8-1-2009

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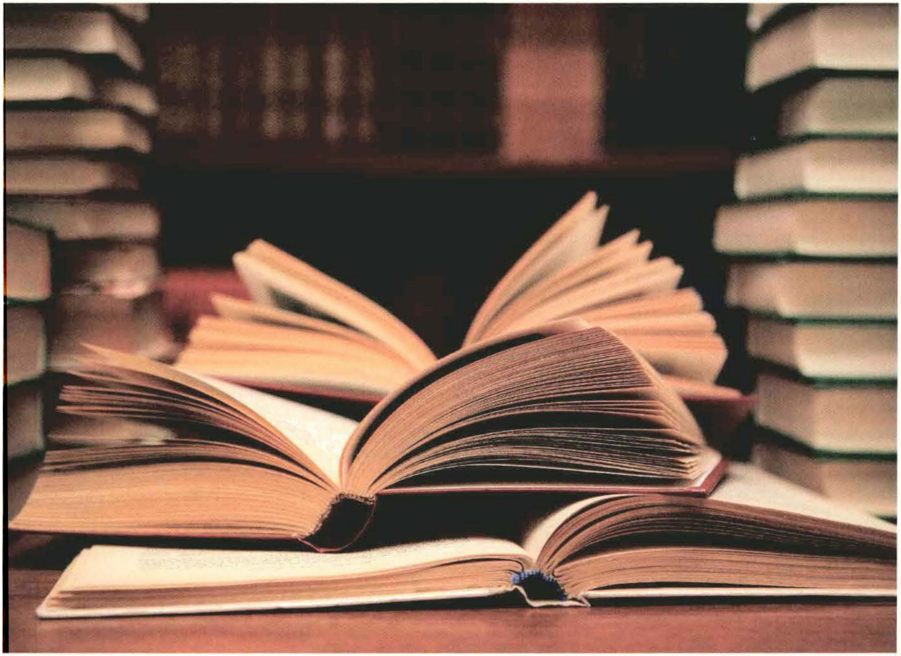
Published version. *The CPA Journal,* Vol. 79, No. 8 (August 2009): 66-71. Permalink.



Testing the Financial Literacy and Expertise of Audit Committee Members

By Don E. Giacomino, Michael D. Akers, and Joseph Wall

In recent years, several laws and regulations have set new requirements for the financial literacy and expertise of members of audit committees. In 1999, the New York Stock Exchange (NYSE) added a rule requiring that each company have an audit committee comprising independent directors who are financially literate and including at least one financial expert. In that same year, the NYSE and the National Association of Securities Dealers (NASD) formed a Blue Ribbon Committee to make recommendations on improving the effectiveness of audit committees. Recommendation 3 of that report advocated the following:

> [T]he NYSE and NASD [should] require listed companies with a market capitalization above $200 million … to have an audit committee comprised of a minimum of three directors, each of whom is financially literate (as described in the section of this Report entitled "Financial Literacy") or becomes financially literate within a reasonable period of time after his or her appointment to the audit committee, and further that at least one member of the audit committee have accounting or related financial management expertise.

Current NYSE (section 303A.06) and Nasdaq rules rely heavily on SEC Rule 10A-3(b), which sets required standards of independence, prohibiting an audit committee member from accepting directly or indirectly any consulting, advisory, or other compensatory fee from the issuer or any subsidiary under most cases. The NYSE Listed Company Manual section 303A.07 and Nasdaq Rule 4350(d) both include the three-member minimum and financial literacy requirements.

The Sarbanes-Oxley Act of 2002 (SOX) requires that each issuer of periodic reports to the SEC disclose "whether or not, and if not, the reasons therefor, the audit committee is comprised of at least 1 member who is a financial expert, as such term is defined by the Commission." Under SOX, expertise is measured by specific knowledge, experience, or a combination thereof. It has been suggested that non-accounting experts who fit the definition may be less competent to perform this role than those with accounting-specific expertise (Gopal V. Krishnan and Gnanakumar Visvanathan, "Does the SOX Definition of an Accounting Expert Matter?" July 29, 2009, papers.ssrn.com/sol3/papers.cfm?abstract_id=866884).

Some recent attempts at measuring the financial (accounting) knowledge of current and prospective board members have been made in the studies of financial literacy cited below. With this background, the authors explored whether companies have formal processes in place for measuring or improving the financial literacy of audit committee members. The result is proposed content for testing financial literacy and financial expertise.

Financial Literacy

Current regulations and laws vary as to the meaning of financial literacy and financial expertise. Audit committee members are required to be able to read and understand fundamental financial statements under the rules of both the NYSE (Listed Company Manual section 303A.07) and Nasdaq (Rule 4350-4). Both regulations refer to SEC Regulation S-K [section 407(d)(5)] for the acceptance of a financial expert's qualifications.

The Blue Ribbon Committee did not define financial literacy but indicated that literacy includes the ability to read and understand fundamental financial statements, including a company's balance sheet, income statement, and cash flow

EXHIBIT 1
Sample Questions from the Weil and Schipper Quiz

1. Retained earnings on the balance sheet is an account usually referring to:
   a. Cash and other liquid assets generated by income with which the firm can pay dividends
   b. Net assets (assets minus liabilities) generated by income that the firm can distribute its dividends
   c. Part of the firm's owners' claims to *net assets of the firm*
   d. None of the above
   e. More than one of the above
2. If a firm uses the indirect method for the statement of cash flows (SCF), which of the following is true? (indicate all that apply)
   a. The SCF lists cash receipts from customers.
   b. The SCF shows cash spent for acquiring other firms in the financing section of the statement.
   c. The SCF shows stock issued to acquire other firms.
   d. The SCF shows the change in accounts receivable.
3. Which of the following is true of the accounting for derivatives? (indicate all that apply)
   a. Derivatives always appear at fair value (market value) on the balance sheet.
   b. The accounting for derivatives under U.S. GAAP can induce volatility into earnings.
   c. By definition in U.S. GAAP, accounting derivatives are instruments that require large cash investments at inception.
   d. Derivatives can never be assets for accounting purposes.
4. The accounting for inventories in the United States can be based on either LIFO or FIFO. Which of the following statements describes LIFO and FIFO accounting under U.S. GAAP? (indicate all that apply)
   a. LIFO inventory accounting always results in lower financial statement income.
   b. LIFO inventory accounting always reduces income taxes paid for a given period.
   c. A given firm must use either LIFO or FIFO for all its inventories; it is not *legal* under tax law to use LIFO for some inventories and FIFO for other inventories.
   d. A firm that uses LIFO must display the difference between costs of beginning and ending inventories as reported and the costs of inventories that would have been reported had the firm been using FIFO (or current cost).

EXHIBIT 2
Sample Questions from the Deloitte Basic Financial Literacy Assessment Tool

Financial Statements and Accounting Literature

1. The balance sheet
   a. Is a financial snapshot, taken at a point in time, of the assets the company owns and the claims against those assets.
   b. Records the flow of financial resources over time.
   c. Reports the operating results of a company for a period of time.
   d. Is prepared by the auditors.
   e. Both a and d are correct.
2. Financial statements to be filed with the SEC should be prepared
   a. Following the IRS code
   b. As the company's financing agreements dictate or prescribe
   c. Following generally accepted accounting principles (GAAP)
   d. Using the practices followed by others in the industry
   e. All of the above

Disclosure Rules

1. Which of the following financial information is not covered by the independent auditor's report?
   a. Earnings announcements
   b. Pro forma earnings releases
   c. The footnotes to the financial statements
   d. MD&A
   e. All of the above

Form and Content of SEC Filings

1. Which of the following is true about the Form 10-K?
   a. Contains the annual financial statements of the company
   b. Contains an audit report on the included financial statements
   c. Is subject to SEC review
   d. All of the above are true

Internal Controls

1. Who is responsible for the design and effectiveness of the company's internal controls?
   a. Management
   b. Internal audit
   c. External audit
   d. The audit committee
   e. All of the above

statements. As Roman Weil, a professor at the University of Chicago observes, "It is clear they mean accounting literacy and not financial literacy." In their presentations to board members, Weil and his colleagues defined financial literacy by developing four criteria based on the "critical accounting policies and estimates" section of a company's Management's Discussion and Analysis (MD&A):

- Understand the transactions that require the judgments described.
- Understand the accounting and measurement issues for the policies and estimates.
- Understand management's choices among policies and methods for making estimates and the reasons for them.
- Understand the implications of management choices for the potential manipulation of financial reporting.

For the purposes of discussion, Weil's definition of financial literacy is used below.

Financial Expertise

SOX and the SEC require only that at least one member of the audit committee meets the SEC definition of a "financial expert." SEC Regulation S-K section 229.407(d)(5)(ii) defines an audit committee financial expert as a person who has all of the following attributes:

- An understanding of U.S. GAAP and financial statements;
- The ability to assess the general application of U.S. GAAP in connection with accounting for estimates, accruals, and reserves;
- Experience preparing, auditing, analyzing, or evaluating financial statements that present a breadth and level of complexity of accounting issues that can reasonably be expected to be raised by the company's financial statements, or experience actively supervising persons engaged in such activities;
- An understanding of internal controls and procedures for financial reporting; and
- An understanding of audit committee functions.

These attributes must be acquired through education and experience as described in Regulation S-K.

The Chartered Financial Analyst (CFA) Centre and the CFA Institute provide specific qualifications for audit committee membership:

■ All board members should be financially literate, though not necessarily a financial or accounting professional. (See www.cfainstitute.org/centre/topics/governance/official/committee_qualifications.html and April 10, 2002 Letter to NYSE on Issues of Corporate Accountability at www.cfainstitute.org/centre/topics/comment/2002/02aimrcom_corpgov.html.)

■ Regarding financial expertise, members of the committee overseeing auditors and auditor activities should possess a considerable, if not thorough and in-depth, understanding of financial reports and the auditing process. Regulators should recognize individuals holding the CFA designation as meeting the standard of financial expert for audit committees. (See September 3, 2002, Letter to SEC on Improvement of Oversight of the Auditing Process at www.cfainstitute.org/centre/topics/comment /2002/02financial_info.html, and November 6, 2003, Letter to Ontario Securities Commission on Multilateral Instrument 52-110 Audit Committees at www.cfainstitute.org/centre/topics/comment/2003/03audit_comm.html.)

Testing for Financial (Accounting) Literacy

Recently, several parties have constructed and administered tests or quizzes that gauge financial literacy. Professors at the University of Chicago devised their own instrument for MBA students, corporate officers, directors, and legal counsel. Financial Executives International (FEI) has constructed a quiz for its members. Deloitte has created a self-assessment tool for audit committees of its audit clients.

The Weil and Schipper Quiz

Professors Katherine Schipper and Roman Weil of the University of Chicago have conducted programs and made presentations on financial accounting knowledge to corporate executives and board members. Using their criteria described above, they developed and administered their own quiz for testing participants' knowledge of financial accounting. Their quiz consists of 13 questions whose answers can be found in a basic accounting text for first-year MBA students and 12 questions on advanced topics (special purpose entities, use of reserves, restructuring, issuance of shares for I.O.U., stock options, derivatives, and income manipulation.) After testing 1,466 directors and officers who attended the programs from 2002 to 2005, Weil concluded the following:

> The individual quiz taker, self-selected from larger audiences, are likely more confident of their financial literacy than those who did not take the quiz. The people who took this quiz, likely the better half of our board member attendees, are not yet financially literate.

Exhibit 1 provides sample questions from the Weil and Schipper quiz.

Over a four-year period, Weil and Schipper administered the quiz to attendees at executive education sessions for board members. The sessions were held at the University of Chicago Graduate School of Business, Stanford Law School, and the Wharton School. Weil also gave the quiz to MBA students at the University of Chicago. The median score for directors and officers, self-selected from larger audiences, has remained consistent at 32% (eight correct out of 25 questions). The

EXHIBIT 3
Sample Questions from the FEI Quiz

1. Who is responsible for the proper preparation and presentation of the financial statements?
   a. Board of Directors
   b. Management
   c. External auditor
   d. Audit Committee
2. Which of the following is NOT typically included among "current assets" on the balance sheet?
   a. Accounts receivable
   b. Fixed assets
   c. Inventory
   d. Prepaid expenses
   e. All of the above are typically included.
3. Cash flow per share is defined by GAAP as:
   a Net income plus depreciation divided by shares outstanding
   b. Cash flow from operations on the cash flow statement divided by shares outstanding
   c. The change in cash in the balance sheet divided by the shares outstanding
   d. There is no GAAP definition. Analysts/companies devise one to suit their own purposes.
4. The audit committee of a public company should be composed of:
   a. The CFO, CEO, and at least three outside directors
   b. At least three independent directors, all financially literate, and at least one financial expert
   c. The CFO, the CEO, and the Chairman of the Board

EXHIBIT 4
Topical Content

Topic	Weil and Schipper Quiz	FEI Quiz	D&T Quiz	Proposed Financially Literate	Proposed Financial Expert
Responsibilities (Management, Board of Directors, Audit Committee)	1	1		2	2
MD&A (Purpose and Content)			1	2	2
U.S. GAAP Sources			1	1	2
Basic Concepts (Revenue, Cost, etc.)	1	1	1	2	2
Statement of Cash Flows	1	1		1	2
Cash vs. Accrual				1	2
Current Assets	1	1		2	2
Fixed Assets	1			1	2
Pensions				1	2
Intangible Assets	1	1		1	2
Inventory Cost	1	1		2	2
Current Liabilities		1		2	2
Restructuring	2	1		1	2
Derivatives	2	1		1	2
Long-term Liabilities			1	1	2
Leases	1			1	2
Purchase Commitments	1			1	2
Reserves	2		1	1	2
Stock Options	2			1	2
Deferred Taxes	1	1		1	2
Shareholder Equity		1	1	1	2
Income Manipulation	1	1		1	2
Revenue Recognition			1	1	2
Earnings per Share	1	1	1	1	2
Gross Margin			1	2	2
Income from Continuing Operations				1	2
Bad Debt Expense				1	2
Impairment of Assets	1	1	1	1	2
Off–balance-sheet Financing				1	2
Consolidations			1	1	2
Footnote Disclosures			1	1	2
Extraordinary Gains/Losses				1	2
Accounting Changes				1	2
Related Party Transactions			1	1	2
Discontinued Operations				1	2
Internal Controls			1	1	2
SEC Reporting Requirements	1		1	1	2
Special Purpose Entities	2			1	2
Segment Reporting		1		1	2
Audit Reports			1	2	2
Non–U.S. GAAP Earnings per Share				1	2
Principles vs. Rules				1	2
Contingencies				1	2

Note: The number "1" indicates basic knowledge and the number "2" indicates advanced knowledge.

MBA students answered only the 13 basic accounting questions. Weil and Schipper reported only the top 30 of 155 University of Chicago students who completed the quiz.

The authors administered the Weil and Schipper quiz to undergraduate finance and accounting majors at a private Midwestern university. As opposed to the FEI and Weil and Schipper respondents, these undergraduate students were not self-selected and results were not self-reported. To make meaningful comparisons between these undergraduates and the University of Chicago MBAs, the results for the top 19% of the undergraduates are reported. The results show that the top 19% of MBA students who answered the 13 basic questions scored higher than the top 19% of undergraduate students and directors. These results are not surprising: MBAs are expected to perform at a higher level than undergraduate students. Also, it is expected that as the time a person has been out of school increases, the likelihood of that person performing well on examinations decreases. The difference between the undergraduate students and the directors was expected, though not to the extent actually seen.

The undergraduate students do not appear to have an appropriate level of knowledge of the accounting topics addressed in the Weil and Schipper quiz. While the Weil and Schipper quiz specifically tests accounting knowledge, the Deloitte Basic Financial Literacy Self-Assessment Tool and the FEI Financial Literacy quiz measure financial literacy and also incorporate questions relating to auditing skills and knowledge.

The Deloitte Quiz

Deloitte has developed two assessment tools that are available to its audit clients: the Basic Financial Literacy Self-Assessment Tool and the Advanced Self-Assessment Tool. Deloitte encourages audit committees to consider and tailor each tool as part of a broad assessment of financial literacy. The basic tool is a 30-question quiz that covers basic knowledge in four areas: financial statements and accounting literature, disclosure rules, form and content of SEC filings, and internal controls. Deloitte advises: "Audit committee members should not infer that answering most, or even all, of these questions correctly represents a 'passing' grade in basic financial literacy." The tool was designed to identify audit committee members who may require more focused financial literacy education than others. Those who take the quiz do not report their scores; therefore, performance results are not available.

Exhibit 2 provides sample questions from the Deloitte Basic Financial Literacy Assessment Tool.

Thirty-seven undergraduate students in finance and accounting completed the Deloitte quiz. Undergraduate students were strongest on questions related to basic financial statements (section 1) and the form and content of SEC filings. They were weakest on internal control and disclosure rules. Because there are only five questions on internal control and only two of the 37 students answered one specific internal control question correctly, further testing on internal controls may yield very different results.

The FEI Quiz

Philip B. Livingston, president and CEO of FEI, with contributions from University of Chicago professors Roman Weil and V. Duane Rath, as well as John Stewart, a former partner at Arthur Andersen, developed the FEI Financial Literacy quiz. Available to members online, the 24-question quiz covers basic financial statements and responsibilities of directors, managers, and audit committee members. *Exhibit 3* provides sample questions from the FEI quiz.

The authors have only self-reported results from FEI members who took the quiz and chose to inform FEI of their scores. In 2007, FEI indicated that the self-reported members scored an average of 67% on the quiz. The authors administered the FEI quiz to 98 undergraduate finance (juniors) and accounting (seniors) students at a private, Midwestern university. The average undergraduate student scored 68%—very close to the self-reported scores from FEI members. The students scored highest on questions related to balance-sheet accounts and lowest on board of directors' responsibility, cash flow per share, restatement causes, segment reporting, purpose of the MD&A, valuation of stock warrants, audit committee responsibility, and NYSE and Nasdaq models.

Company Efforts to Improve or Test Financial Literacy

An examination of the existing research finds that only Weil and Schipper have attempted to measure the extent to which companies are measuring or improving financial literacy of their audit committees. Weil and Schipper surveyed audit committee chairs to find out if—

- The company assesses the financial literacy of audit committee members, or
- The company or its board has taken steps since 1999 to increase the financial literacy of the members of the audit committee.

None of the 27 respondents reported any formal process to assess financial literacy of audit committee members. In addition, none of the respondents indicated that their board had any formal process for increasing the financial literacy of the audit committee members.

A Proposal

In addition to examining and administering each of the three quizzes to the students, the authors sought the opinions of members of their Accounting Advisory Board regarding topical content and level of knowledge expected. *Exhibit 4* shows the topical content of each of the three financial literacy quizzes. The exhibit's two right-hand columns present the authors' proposal for topical content for testing financial literacy and financial expertise. Forty topics are listed as either basic knowledge or advanced knowledge. Only three of the topics—basic concepts (revenue, cost, materiality, matching), earnings per share, and impairment of assets—appear on all three quizzes. Based on feedback from accounting firm partners and advisory board members who looked at the topical content of the three quizzes, the authors added the following 11 topics to the proposed content:

- Cash vs. accrual,
- Pensions,
- Income from continuing operations,
- Bad debt expense,
- Off–balance-sheet financing,
- Extraordinary gains and losses,
- Accounting changes,
- Non–U.S. GAAP earnings per share,
- Principles vs. rules,
- Contingencies, and
- Discontinued operations.

Given the findings by Weil and Schipper that directors and audit committee members are financially illiterate, and given the financial literacy requirements for audit committee members, the authors propose that companies consider measuring and improving the financial literacy of their audit committee members. Companies can construct their own assessment tools or use one of the tools identified in this article. Many audit committee members are likely to have access to the FEI or Deloitte tools. Audit committee members can also participate in the programs conducted by Weil on financial (accounting) literacy.

A national financial literacy testing procedure or certification may be advisable. Professional organizations such as FEI or the AICPA could write and administer the exams. As suggested in Exhibit 4, the topics for testing financial literacy would be the same as those for financial expertise. The difference is the level of knowledge expected. Two levels of examination are suggested to address this.

Many current business students will eventually serve on corporate boards. Colleges and universities can play a role by setting financial accounting standards and testing business majors on financial literacy during the students' senior year, regardless of the quiz used. The authors' findings for undergraduate finance and accounting majors at just one university suggest that students need to improve their financial accounting knowledge. In addition, students' knowledge of the basics of auditing and taxation could also be tested. Additional testing for financial literacy at other universities can provide greater insight as to the extent to which business majors have the requisite knowledge for serving on audit committees and how they compare to directors and audit committee members. ❑

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