COMMENTARY

Human Capital Challenges Facing the Public Company Auditing Profession

Joseph V. Carcello

SYNOPSIS: This paper addresses human capital (HC) challenges facing the public company auditing profession. In my opinion, the HC challenges facing the profession make it less likely that the profession can effectively serve the interests of the investing public in the future, and I believe that we must consider fundamental changes to our educational model if these challenges are to be adequately addressed.

In the sections below, I consider the quantity and quality of accounting graduates, the quantity and quality of new accounting and auditing faculty, and a potential educational solution to the HC challenges facing the profession. To the extent possible, I cross-reference my identification of HC challenges to the Advisory Committee on the Auditing Profession’s discussion outline (see http://www.treas.gov/offices/domestic-finance/acap/agendas/outline-10-15-07.pdf). I hope that these comments will provide useful input to the Advisory Committee’s deliberations and will promote additional analysis and debate regarding the future of the auditing profession. [DOI: 10.2308/ciia.2008.2.1.C1]

QUANTITY AND QUALITY OF ACCOUNTING GRADUATES

Quantity of Accounting Graduates

The Advisory Committee projects a robust demand for accountants through 2014 (Advisory Committee on the Auditing Profession, Working Discussion Outline #2.3.1.1) and suggests that the large number of anticipated retirements may result in a labor shortfall (Outline #2.3.1.2). However, the Advisory Committee also recognizes that enrollments in accounting programs have increased by 19 percent from 2000 to 2004 (Outline #2.3.1.3).

My sense is that there is a sufficient raw number of accounting graduates to meet the needs of the public company auditing profession for the foreseeable future. The largest eight accounting firms provide audit services to companies comprising 99 percent of the aggregate market capitalization of Compustat-listed companies. These accounting firms limit, or at least concentrate, their recruiting efforts on a limited number of universities (i.e., “target” schools). If a genuine shortage of personnel existed at the entry level, then these firms could simply expand the number of accounting graduates they recruit.

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Editor’s note: This article is adapted from Professor Carcello’s December 3, 2007 testimony before the Treasury Department’s Advisory Committee on the Auditing Profession.
of universities where they recruit.¹ The bigger and, in my view, far more relevant issue is whether a sufficient number of suitably qualified accounting graduates will exist to meet the needs of the public company auditing profession.

**Quality of Accounting Graduates**

Absent a successful intervention, I am less sanguine as to whether there will be a sufficient number of suitably qualified accounting graduates to meet the needs of the public company auditing profession. The last 20 years have seen a tremendous acceleration in the risk and complexity of business transactions and, perhaps as a result, the accounting literature has become much more voluminous and complex. In order to successfully audit today’s business entities, the auditor needs to be very bright, motivated, well trained, and, most importantly, committed to the public’s interest. A recent report by the 103rd American Assembly (2003) on the Future of the Accounting Profession concluded, “The accounting profession needs to position itself to compete with others to attract the best and brightest among each fresh crop of college graduates.” But this same report concludes, “In order for the profession to thrive, participants agreed it would need to attract the ‘best and brightest’ university and college graduates, while simultaneously voicing concerns about its ability to do so. In years past, significant numbers of graduates of the most respected business schools opted to join the accounting profession. Today, fewer are following in their footsteps, opting for alternative career paths.” The issue the Advisory Committee should contemplate is the following: Is the public company auditing profession truly viable as a meaningful guardian of investor capital if corporate executives are smarter than auditors, and if this difference is growing at an increasing rate?

If the best and the brightest are migrating away from accounting, then where are they going? Although I suggest that the Advisory Committee perform its own analyses, my sense is that students are largely migrating to fields with larger financial returns (e.g., consulting, corporate law, hedge funds, investment banking, and private equity). The financial returns available in some of these fields are staggering and have grown rapidly in recent years (Kaplan and Rauh 2007).

**Costs of Getting an Accounting Degree**

There are two primary costs associated with getting an accounting degree. The first are the dollar costs—costs of tuition, books, room and board, and the opportunity cost of not being employed. The second are what I refer to as “effort” costs—the number of study hours needed to successfully complete an accounting degree, particularly vis-à-vis other degree options.

The dollar costs of obtaining an accounting degree are comparable to the costs of obtaining any other degree through the first four years of college. However, unlike most other business majors, accounting students in many states are required to complete 150 hours of education in order to sit for the CPA exam. This requirement for a 5th year of education clearly increases the dollar costs of obtaining an accounting degree. The extant literature indicates that the 150-hour requirement has reduced the number of students pursuing an accounting degree (e.g., see Allen and Woodland 2006). However, over 60 percent of the decline in the number of accounting majors is due to other causes (Boone and Coe 2002), including a decline in the relative salaries of entry-level accountants and a decline in the academic preparedness of incoming freshmen (Billiot

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¹ If the largest eight accounting firms expand their recruiting sources to include additional universities, then other labor market imbalances may result. These other universities have been traditional suppliers of entry-level personnel to management accounting, internal audit, and state and local governments. Moreover, the eight largest accounting firms could hire additional students from their “target” universities; approximately 10–30 percent of students at target schools are hired by local accounting firms or by industry.
Moreover, Nelson et al. (2002) find that both seniors and master’s students indicate a very high level of support for five years or more of education to be a CPA.

An important question as it relates to the 150-hour requirement is whether students who complete a 5th year of education are better prepared for success in the profession. Raghuunandan et al. (2003), after controlling for SAT scores, accounting credit hours, and enrollment in CPA exam preparation courses, find that students completing a 150-hour program have higher CPA exam pass rates, and Allen and Woodland (2006) find that students with 150 hours of education are modestly more likely to pass the CPA exam. Cumming and Rankin (1999) study student preparedness for the CPA exam in Florida, among the first states to adopt a 150-hour requirement. Pass rates on the CPA exam approximately doubled from before to after the 150-hour requirement.² Finally, Wier et al. (2005) find that the performance evaluations of those with an M.B.A. or M.Acc. degree are higher than those holding only a baccalaureate degree, although they measured performance of management accountants not of external auditors.

The second cost of obtaining an accounting degree is “effort” costs—that is, do students have to work harder to obtain an accounting degree vis-à-vis a degree in other business disciplines, and has any differential effort increased over time? There are both cross-sectional and time-series elements to this analysis. First, do accounting students work harder than do other business students? Second, do accounting students work harder today than they did in the past? I have been unsuccessful in locating empirical evidence on the hours worked by accounting majors as compared to other disciplines in the business school, but my anecdotal observation based on the five universities where I have either attended or taught is that accounting is typically perceived by students as involving the most work.

The second issue is whether accounting students work harder today than in the past. Developments over the past ten years have greatly expanded the number of conceptual areas that students need to master. First, for many years, the primary measurement basis in GAAP financial statements was historical cost. In recent years, one could argue that accounting standard setters are developing a parallel measurement basis to historical cost—i.e., the rapid growth of fair value measurement in GAAP. Preparing and auditing fair value measurements requires a different skill set than that required for historical cost measurements, a skill set largely derived from finance, mathematics, and statistics. This expansion of the needed competencies of accountants raises the effort cost of an accounting degree for students. Second, given the required reporting by management and certification by auditors of the effectiveness of internal control over financial reporting mandated by Sarbanes-Oxley (SOX) Section 404, students are now essentially studying a parallel auditing literature composed of PCAOB Auditing Standard No. 5 and the COSO framework, including other needed control-based competencies such as electronic data processing (EDP) auditing. Third, although not yet embedded within many university curricula, there are increasing expectations to expose students to International Financial Reporting Standards (IFRS, Outline #2.3.2.10) and eXtensible Business Reporting Language (XBRL, Outline #2.3.2.11). Finally, there are also calls to provide better university training on fraud prevention and detection (an overarching principle of the Advisory Committee), ethics (Outline #2.4.1.1.4), corporate governance (SOX), and enterprise risk management.

² It is important to recognize that the content and delivery of the CPA exam was redesigned during this period to increase the breadth of testing (i.e., more focus on general business knowledge) and to reduce the depth of testing (i.e., less focus on financial accounting and auditing, arguably the two subjects most important to public company auditing). It is possible that the improved performance on the CPA exam is at least partly due to a change in the nature of the exam.
Benefits of Getting an Accounting Degree

Increased costs of getting an accounting degree might not have adverse effects on the attractiveness of the accounting profession if the level of respect for the profession and its financial rewards, particularly compared with other business school disciplines and with other comparable professions (e.g., law, investment banking), had risen over time in a manner commensurate with the increased demands and costs associated with earning a degree.

To provide insight into the benefits of obtaining an accounting degree, I provide data on absolute and relative starting salaries for a M.Acc. graduate with a Big 4 firm, as well as analyses of the change in M.Acc. starting salaries over time compared to other fields that compete for the same student talent. I use 1985 as my base year. As Table 1 indicates, starting salaries for a M.Acc. graduate with a Big 4 firm in New York City (NYC) are substantially lower than starting salaries for a law firm associate in NYC and lower than starting salaries for investment bankers in NYC. In fairness, a M.Acc. graduate completes five years of school, whereas new investment bankers typically have an M.B.A. (six years of school) and attorneys have completed law school (seven years of school). Therefore, it seems reasonable to expect M.Acc. graduates to earn less; the bigger question is how much less? Since this question is impossible to answer, I analyze whether this gap has increased over time. If so, then it seems reasonable to argue that a career in public accounting is less attractive than a career in law or investment banking (at least monetarily) today as compared with 1985.

In 1985, a M.Acc. graduate with a Big 4 firm in NYC earned approximately 69 percent ($31,200/$45,500) of the starting salary of an investment banker, and 60 percent ($31,200/$52,000) of the starting salary of an associate at a NYC law firm. In 2007, a M.Acc. graduate earns only 35 percent ($65,000/$185,000) of the starting salary of an investment banker and only 45 percent ($65,000/$145,000) of the starting salary of an attorney. This represents a substantial decline in the relative earning power of accounting graduates vis-à-vis other fields.

As another means of measuring the relative attractiveness of accounting, I analyze whether accounting starting salaries have even kept pace with inflation and with growth in personal income. Starting salaries in accounting have barely outpaced inflation, but substantially lag what they would be in 2007 if they had just increased in line with personal income growth. Salaries in law have outpaced inflation, but they too have not risen as fast as personal income growth, although this shortfall is far less than it is in accounting. Finally, investment banking salaries have increased faster than both inflation and personal income growth.

Finally, although difficult to quantify, a historical attraction of the public accounting profession was its “respected position” within the business community. Auditors were viewed as professionals, albeit ones without as much status as doctors and lawyers, but ones with a distinct and important societal role. As the profession “commoditized” the audit during much of the past two decades, and as it sought its growth and funneled its rewards through the pursuit of consulting services, students have come to view employment with a public accounting firm as just one in a cornucopia of career alternatives. This diminution in the “psychic” value of a career in public accounting makes student evaluation of career alternatives even more of a cold-blooded calculation of costs and benefits (both in dollars and in effort). And, as discussed next, the profession does not fare well in this analysis.

Analysis of Net Costs versus Benefits of an Accounting Degree

My analysis indicates that the costs, both in dollars and effort, of obtaining an accounting degree have grown faster than the benefits of obtaining an accounting degree. This seems to suggest two alternatives. One possibility is to lower the costs of obtaining an accounting degree. This Advisory Committee could recommend a reduction of the education requirements of
### TABLE 1
#### Accounting Salaries versus Investment Banking and Law

**Show Me The Money?**

<table>
<thead>
<tr>
<th>Actual Salary, 1985</th>
<th>Public Accounting, NY</th>
<th>Investment Banking</th>
<th>Attorney, Top 20 NY Firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>$31,200</td>
<td>$45,500</td>
<td>$52,000</td>
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<table>
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<tr>
<th>Projected Salary Levels</th>
<th>Growth at Inflation</th>
<th>Growth at National Personal Income Rate</th>
<th>Growth at Inflation</th>
<th>Growth at National Personal Income Rate</th>
<th>Growth at Inflation</th>
<th>Growth at National Personal Income Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>$31,692</td>
<td>$33,039</td>
<td>$46,218</td>
<td>$48,181</td>
<td>$52,820</td>
<td>$55,064</td>
</tr>
<tr>
<td>1987</td>
<td>32,937</td>
<td>34,898</td>
<td>48,032</td>
<td>50,894</td>
<td>54,894</td>
<td>58,164</td>
</tr>
<tr>
<td>1988</td>
<td>34,297</td>
<td>37,835</td>
<td>50,016</td>
<td>55,176</td>
<td>57,161</td>
<td>63,058</td>
</tr>
<tr>
<td>1989</td>
<td>36,004</td>
<td>40,703</td>
<td>52,506</td>
<td>59,358</td>
<td>60,007</td>
<td>67,838</td>
</tr>
<tr>
<td>1990</td>
<td>37,741</td>
<td>43,481</td>
<td>55,039</td>
<td>63,410</td>
<td>62,902</td>
<td>72,468</td>
</tr>
<tr>
<td>1991</td>
<td>39,420</td>
<td>44,706</td>
<td>57,487</td>
<td>65,196</td>
<td>65,699</td>
<td>74,510</td>
</tr>
<tr>
<td>1992</td>
<td>40,664</td>
<td>47,452</td>
<td>59,302</td>
<td>69,201</td>
<td>67,774</td>
<td>79,087</td>
</tr>
<tr>
<td>1993</td>
<td>41,793</td>
<td>49,222</td>
<td>60,948</td>
<td>71,781</td>
<td>69,655</td>
<td>82,036</td>
</tr>
<tr>
<td>1994</td>
<td>42,951</td>
<td>51,894</td>
<td>62,636</td>
<td>75,679</td>
<td>71,584</td>
<td>86,490</td>
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<tr>
<td>1995</td>
<td>44,137</td>
<td>54,498</td>
<td>64,367</td>
<td>79,477</td>
<td>73,562</td>
<td>90,831</td>
</tr>
<tr>
<td>1996</td>
<td>45,440</td>
<td>57,833</td>
<td>66,266</td>
<td>84,340</td>
<td>75,733</td>
<td>96,388</td>
</tr>
<tr>
<td>1997</td>
<td>46,453</td>
<td>61,197</td>
<td>67,744</td>
<td>89,246</td>
<td>77,421</td>
<td>101,995</td>
</tr>
<tr>
<td>1998</td>
<td>47,234</td>
<td>65,932</td>
<td>68,883</td>
<td>96,151</td>
<td>78,724</td>
<td>109,887</td>
</tr>
<tr>
<td>1999</td>
<td>48,247</td>
<td>68,917</td>
<td>70,360</td>
<td>100,504</td>
<td>80,412</td>
<td>114,862</td>
</tr>
<tr>
<td>2000</td>
<td>50,013</td>
<td>75,139</td>
<td>72,935</td>
<td>109,578</td>
<td>83,354</td>
<td>125,232</td>
</tr>
<tr>
<td>2001</td>
<td>51,373</td>
<td>77,309</td>
<td>74,919</td>
<td>112,742</td>
<td>85,622</td>
<td>128,848</td>
</tr>
<tr>
<td>2002</td>
<td>52,125</td>
<td>78,740</td>
<td>76,016</td>
<td>114,829</td>
<td>86,876</td>
<td>131,233</td>
</tr>
<tr>
<td>2003</td>
<td>52,588</td>
<td>81,221</td>
<td>76,692</td>
<td>118,447</td>
<td>87,647</td>
<td>135,368</td>
</tr>
<tr>
<td>2004</td>
<td>54,817</td>
<td>86,046</td>
<td>79,942</td>
<td>125,484</td>
<td>91,362</td>
<td>143,411</td>
</tr>
<tr>
<td>2005</td>
<td>56,554</td>
<td>91,737</td>
<td>82,474</td>
<td>133,783</td>
<td>94,256</td>
<td>152,894</td>
</tr>
<tr>
<td>2006</td>
<td>58,898</td>
<td>97,267</td>
<td>85,893</td>
<td>141,847</td>
<td>98,163</td>
<td>162,111</td>
</tr>
<tr>
<td>2007</td>
<td>60,287</td>
<td>103,868</td>
<td>87,918</td>
<td>151,474</td>
<td>100,478</td>
<td>173,113</td>
</tr>
</tbody>
</table>

**Actual Salary, 2007**

$65,000  $185,000  $145,000

**Assumptions:**

Beginning and ending salaries for investment banking associates and first-year law associates identified from *New York Times* and *WSJ* articles.

2007 Big 4 public accounting salary per personnel recruiter with Big 4 firm.

1985 Big 4 public accounting salary represents 1985 starting salary in Atlanta ($24,000) per author incremented by the current 30 percent New York City salary premium.

Inflationary Growth is calculated from the annual levels, at July 1, of the *Consumer Price Index for All Urban Consumers, All Items*, published by the U.S. Department of Labor.

General Rate of Income Growth is calculated from the annual levels, at July 1, of the *Personal Income*, published by the Bureau of Economic Analysis.
accountants to 120 hours from 150 hours. Such a recommendation, if implemented, would clearly lower the dollar costs of obtaining an accounting degree. In addition, since most four-year accounting curricula have no more than 21–24 credit hours to work with (7–8 courses), and a number of these courses are devoted to topics that are only indirectly related to public company auditing (e.g., cost accounting, governmental accounting, personal tax), the reality is that the effort cost of obtaining an accounting degree would decline as well. However, the Advisory Committee needs to recognize three consequences of any such decision. First, the professional stature sought by the accounting profession would be severely undermined. Second, much of the expanded body of knowledge would not be covered or covered only in a limited way (e.g., fair value, IFRS, XBRL, internal control reporting). Third, not exposing students to the expanded body of knowledge and competencies needed for career success does not change the fact that professional accountants need to master this body of knowledge. Therefore, any reduction in the education requirement for accountants would simply transfer the cost of professional training from the aspirant to the employer (and, by extension, to the client).

The second alternative is to increase the benefits of obtaining an accounting degree. This might require accounting firms to change their staffing models to more closely resemble law firms. Firms might hire four-year graduates to perform audit tasks in lower risk areas and graduates of professional schools to perform audit tasks in higher risk areas, and it would be this latter group that would be expected to progress to partnership positions within the firm. Regardless of the staffing model ultimately adopted, it seems unlikely that a sufficiently large quantity of suitably qualified accounting graduates will exist in the future unless the imbalance between the costs and benefits of majoring in accounting is rectified. I close this section with a quote from Ed Ketz (2004), a long-time professor at The Pennsylvania State University.

The [American Assembly report referred to previously] also contends that the Profession must attract “the best and the brightest” students. I have taught university accounting for about 30 years and have heard this statement over all of those years. I believe that CPAs actually believed this declaration 30 years ago because they did something to attract “the best and the brightest.” But not today. I can remember the days when the mean salary of accounting undergraduates ranked in the top five average salaries of all majors in the university, generally only behind computer science and some engineering majors. Today the average compensation of accounting students might not place in the top five majors in the college of business alone (emphasis in the original). If the profession really wants “the best and the brightest,” the solution is easy. Increase the wages.

### Quantity and Quality of New Accounting Faculty

The Advisory Committee recognizes the aging of the accounting professoriate (Outline #2.4.2.1.2). In addition to the data contained in the Advisory Committee’s outline, it is worth noting that 53 percent of accounting faculty members are 55 or older. The modal age of an accounting faculty member is over 60 and, perhaps most alarmingly, there are more accounting faculty members in their 70s than their 30s (Hasselback 2007).

In addition to the aging of the accounting professoriate, there is a severe shortage of students in accounting Ph.D. programs, and this shortage appears to be worsening. The number of accounting Ph.D. graduates over the past eight years (941 graduates) is significantly less than the

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3 In most universities general education requirements comprise approximately 50 percent of the curriculum, and nonaccounting business courses comprise approximately 25 percent—30 percent of the curriculum. Accounting faculty members have little, if any, ability to change these allocations.
number of graduates over the previous eight years (1,488 graduates), which was below the number of graduates in the preceding eight years (1,664 graduates) (AAA/APLG/FSA Doctoral Education Committee 2007). Given that 1,500 accounting faculty are projected to retire in the next eight years, the limited number of students in accounting Ph.D. programs is expected to exacerbate the faculty shortage (AAA/APLG/FSA Doctoral Education Committee 2007).

**Costs to the Student of Pursuing an Accounting Ph.D.**

There is a lack of student demand for the accounting Ph.D. for a number of reasons. The biggest reason for the lack of student demand is the high opportunity cost. It takes between four and six years to earn a Ph.D. at most institutions (Deloitte 2007). Almost 60 percent of doctoral students receive an annual stipend of between $10,000 and $20,000 (Deloitte 2007). Many of the people considering a Ph.D. program are earning between $60,000 and $100,000. So, a conservative estimate of the opportunity cost is $200,000.

One could argue that this opportunity cost is worth it given the high salaries paid to new accounting Ph.D.s. But I do not think our salaries offset the opportunity cost for at least four reasons. First, many Ph.D. programs have an expectation that some portion of students will “wash out.” For example, the attrition rate in accounting Ph.D. programs is somewhere between 20 percent (Deloitte 2007) and 33 percent (AAA/APLG/FSA Doctoral Education Committee 2007). This attrition rate increases the risk associated with entering a Ph.D. program.

Second, accounting Ph.D. programs are essentially modeled after finance and economics Ph.D. programs. As such, these programs demand high levels of ability in math and statistics. Although these backgrounds are common for people entering finance and economics Ph.D. programs, they are less common for students in accounting Ph.D. programs, especially individuals entering a Ph.D. program from the public accounting profession (an ideal recruiting ground for future Ph.D. students). This, too, increases the risk of successfully completing a Ph.D. program. Notwithstanding this fact, it is imperative that Ph.D. students are well trained in research methods, including econometrics and statistics, because these tools are needed for accounting academics to contribute to the stock of knowledge in the discipline, an appropriate prerequisite for accounting programs to be accepted as legitimate academic offerings.

Third, once an individual earns a Ph.D. and secures a faculty position, he/she is expected at many “good” schools to publish between two and four papers in “tier A” research journals (The Accounting Review, Journal of Accounting Research, Journal of Accounting and Economics and, if the new faculty member is lucky, Contemporary Accounting Research and/or Review of Accounting Studies). Given that these journals have acceptance rates around 10 percent, the odds of a faculty member succeeding at his/her first school are often small. If the faculty member does not succeed, he or she is essentially fired and in all likelihood will have to relocate to secure another faculty position, typically at a school “below” where he/she came from. This reality increases the risk associated with a career as an accounting academic and, holding all else constant, decreases its attractiveness.

Fourth, if an individual (1) absorbs the opportunity cost of a Ph.D. program, (2) successfully makes it through the program, and (3) publishes enough to earn tenure, then that individual is often in his or her late 30s (or even 40s), and may be making (at many major state universities) $200,000–$240,000 including summer pay. However, if that same person had remained in public

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4 Whether it should take this long to earn an accounting Ph.D. is an entirely different question.
5 The $200,000 opportunity cost is computed by multiplying the five-year program length (mid-point of 4 to 6 years) by the difference between the $60,000 salary typically forgone (low end of the range) and the Ph.D. stipend of $20,000 (high end of the range). Again, $200,000 is a conservative estimate of the opportunity cost; for some it is much higher.
6 “Lower-tier” universities typically have less demanding research requirements, but they also typically pay less.
accounting by their late 30s they would probably be a partner (or close to it) and, in addition to the greater income over the period of a degree program, be making much more than the faculty salary, with the long-term prospects of making much more than most faculty members ever make.

**Costs to the Institution in Offering an Accounting Ph.D. Program**

Another reason for the shortage of accounting Ph.D. students is a lack of capacity, or an unwillingness to expand capacity, at many Ph.D. institutions. Other than the very large (e.g., Illinois, Texas) and/or very elite programs (e.g., Chicago, Stanford, Wharton, etc.), capacity to add more Ph.D. students is typically very limited. For example, at Tennessee we only have eight students in our program, because we only have five accounting faculty members who currently are attempting to publish in high-quality academic journals. If we received more applications from qualified applicants, then we would just raise our admission standards. Ph.D. programs are extremely expensive and time consuming—class sizes are very, very small and sitting on Ph.D. committees, etc., consumes large amounts of faculty time. And, at some schools, faculty involvement in Ph.D. education is not highly valued because to some deans, Ph.D. programs simply cost them money while M.B.A. programs make money and generate prestige for the dean.

**Benefits to the Student in Obtaining an Accounting Ph.D.**

Although I believe there are substantial benefits to being an accounting academic, those benefits do not appear to be persuasive to a sufficient number of qualified candidates. We are well paid, our work is interesting, we have tremendous autonomy, and we have the privilege of helping to shape lives and serve society. Few people are so fortunate. Unfortunately, these benefits are not attracting enough students.

**Benefits to the Institution in Offering an Accounting Ph.D. Program**

As stated above, most deans focus on college-wide programs, particularly those programs that have some financial potential, are larger, and, best of all from the dean’s perspective, receive recognition in the national media (e.g., U.S. News & World Report, BusinessWeek). Doctoral programs are largely discipline-specific, small, and historically invisible to the national media. Moreover, from a dean’s perspective, since these programs are faculty intensive, with small class sizes and close interaction between the student and the faculty member, they are quite expensive. From a dean’s calculus, doctoral programs cost a lot of money, and, in return, their institution gets little in the way of immediate return.

Like most public goods, doctoral education is prone to chronic underinvestment. It is interesting that the audit failures earlier this decade may reflect a similar underinvestment in the audit franchise by the firms. As a public good, audits, like Ph.D. programs, are expensive to the immediate purchaser and often show little value-added benefit in the short term. To sustain these programs at levels that will support the public's interests in effective and efficient capital markets requires a long-term view of the public interest and a willingness to invest in that interest.

**Analysis of Net Costs versus Benefits of the Accounting Ph.D.**

Unfortunately, it appears to me that both potential students and educational institutions often conclude that the costs of an accounting Ph.D. exceed the benefits. From the student’s perspective, the opportunity cost of the degree and the uncertainty of the outcome create a major impediment. From the institution’s perspective, the high costs of doctoral education, combined with the limited direct benefits to the institution, often make such programs far less attractive than M.B.A. programs.

**Quality of New Accounting Faculty**

New faculty members are outstanding on many dimensions. They are almost universally well trained in accounting research methods, including possessing expertise in finance and
econometrics. Moreover, they are almost always very bright, ambitious, persistent, and articulate. Notwithstanding these outstanding individual qualities, there are two very important deficiencies among new accounting Ph.D.s on an aggregate basis. Both of these deficiencies are germane to this Advisory Committee.

First, there is a substantial, and growing, imbalance among new accounting Ph.D.s in their teaching and research focus. The main sub-areas within the accounting discipline are auditing, financial accounting, information systems, managerial accounting, and tax. The two most critical areas from the perspective of public company auditing are auditing and financial accounting, although information systems and tax play important roles as well. In a recent study of the supply of and demand for future accounting Ph.D.s, there are substantial shortfalls projected in the areas of auditing, tax and, to a lesser extent, systems. Only 22 percent, 27 percent, and 56 percent of the anticipated demand for Ph.D.s in coming years in auditing, tax, and systems, respectively, will be met (Plumlee et al. 2006). The only sub-area where supply and demand are in approximate equilibrium is in financial accounting—anticipated supply is equal to 92 percent of projected demand.

The reasons for this imbalance across sub-areas are likely due to two factors. First, at least two of the top three journals in accounting prefer to publish financial accounting research. To the extent that more schools require publications in tier A journals for tenure, Ph.D. students perceive that they must do financial accounting research to have any reasonable chance of earning tenure. Second, the lifeblood of research is data (or subjects for scholars of a behavioral inclination). Research databases are readily available in financial accounting (e.g., Compustat, CRSP, WRDS, among numerous others). Conversely, doctoral students in the aforementioned Deloitte study indicated that lack of access to public accounting firm and client data represented a severe obstacle to the research they want to conduct, and that this difficulty might result in them focusing on a different accounting sub-area. These problems are not independent of each other and are particularly acute among auditing researchers. This issue must be addressed, or auditing may cease to exist as a discipline on many university campuses.

Second, many of the new accounting Ph.D.s are not CPAs and have little, if any, experience in the profession. In the 1960s and 1970s, more Ph.D. students were recruited from the profession and came with practical experience and a CPA certificate. The trend away from this model has become more evident over the years and has become more severe in recent years as the rewards of practice have risen and those of academe fallen in comparison. Today, accounting Ph.D. programs recruit most effectively in foreign domains where the students generally have no experience in the U.S. accounting profession and do not have CPA certificates. For an applied field like accounting, this is a troublesome development. An increasing proportion of Ph.D. students are from China, Korea, Russia, etc., and these students are much less likely to be CPAs with practical experience than are U.S.-born students. Unlike for U.S.-born students, the opportunity cost of earning a Ph.D. and the quantitative risk are less for many foreign students. Also, even U.S.-born students may be more likely to enter an accounting Ph.D. program with a quantitative background (e.g., math, physics, economics) than an accounting background than was the case 20–30 years ago. Students with such backgrounds are unlikely to be CPAs. Although there are many excellent faculty members who are not CPAs or who lack experience in the U.S. accounting and auditing environment, the lack of a critical mass of faculty members who are CPAs with practical

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7 Although only anecdotal, I entered my Ph.D. program in 1987, and the base student stipend was $14,000. As indicated previously, the typical Ph.D. stipend today is between $10,000 and $20,000.
experience may reduce the link between theory and practice and deprive students of exposure to the institutional richness of the U.S. public company auditing profession that can often only be acquired from having worked in practice.

**SOLUTION**

**A Market Solution?**

I begin this section with a story to illustrate that the market will not automatically address HC issues related to public company auditing. Susan Hope is a hypothetical economics professor at a small university in the South. Susan, like most U.S. citizens today, has only a defined contribution pension plan at work (similar to a 401(k) plan). Susan invests a substantial portion of her income in this pension plan, and her employer matches a portion of Susan’s contributions. Professor Hope, were she investing her retirement contributions herself, would direct her investments to those corporations with good corporate governance, including corporations that are willing to pay a premium for quality audit services, audit services provided by individuals who are bright, motivated, well trained, and, most importantly, committed to the public’s interest. To the extent that Susan represents the marginal investor, auditors who can deliver higher quality services (e.g., those who are better at detecting fraud and errors) would command fee premiums, and salaries would rise to reward those who provide such valuable services better than others. This would represent a market solution and would be my preference.

However, a direct market for audit services—a market between the auditor and the ultimate beneficiary of the auditor’s work product—does not exist. The question is whether our existing market mechanisms approximate the result that would be obtained in a direct market. Under existing institutional arrangements, a company’s board of directors is charged with representing shareholder interests, and, through the board’s audit committee, it contracts for the amount and quality of audit services. However, a company’s board and its audit committee, either through ignorance, somnolence, or management bias, do not always contract with the most qualified auditor and often seem more concerned with lowering audit fees than with maximizing audit quality.

Surely a market mechanism exists for such pernicious behavior—the mutual fund that Susan selected, exercising its vote as an owner of the corporation, can vote the rascals on the board out. Right? Wrong. In the U.S., shareholder democracy would make Nikita Khrushchev proud, and it appears that the SEC has buried any attempts to provide meaningful shareholder access to the proxy. And, even if meaningful shareholder elections existed, recent research findings (Davis and Kim 2007) suggest that many mutual funds typically vote as suggested by company management. Susan could switch mutual funds, but her employer only offers her the choice of two mutual fund families, and both have similar voting policies.

Since a direct market solution does not currently exist, Susan must rely on the personal ethics and private virtue of corporate boards, managements, and auditors. How effective will this be? Since we know from recent experience that not all such individuals have seen the light and recognize both the short- and long-term rewards from ethical behavior and private virtue, this reliance may be misplaced.

**An Educational Solution**

What does the story above have to do with accounting education? It underscores the critical importance of attracting a sufficient number of suitably qualified entrants to the public company auditing profession, especially those whose educational experience is inculcated with an emphasis on the public responsibility of auditors. Currently, accounting programs are housed within
Colleges of Business (COB). A typical COB has a strong, and appropriate, focus on private interest—make as much money as possible because that is why you are in business. However, the focus of public company auditors is, or at least should be, different.

I suggest that the Advisory Committee consider a different model—an education model involving professional schools of auditing, and a licensure model where a separate certification for public company auditors would exist. Both education and licensure would be overseen, in cooperation with other parties, by the PCAOB.

SOX granted the PCAOB authority over standard setting, registration, inspection, and enforcement for public company auditors. Notably absent from this list were education and licensure. Imagine a college football coach with authority over practice and play calling, and one who will be held accountable for the team’s performance, but without any authority over recruiting. This is unthinkable, at least in the South, but that is the very position the PCAOB is in today.

I recommend that the SEC, through its rule-making authority, or the Congress expand the PCAOB’s mandate to include education and licensure. Under its education umbrella, the PCAOB, in a cooperative partnership with the American Accounting Association, would develop standards to accredit professional schools of auditing. A prime benefit of professional schools of auditing would be that the accreditation process could include developing a student culture of public responsibility. As AAA President, Gary Previts, has argued, “CPAs seek to be independent of their audit clients. When should this process of socializing auditor independence of attitude begin? I would argue that it begins as it should in college, in a program of professional studies.”

Another benefit of professional schools of auditing is that the curriculum can be designed to uniquely meet the needs of public company auditors (e.g., internal control frameworks, fair value, IFRS, XBRL). Moreover, accrediting standards can be established to break the stranglehold of three accounting research journals (which prefer to publish financial accounting research) on the tenure and promotion process of auditing professors at leading universities (helping to ameliorate the faculty shortage), and to emphasize the importance of professional interaction between terminally qualified professors and the profession. In addition, as part of any action by the SEC or the Congress to expand the PCAOB’s mandate to include education and licensure, there should be a clear statement that the PCAOB is authorized to gather and share client and audit firm data with academics for research purposes subject to appropriate confidentiality provisions and that any such data are shielded from discovery in litigation. Such a step would help to address the shortage of Ph.D.s in auditing. And, as part of the accreditation process, professional schools of auditing could be expected to educate some number of Ph.D. students helping, too, to address the Ph.D. shortage.

Under the licensure umbrella, the PCAOB would create a national license for auditors of public companies, the CPA-PCA (public company auditor). The PCAOB would partner with the AICPA in adding fifth and sixth sections to the CPA exam. These sections would cover, in greater depth, issues particularly germane to financial accounting, auditing, and ethics for public company auditors. In addition, as part of its inspection process, the PCAOB would specifically inspect the work of candidates for the CPA-PCA license on a random basis. If individuals knew that the PCAOB might inspect their work, and that this inspection would affect their prospects of licensure, then it would have a powerful effect on individual behavior and at a point in one’s career where the habits being formed may last a lifetime. Upon completion of all six sections of the exam, and after completing two years of public company auditing experience (including possibly having his/her audit work inspected), an individual would be licensed as a CPA-PCA. All individuals in a

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8 Private conversation between the author and G. J. Previts, November 2007, AAA Executive Committee Meeting, Anaheim, CA.
registered public accounting firm at the manager level and above would have to possess this license. The CPA-PCA license, since it would be granted by the PCAOB, would be national, addressing a substantial challenge of state reciprocity that exists today.

I believe that the above model would make the public company auditing profession more attractive to students, and that graduates so educated would be better prepared to serve the public interest. Students would clearly be entering a profession, and the demands of establishing professional schools of auditing and of passing two extra sections of the CPA exam should result in a situation where salary levels would have to rise to attract the needed supply. The combination of being educated like other professions (i.e., separate law and medical schools) and having higher starting salaries should result in more of the best and brightest being attracted to the public company auditing profession.

Various “blue ribbon” committees have recommended the need for graduate education for accountants for almost 40 years. Now is the time to act.

REFERENCES