-ups with further insights (how many professors take time out of their vacations to do that?)," "challenges the classes' preconceptions, assumptions, and biases," or presenting "a thorough academic framework and the messy compromises when running a business."

Professor Anne Beyer, the winner, stood out for answering complex questions in simple terms, creating an atmosphere where mere expressions of confusion were always welcome, giving supportive and never condescending replies, soliciting and accepting students' feedback, demonstrating the credible desire to get to know students and their point of view on the topics under study following the coffee industry in Guatemala, encouraging students to stretch their thinking on

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[16] The Washington State Accountancy Act has adopted the AICPA's Rules of Professional Conduct https://www.aicpa.org/content/dam/aicpa/research/standards/codeofconduct/downloadabledocuments/2014december15contentasof2016august31codeofconduct.pdf

[17] Joel H. Amernic and Russell J. Craig, „Accounting as a Facilitator of Extreme Narcissism," *Journal of Business Ethics* 96 (1):79-93 (2010).

[18] YouTube https://www.youtube.com/watch?v=LG-pq3z5DHQ ; bio at https://www.gsb.stanford.edu/faculty-research/faculty/anne-beyer

international business, and the challenge faced by each part of the value chain, while she was not flashy or entertaining, but rather earnest and direct. One student said that the student "did not get the highest mark, but the highest level of learning."

- Anne Byer's paper, „Capital Market Prices, Management Forecasts, and Earnings Management" is based on her doctoral thesis at Northwestern University, published by *The Accounting Review*, Vol. 84, No. 6 (NOVEMBER 2009), pp. 1713-1747.

> Abstract: The paper studies a manager's optimal earnings forecasting strategy and optimal earnings management policy in a setting where both the mean and the variance of the distribution generating the firm's cash flows are unknown. The paper shows that the equilibrium [capital stock] price of the firm is a function of the manager's forecast, the firm's reported earnings, and the squared error in the manager's earnings forecast. The model in the paper contains several predictions, including: (i) the manager manipulates earnings to reduce his forecast error at the earnings announcement date; (ii) the firm's stock price is more sensitive to the firm's actual earnings announcement than to the manager's forecast; and (iii) controlling for the level of reported earnings and the magnitude of the earnings surprise, the firm's price is higher when it has a positive surprise at the earnings announcement date than when it has a negative surprise.

Discussion of Anne Beyer's paper:

The paper based on Anne Beyer's Ph.D. thesis (2006) is a highly mathematical and complex statistical thought experiment as a fundamental tool for diagnosing a manager's "optimal earnings forecasting strategy," of which the manager may not even be aware. From the Introduction to her paper: "The goal of the analysis is to model managers' propensity to bias their forecasts and to manipulate earnings, and to evaluate the capital markets equilibrium reactions to management forecasts and earnings releases."

The only relation to accounting terminology are earnings as a result of forecast and subsequently reported earnings and the resulting prices of the underlying capital stock in the market place. Such a model applies to anything, e.g., for a stream of water depending on the weather for draught or precipitation, and the resulting level of the reservoir determining its forecast price (which is subject to manipulation). and the water's actual price per cubic meter, that can be extracted from the users based on shortage or abundance of the water to meet the users' demand.
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Anne Beyer's dissertation does not add to the knowledge of students or preparers of financial statements, namely compliance with the accounting framework and principles, standards, rules, regulations, and practices — not even in the abstract — or for users of financial statements, although the "model" may be of interest to *quants*" for use in their computer algorithms, the complex mathematical models to identify and capitalize on available trading opportunities.[19] Anne Beyer's paper elaborates on highly mathematical statistics, as one may see for oneself (pages 36-37):

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[19] Emanuel Derman. 2004. "My Life as a Quant. Reflections on Physics and Finance." Hoboken: John Wiley and Sons, Inc.

Proof of additional predictions on discretionary accruals

Part (i): Discretionary accruals and forecast error are negatively correlated.

$$\begin{aligned}
\widetilde{DA} &= R\left(MF\left(\widetilde{\mu}_1\right), \widetilde{x}_1\right) - \widetilde{x}_1 = r_0 + r_1 m_0 + r_1\left(\widetilde{\mu}_1 - \widetilde{x}_1\right) = \frac{p_2}{c_2} - r_1 \widetilde{v}_1 \\
\widetilde{FE} &= R\left(MF\left(\widetilde{\mu}_1\right), \widetilde{x}_1\right) - MF\left(\widetilde{\mu}_1\right) = \frac{p_2}{c_2} - \frac{p_1}{c_1} + r_2\left(\widetilde{x}_1 - \widetilde{\mu}_1\right) = \frac{p_2}{c_2} - \frac{p_1}{c_1} + r_2 \widetilde{v}_1 \\
Cov\left(\widetilde{DA}, \widetilde{FE}\right) &= -r_1 r_2 Var\left(\widetilde{v}_1\right) < 0.
\end{aligned}$$

Part (ii): Expected discretionary accruals are positive if the forecast error is negative. Using the fact that $r_1 > 0$ we have

$$\begin{aligned}
E\left[\widetilde{DA}\middle|\widetilde{FE} < 0, \tau\right] &= \frac{p_2}{c_2} - r_1 E\left[\widetilde{v}_1 \middle| \widetilde{v}_1 < -\frac{1}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right), \tau\right] = \frac{p_2}{c_2} + \frac{r_1}{\tau} \frac{\phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)}{\Phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)} > 0 \\
E\left[\widetilde{DA}\middle|\widetilde{FE} > 0, \tau\right] &= \frac{p_2}{c_2} - r_1 E\left[\widetilde{v}_1 \middle| \widetilde{v}_1 > -\frac{1}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right), \tau\right] = \frac{p_2}{c_2} - \frac{r_1}{\tau} \frac{\phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)}{1 - \Phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)}
\end{aligned}$$

where $\phi(\cdot)$ and $\Phi(\cdot)$ denote the probability density function and the cumulative density function for the standard normal distribution respectively. (To see that $E\left[\widetilde{DA}\middle|\widetilde{FE} > 0, \tau\right]$ can be both positive and negative consider $\gamma \to 0$ and $\gamma \to \gamma_{\max}$ and $\rho \to -1$).

Part (iii): The magnitude of discretionary accruals is smaller when the forecast error is positive than when the forecast error is negative. If $E\left[\widetilde{DA}\middle|\widetilde{FE} > 0, \tau\right] > 0$ then

$$\begin{aligned}
\left|E\left[\widetilde{DA}\middle|\widetilde{FE} > 0, \tau\right]\right| &< \left|E\left[\widetilde{DA}\middle|\widetilde{FE} < 0, \tau\right]\right| \\
\frac{p_2}{c_2} - \frac{r_1}{\tau} \frac{\phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)}{1 - \Phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)} &< \frac{p_2}{c_2} + \frac{r_1}{\tau} \frac{\phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)}{\Phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)}
\end{aligned}$$

If $E\left[\widetilde{DA}\middle|\widetilde{FE} > 0, \tau\right] < 0$ then

$$\begin{aligned}
\left|E\left[\widetilde{DA}\middle|\widetilde{FE} > 0, \tau\right]\right| &< \left|E\left[\widetilde{DA}\middle|\widetilde{FE} < 0, \tau\right]\right| \\
\frac{r_1}{\tau} \frac{\phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)}{1 - \Phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)} - \frac{p_2}{c_2} &< \frac{p_2}{c_2} + \frac{r_1}{\tau} \frac{\phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)}{\Phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)} \\
\frac{r_1}{\tau} \phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right) \frac{2\Phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right) - 1}{\left[1 - \Phi\left(-\frac{\sqrt{\tau}}{r_2}\left(\frac{p_2}{c_2} - \frac{p_1}{c_1}\right)\right)\right]} &< 0 < \frac{2p_2}{c_2}
\end{aligned}$$

which follows from $\frac{p_2}{c_2} - \frac{p_1}{c_1} > 0$ (see proof of Corollary 3).■

The Combined CPA - PhD

Paul Gillis became a college professor 8 years ago after a 28-year career at Pricewaterhouse-Coopers. He retired at age 50, he says, enabled by PwC's generous retirement program for partners, refusing to retire into a beer glass, but motivated by the desire for a second career — teaching. He was "attracted by the three best things which are June, July and August." He writes:[20]

> "One reason to get a PhD is that you will never be treated as a full member of the academic club without one."
>
> "A PhD in accounting often is not really about accounting. The most popular research track uses econometric techniques to tease out new relationships from data pulled from financial statements. I don't find most of this research useful; all it seems to be is refining the calculation of how many angels can dance on the head of a pin."

If it is true, and I believe it is, that it does not matter where the student studies — at an world-renowned Ivey League university or only a regionally accredited one — rather than what s/he does there, then accounting students would benefit at universities with high ratios of faculty holding a CPA or equivalent. Another student benefit is the much lower tuition.

Dres. Jordan and Clark, CPAs, writing for the New York Association of CPAs in *The CPA Journal* of September 2017 urge that accounting professors should be professionally qualified CPAs, concluding that "only 56% of faculty at AACSB-accredited accounting programs are CPAs. " [21] The current ratios is lower. The authors say:

> "The CPA, medical, and legal professions possess similar entrance requirements, and all three are practical professions where a major emphasis of the college coursework entails preparing students for the work-place."
>
> "[Professor] Gregory Tapis has chronicled why he chose to devote the time and effort to become a CPA despite the fact that he already held a tenure-track position and had been teaching without the credential ("Why are You Not a CPA?" *Journal of Accountancy*, February 2016, http://bit.ly/2fbBAFd)."
>
> „Although Tapis had experience in the consulting and IT arm of a regional public accounting firm and held other professional credentials, his students frequently asked him, "Why are you not a CPA?" Indeed, a survey of accounting students concerning their expectations about the training of accounting educators revealed that the respondents 'overwhelmingly … believe an accounting professor should have passed the CPA exam.' (Alexander Buchholz, Frimette Kass, and Kessill Robinson, "A Study of Student Perspectives of Professors with a CPA License Compared to a PhD

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[20] Paul Gillis, "Should CPAs Consider a PhD?" 27 August 2016, goingconcern https://goingconcern.com/should-cpas-consider-phd/

[21] Charles E. Jordan, DBA, CPA and Stanley J. Clark, PhD., CPA, "The Prevalence of CPA in the Accounting Academy," *The CPA Journal*, New York Association of Certified Public Accountants, September 2017, https://www.cpajournal.com/2017/09/25/prevalence-cpas-accounting-academy/

in Accounting in New York State," *Journal of Business and Educational Leadership*, 2014, http://bit.ly/2u7uckN).

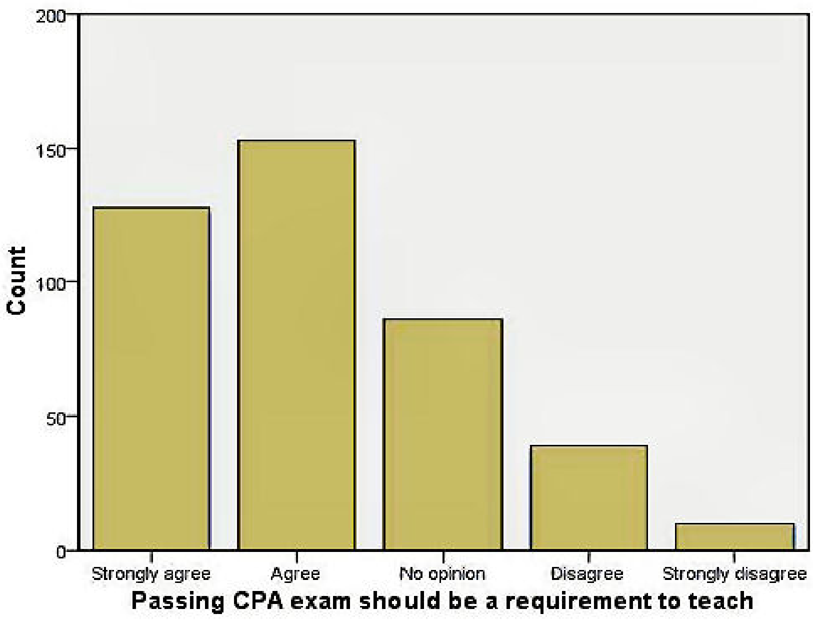
"Tapis grew weary of answering the question and used a semester sabbatical to prepare for and pass the CPA exam. He explains in his article how preparing for the exam changed the way he teaches; he does not teach toward the exam, but instead uses his knowledge of the exam content to know what practicing accountants need to understand. Tapis believes he is a better teacher as a result of his experience and that being a CPA helps bridge the education gap by opening the dialogue between educators and practitioners. Indeed, recent research shows a significant, positive relationship between a faculty's CPA certification status and candidate performance on the CPA exam (Dennis Bline, Stephen Perreault, and Ziaochuan Zheng, "Do Accounting Faculty Characteristics Impact CPA Exam Performance? An Investigation of Nearly 700,000 Examinations," *Issues in Accounting Education*, August 2016, http://bit.ly/2hqAcPA)."

A study at Brooklyn College exploring the correlation between students' perspectives of professors with a CPA license compared to professors with a PhD in accounting revealed, among others, the following:[22]

"We asked students if they believed a CPA certificate should be required to teach accounting. 66.5% strongly agreed or agreed that a CPA should be required to teach accounting. This is represented in Figure 10."

"When we asked students to recall their best accounting professor, 7.8% (n=33) said s/he had a PhD but no CPA, 63.8% said s/he had a CPA and a Masters and 7.1% (n=30) said s/he had only a CPA. 15.1% said they didn't care about their professors' credentials as long as they could teach."

Figure 10: *Should passing the CPA exam be a requirement for teaching?*



[22] Alexander Buchholz, Frimette Kass, Kessill Robinson, "A Study of Student Perspectives of Professors with a CPA Compared to a PhD in Accounting in New York State." Proceedings of ASBBS Annual Conference Las Vegas, February 2013. at http://asbbs.org/files/ASBBS2013V1/PDF/B/Buchholz_Kass_Robinson(P37-47).pdf

In conclusion and summary "our findings suggest that most students believe that their professors' credentials did not matter. Moreover, a high percentage disagreed or strongly disagreed that a PhD should be the requirement to become an accounting professor, and other students had no opinion. In addition, other students did not care about the professors' credential as long as they could teach. However, they overwhelmingly said they believe an accounting professor should have passed the CPA Exam."

Misguided Accreditation Requirement

The most highly ranked business schools have the least professionally qualified accounting professors, which is the result of a misguided AACSB-accreditation requirement that at least 40% of qualified faculty must be doctorally qualified. The colleges and universities took it in, but perhaps the concept (framework)-, standards- and rule-based art of accounting and its professional education, just like taxation and even law, does not belong to the research universities, but to the institutes of public accounting, of cost & works accountants, now rebranded "management accounting," and of government accounting, where it all started and still exists. That leaves the universities with plenty, namely, history, literature, medicine, math, chemistry, physics, and of course philosophy which is in the title of its PhD.

AACSB Faculty Qualifications Indicators state (Standard 15, Table 15.1): [23]

• SA guideline: (SA) / (SA+PA+SP+IP+O) > 40%
• SA+PA+SP guideline: (SA+PA+SP) / (SA+PA+SP+IP+O) > 60%
• SA+PA+SP+IP guideline: (SA+PA+SP+IP) / (SA+ PA+SP+IP+O) > 90%

SA = scholarly academic, say doctoral;
PA = Practice Academic, say doctoral plus practice experience;
SP = Scholarly Practitioners, say MBA + CPA, etc.;
IP = Instructional Practitioners, say CPA.
O = Others.

Harvard University's Accounting & Management unit at Harvard Business School has only

19% of accounting faculty of **total 21** who are current or former CPAs or equivalent:

4 thereof PhD plus Indian CA and Canadian CA (re-branded CPA); no US-CPA,
17 thereof are PhD only,

Annual tuition is set at $72,000

[23] AACSB 2013 Eligibility Procedures and Accreditation Standards for Business Accreditation, last revised 01 July 2018, pp 42 et seq. at https://www.aacsb.edu/-/media/aacsb/docs/accreditation/business/standards-and-tables/2018-business-standards.ashx?

Stanford University's Graduate School of Business has only

14% of accounting faculty of **total 21** who are current or former CPAs or equivalent,

3 thereof PhD plus CPA or equivalent,
16 thereof are PhD only,
0 thereof are CPA only.
2 thereof are LLM or MBA.

Annual tuition is set at $73,000

Stanford's GSB is advertising to fill a "Faculty Position in Accounting — no mention of CPA: "Candidates should have or expect to complete a PhD by September 1, 2020, and should possess a strong and active research record. The successful candidate will be expected to conduct research and to teach both MBA and PhD courses in accounting." Stanford's accounting faculty — one of the world's highest ranked B-Schools, from time to time the highest — does not require a CPA or comparable professional accounting designation.

UT University of Texas, McCombs School of Business, Department of Accounting**, is** ranked 1st in by *Accounting Degree Review* and by *U.S. News & World Report*.[24] Among Stanford's faculty are accounting textbook authors, partners of global accounting firms, a member of the GASB, the U.S. Government Accounting Standards Board. The Accounting Department boasts a high

63% of accounting faculty of **total 72** professors and instructors with a current or former CPA or equivalent,
28 thereof PhD plus CPA or equivalent,
22 thereof are PhD only,
17 thereof are CPA only,
5 thereof are JD or other.

Annual tuition $38,000.

SMU Southern Methodist University, Cox School of Business:

43% of accounting faculty of **total 28** professors and instructors are current or former CPA or equivalent:

4 thereof PhD plus CPA or equivalent,
12 thereof are PhD only,
8 thereof are CPA only.

Annual tuition $50,000 (undergraduate 2016-17).

[24] Best Undergraduate Accounting Programs 2017 by Accounting Degree Review at https://www.accounting-degree.org/best-accounting-schools/ and by U.S. News & World Report at https://www.usnews.com/best-colleges/rankings/business-accounting

CUNY Baruch College, Stan Ross Department of Accountanting at Zicklin School of Business, (ranked 24th in the U.S. by *Accounting Degree Review*):

> **29%** of accounting faculty of **total 31** professors and instructors are CPA (US, or equivalent from Canada, Korea, and the U.K.), including former Vice President of the AICPA, KPMG National Instructor, Chief Auditor of the SEC, governor of the Institute of Internal Auditors, and global CPA firm partner.
>
> 9 thereof are PhD plus CPA or equivalent,
> 22 thereof are PhD only.
>
> **MBA tuition** $16,310 per year (New York State residents).

UT University of Toronto (Ontario, Canada), Rotman School of Business (ranked the 1st business school in Canada, tied for #1 with UBC - University of British Columbia's Sauder School of Business)[25]

> **45%** of accounting faculty of **total 31** professors and instructors are current or former CPA, or CA or CMA (US and Canadian)
>
> 6 thereof PhD plus CPA/CA
> 14 thereof are PhD only,
> 8 thereof are CPA only,
> 3 thereof are MBA or neither.
>
> **Annual tuition** $35,000 US Funds (Canadian resident).

UBC University of British Columbia (Canada). Sauder School of Business, tied for #1 business school in Canada with UT Rotman, Toronto:

> **37%** of accounting faculty of **total 35** professors and instructors are current or former CPA, or CA or CMA (US and Canadian)
>
> 5 thereof PhD plus CPA/CA
> 16 thereof are PhD only,
> 8 thereof are CPA only,
> 6 thereof are MBA, MTax or neither.
>
> **Annual tuition** $26,000 US Funds (Canadian resident).

[25] Canada Study News at https://www.canadastudynews.com/2018/04/13/10-best-universities-in-canada-to-study-business/

The Future

Forbes writes that business schools are teaching yesterday's stuff.[26] Steve Denning, Senior Contributor writing about *Agile management, leadership, innovation & narrative*, says:

> „As the world undergoes a Fourth Industrial Revolution that is "fundamentally altering the way the way we live, work, and relate to one another—in its scale, scope, and complexity, a transformation … unlike anything humankind has experienced before"—one might imagine that business schools would be hotbeds of innovation and rethinking, with every professor keen to help understand and master this emerging new world.
>
> „Paradoxically, it's the opposite. For the most part, today's business schools are busy teaching and researching 20th century management principles and, in effect, leading the parade towards yesterday.
>
> „Take for instance this first-hand account just published in *The New Republic* by John Benjamin, an MBA student and Dean's Fellow at the M.I.T. Sloan School of Management.
>
> Today In: Leadership
>
> „MBA programs are not the open forums advertised in admissions brochures… Business school instruction is routinely blinkered… An MBA class will consider a business issue… in isolation. Its challenges are delineated; its society-level implications are waved away. The principals' overriding goal—profit maximization—is assumed. With mechanical efficiency, students then answer the question of how to move forward. Individual choices are abstracted into numbers or modeled as graphs…"

In the age of digitalization involves the electronic processing of each and every purchasing, sales, manufacturing recognized financial transaction, the auditing — internal and external — of 100% of transactions rather than only statistical samples, eg, through blockchain, providing employment for only a few highly trained and motivated geeks to apply the algorithms for the artificial intelligence that runs the entire accounting system, producing financial statements, analyses, budgets, forecasts and projections in real time on demand.

Accounting, as we have known it for centuries, will be gone, and with it the doctoral qualification based on consumer statistics for teaching the art.[27]

And then remember, it really does not matter *Where* you study, but *What You Do There*.

[26] *Forbes* 27 May 2018, https://www.forbes.com/sites/stevedenning/2018/05/27/why-todays-business-schools-teach-yesterdays-expertise/#6887de6d488b
[27] Michael Schemmann, "How to Win the Battle for Professional Accounting Talent: The Uniform Global ICPA® Training Program,"01 May 2019 at http://www.iicpa.com/articles/How%20to%20win%20the%20battle%20for%20professional%20talent.pdf