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Accounting and the Auditing Function in Economic History: Transaction Costs, Trust, and Economic Progress*

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This article introduces the auditing function in historical perspective as a solution to principal-agent problems that emerged as commercial partnerships grew and as corporations arose later. The early history of modern accounting coincides with the rise of international business in Europe and public accounting emerges after the rise of the corporate form of business. The treatment herein focuses first on the history of mainly private late-medieval accounting to assess the profitability of a privately owned company and then on the more recent role of accounting in assuring the accuracy of the financial reports of publicly traded corporations. The article highlights the economic value and the social function of private financial accounting and public auditing. While closely related in form, public accounting is distinctly different in philosophy and in its key purpose of reconciling diverse investing interests. This article compares the different frames of mind between purely private accounting and public accounting, while recognizing the social contributions of each. It also responds to objections to including accounting programs in the liberal-arts tradition by explaining why accounting fits well in the history of economic progress and in a program of instruction in civic and moral virtues. It concludes that the auditing function of public accounting plays an essential role in modern free-enterprise economies with their large publicly owned corporations.

Introduction

"We shouldn't teach accounting here at this college," claimed a former colleague at another school. His blunt view reflects a sentiment common among faculty members at liberal arts colleges. This article refutes that claim. While modern accounting methods can be distorted to commit financial fraud, the private and

public purposes of modern accounting have had important social value since businesses developed these methods in the 1300s and 1400s. Moreover, accounting methods and the auditing function have historically enhanced private and public virtues, promoting better moral behaviors of partners and workers and more effective stewardship of resources. For these reasons among others, accounting deserves a place in the liberal-arts curriculum.

A principal-agent problem emerges when managers direct operations and finance on behalf of a firm's owners. While investigating details of the problem, Michael Jensen and William Meckling noted that Adam Smith in 1776 had described agency problems. Managers of "other people's money," Smith wrote, will not "watch over it with the same anxious vigilance with which the partners in a private [partnership] frequently watch over their own.… Negligence and profusion [of waste and abuse] … must always prevail, more or less, in the management of the affairs of such a company."[1] Effective collection and monitoring of accounting data help owners of growing firms to limit costs arising from such agency problems.

Accountants design systems to measure, process, record, and report numerical information about real and monetary activities of businesses and their particular ventures. Financial accounting specifically records and reports on a business's financial transactions, especially the monies that change hands in arm's-length market transactions, with a view to assessing the overall financial success of the business or venture. Cost accounting measures, classifies, and records data on the value of resources expended in the business or venture, and is routinely reported to managers with a view to improving efficiency. Auditing is an accounting specialty through which expert accountants review the books of a business for the purpose of verifying the accuracy and reliability of the acounts. Modern accounting methods allow a business's own accountants to conduct regular and accurate internal audits of the company's books. Since the early 1900s, however, US law has also required publicly traded corporations to engage independent certified external auditors for regular, official examinations of their accounts to assess whether they properly represent actual business conditions and activities.

Before modern accounting emerged in the late medieval period, orderly businesses kept mainly sequential lists of transactions. The most remarkable historical developments in financial accounting, those associated with the rise of double-entry methods of keeping accounts, occurred after 1300. With improved accounts and the rise of printing centers in northern Italy, the improved methods of accounting spread intensively among Italian businesses and extensively throughout Europe.[2] At the start, double-entry bookkeeping served mainly a private function to track an owner's costs, revenues, and profitability. The new

methods reduced financial risks and increased operating efficiency. As economic theory suggests, increased efficiency in competition means lower costs and greater supply to the public.

Traditional European commercial practices allowed companies to accept active partners who participated materially in the business. Over time, Italy and then England permitted companies to take on silent partners with limited liability. By the 1900s in the United States, when the corporate form was well developed with limited liability for owners, a distinctly different social function of accounting emerged: the certified auditing of corporate accounts on behalf of investors. A privately ordered system of public accounting emerged as both a for-profit enterprise and as a feature of "civil society,"[3] with responsibilities to govern itself and the accounting profession.

This article summarizes these historical developments, assesses their economic aspects, and reviews recent accounting failures. It concludes with comments about the place of accounting education in the liberal-arts curriculum and the importance of moral training of accountants to equip them to preserve economic liberty in the future.

The Rise of Double-Entry Bookkeeping and Its Private Uses

Accounting developed as a reaction to the needs of increasingly complex organizational forms of companies conducting trade and finance at a distance. Double-entry bookkeeping, for example, emerged in the midst of flourishing trade in the Mediterranean after the Crusades. As Italian merchants and bankers prospered through commerce, they developed superior commercial organizations through debt finance of operations.[4] Debt and deferred payments, however, created risks and complexity that a simple list of transactions could not reflect.

Clough and Cole explain the rudimentary state of business bookkeeping before the adoption of double-entry methods, when transactions "were set down in chronological order and in Roman numerals. Such accounts were better than nothing, but they were hard to work with and difficult to check. From them, it was not possible to gain an accurate notion of the state of the business."[5] As commerce expanded in the medieval era, family firms developed branch operations around the Mediterranean and later into Northern Europe. A firm's owners employed "factors" or agents who conducted their business at a distance. Owners had to have high trust in their agents and had to allow them independence to adapt quickly to local conditions. Trust and freedom for agents in a growing firm, however, increased risks of bad decisions and rogue agents. "[T]he control of agents in

distant places," one reporter observes, "remained one of the knotty problems of mercantilist capitalism until the end of the 18th century."[6]

Owners needed reliable numerical verification of the trust they had placed in their partners and agents. Accurate bookkeeping could supply reliable information about operations and finance to company owners. Even methods earlier than the double-entry form, when applied thoroughly, could decrease risks of local and distant operations. Ferguson attributes the success of the Medici family bank partly to "simply a story of meticulous bookkeeping" and to the increasing size of their operations that careful accounting allowed:

> By modern standards … there were imperfections. The Medici did not systematically use the double-entry method. Still, the modern researcher cannot fail to be impressed by the neatness and orderliness of the Medici accounts. The archives also contain a number of early Medici balance sheets, with reserves and deposits correctly arranged on one side (as liabilities …) and loans to clients or commercial bills on the other side (as assets …). The Medici did not invent these techniques, but they applied them on a larger scale than had hitherto been seen in Florence.[7]

Paul Strathern has explained that the Medici also structured branch-manager contracts to encourage their compliance through the offer of a partnership. Even so, Strathern noted a case of fraud and abuse in the Medici bank in Venice, in which the manager's effective coverup on the account books delayed for a time a discovery and correction by the company's leaders. The manager, whose partnership agreement forbade him from doing business with Germans—whose business practices were considered backward—nonetheless loaned money to some Germans, who absconded with the funds. Covering over the fraud involved manipulating the books effectively, which proved difficult given the high borrowing costs of the fix. The fraud's eventual discovery and correction is a lesson in justice of the time and in the consequences to fraud uncovered. The manager, Neri, "was summoned to Florence, where Giovanni di Bicci dismissed him, and sued him for the missing money. Neri was forced to sell everything, including his home, but this was not enough to cover the debt, so he gamely set off north across the Alps to try and track down the Germans."[8]

Methods and Early Evidence of Double-Entry Bookkeeping

The rise of more effective bookkeeping involved certain practical academic advances, including the adoption of Arabic numerals, algebra, and double-entry bookkeeping. Popular accounts credit the Italian monk Luca Pacioli with inventing double-entry bookkeeping around 1494. Scholarship on medieval commerce by Raymond de Roover, however, has shown that double-entry (DE) methods were in use approximately two centuries earlier.[9] De Roover's 1955 essay summarizes two aspects of the research into early modern accounting: first, the "form and procedure … the exact manner in which records were kept" drew the attention of earlier scholars and, second, later scholars addressed "whether a given set of records leads up to a comprehensive financial statement [of] profit or loss and … assets and liabilities."[10]

Which bookkeeping characteristics were central to developing modern double-entry accounting between 1300 and 1500? De Roover highlights at least six essential methods and uses of bookkeeping:

> *Dual entry of transactions:* "Since trade rests on the exchange of goods and services, the duality which forms the basis of double entry, is rooted in the nature of things…. Unless each transaction is recorded twice, once on the debit and once on the credit side of the ledger, there is by definition no double entry."[11]

> *An ability to expect a balance on the books:* "If the bookkeeper has made an error, the books may not balance. However, we are not in the presence of double-entry bookkeeping unless his procedure is such that the books would have balanced if no errors had been made…. At the end, do we have a real balance showing the owners' equity and the composition of assets and liabilities? Only if the answer is affirmative, is one justified in speaking without hesitation of books kept in double entry."[12]

> *Accounts kept in one currency unit:* "Accounts must be kept in the same monetary unit or unit of account."[13] Otherwise, a change in the rate of trade of one currency for another could cause an imbalance on the books; that is, a balance of correct debits and credits can no longer be expected in a world of flexible exchange rates and of bookkeeping using more than one currency.

> *Multiple accounts kept:* "[A]n integrated system of accounts should include not only personal and impersonal accounts [separate partner and venture accounts, for instance] but also real accounts as well as nominal accounts [tallies of bushels of grain or yards of cloth, for example, as well as cash or payables accounts]."[14]

> *Effects on profit and owner's equity appears:* These separate accounts should "record operating results and changes [in profits and] in the owner's equity. To record these changes … is the main purpose of any accounting system."[15]
>
> *Balances struck regularly to control the business:* "[I]t would be wrong to assert that 'the striking of balances was performed primarily for narrow book-keeping purposes.'[16] On the contrary, already in the Middle Ages, balance sheets were extensively used for purposes of control—and even for purposes of taxation…. According to the partnership agreements, the [Medici] branch managers were required to strike the balance each year and to send a copy to the main office in Florence…. In Florence, it was the duty of the general manager and his assistant to examine, with a special eye for aging [overdue] accounts, the balance sheets sent by branches…. Medici records show that bad debts were the principal menace [that] threatened to undermine the solvency of the medieval merchant-bankers and their companies."[17]

CEHE's summary agrees with de Roover that DE methods were certainly an Italian invention and appeared gradually in the two centuries before 1500; it places the beginning in books kept by a Florentine banking-house agent operating in Champagne.[18]

Pacioli, Accounting, and Economic Progress

Strathern credits Medici banking with advancing the City of Florence's commercial standing by encouraging a growing Euro-Asian trade.[19] Florence, at the time the Medici arose, was less powerful than other European cities, but "made up for this in the creation of wealth" through banking, mainly by the Medici. Banking then made Italy powerful because it provided a financial foundation for flourishing trade with Asia. The rise of Medici banking and its use of double-entry methods were reflected in the company's 1427 tax returns, sixty-seven years before publication of Pacioli's treatise on math and accounting.

If double-entry methods were already in use, what do we make of Pacioli's contribution to accounting? He and others taught the rest of Europe to keep accounts!

In 1494, Luca Pacioli published a mathematics, geometry, and accounting textbook.[20] His was perhaps the first but not the only text available in the late 1400s and early 1500s that explained the new methods of accounting.[21] He wrote only a primer on double-entry methods, issued at the end of the period of rapid advancement in Italian accounting methods.[22] As De Roover notes,

> Medieval practice was often less simple than Luca Pacioli in his treatise would lead us to believe. Very often, instead of only one journal, there were several books of primary entry—one of them being the cash book. It was also current practice to have more than one ledger, either to cope with the volume of business … or to conceal certain transactions.[23]

To learn advanced methods of accounting, commonly one would have had to apprentice with practicing bookkeepers at an up-to-date commercial family partnership. Instead, Pacioli began to provide unschooled merchants a valuable introduction to Arabic numbers, arithmetic, and double-entry bookkeeping.

Three elements characterized Pacioli's accounting instructions. He taught a new system of accounting methods, he gave sound advice on key aspects of a successful business, and he included moral lessons for personal success. First, Pacioli's accounting methods were more than bookkeeping. They were a package of the new Arabian numbers, calculations directly to paper without an abacus, and then the double-entry methods. The system allowed more rapid calculations of the current condition of the firm (striking a trial balance) and the end-of-year position (closing of the books) of the company's activities.[24] In the old system of accounts, each transaction (sale for cash, sale for credit, payment for expenses, or repayment of debt) was recorded once in a long list of transactions. Understanding the current financial condition of the company or of one of its projects took too long to help the owner.

Second, Pacioli stated specific requirements for managing a business, directed to the owner and organizer of the business with the obvious goal of enhancing private profit. He thus showed that his system of bookkeeping must fit into a broader management approach. As one summary describes it, "Pacioli begins *De Computis* by saying the successful merchant needs three things: sufficient cash or credit, good bookkeepers, and an accounting system that allows him to view his affairs at a glance."[25]

Third, and even more generally, Pacioli offered moral lessons intended to enhance the person and profitability of the business as well. His "sage sayings to guide the businessman" read as part business text, part Roman mythology, and part biblical proverbs:

> Where there is no order there is confusion.
>
> Every action is determined by the end in view.
>
> Work should not seem to you strange, for Mars never granted victory to those that spent their time resting.

> A sage said to the lazy man to take the ant as an example. If you are in business and do not know all about it, your money will go like flies, that is, you will lose it.[26]

Advanced methods of bookkeeping gave Italian merchants a competitive advantage in trade and finance. Because private knowledge had more value when unshared, busy company accountants rarely shared their knowledge of modern accounting except with apprentices. It fell to an Italian monk to share the valuable knowledge with others. Translations of and amendments to Pacioli's and others' texts helped spread more efficient accounting and calculating methods into all of Europe.[27] In Northern Europe, Dutch, English, and Swedish financiers especially benefited from the lessons. Between 1600 and 1700, bankers in those three nations using the improved methods began to develop early forms of central banking that "served a public as well as a private financial function," an indication of the emergence of civil aspects of private associations.[28]

Private and Social Benefits of the New Accounting Methods

How precisely did employing the new accounting methods affect the control of firms and economic progress? Double-entry of each transaction, separated accounts, an expectation of a balance, and regularly balancing accounts had these effects: increased speed of striking a balance, increased details from the various new types of accounts, and thus increased comprehension about the condition of the company.

By increasing bookkeeping speed, detail, and clarity, the new methods also allowed for more regular and informative internal audits of operations, finances, ventures, inventories, and managers' decisions. The first step in an internal audit is to check that each account balanced, perhaps during the year or at the closing of a venture, but at least at the end of each year. Next the manager inspects the accounts and individual entries for errors and risks. By 1500, computation of a trial balance and closing balances could be done rapidly and accurately, showing changes in the profit and equity of individual partners, credit risks, and the overall health of the firm from year to year.

With efficient bookkeeping, owners and their managers could more readily identify fraud during an audit. Entering each transaction as both a debit and a credit gave a corresponding reason for each entry. Cash went out because cloth for cutting came in. Goods went out because cash came in. With single entries, an accounting mistake or a fraudulent activity was difficult to find. In the double-

entry system, auditors in the home office could more easily trace a misstatement of income or expense. To avoid detection, a fraudulent partner had to make not one but two reasonable and related entries on the books, making it more likely that an auditor could spot an error or deception while following the audit trail.

Entering and reviewing transactions in separate accounts for different partners, projects, and transaction types allowed owners to pinpoint sources of profit or loss and waste or fraud, whereas searching a single account book with a sequential list of all transactions, each recorded once, had been cumbersome. For instance, by checking the balance on a branch office's income and expense accounts, owners could readily assess net income. Finding net worth on separate balance sheets for each partner revealed who could claim which shares of the business. Checking the cash or inventory accounts could indicate whether funds or stock had been pilfered.

Among the most direct economic effects of modern accounting was lowering the transaction costs of hiring the best managers to expand the business. According to institutional economics, these were the costs of finding, contracting with, and monitoring trustworthy partners who could manage profitably the firm's distant offices. Once prospective partners understood the power of the new system of keeping accounts to detect fraudulent, wasteful, and unprofitable activities, recruits would tend to self-select: those intent on fraud and those less capable of efficient, profitable management would seek other employment. The owner's credible threat to detect and punish poor management practices facilitated employing partners who could offer credible commitments to perform well.[29]

As trade and finance flourished in Europe, companies naturally expanded. Double-entry accounts accommodated management of increasingly large and complex businesses. Through them, owners could manage costs and benefits of various individual operations while also assessing the condition of the entire company. Older methods, clumsy as they were, seem to have been highly useful only when limited to costs and benefits of a single ship voyage or a single job.

These benefits of accounting methods accrued to the owners and other partners in a business. What can we conclude about the broader economic and social benefits of private accounting? Economic theory asserts and history demonstrates that free markets with appropriate institutions and minimal government interventions have been most effective in raising standards of living. Voluntary exchange, a positive-sum game, creates value by moving resources and products to their best uses, according to willingness to pay for them. Fraud and theft, which are zero-sum games, interfere with economic efficiency by diverting resources and products from the efficient market economy.

Thus, in Europe after 1500, voluntary commercial exchange based on increasingly timely and factual accounting information contributed to the spread of socially beneficial commerce and therefore to rising standards of living. As improved bookkeeping decreased uncertainty about the behavior of partners and managers and other operational and financial risks, owners' trust increased. As trust developed, increasingly complex patterns of investment and exchange emerged, leading to rising standards of living.[30]

The Rise of Public Accounting and Its Social Functions

By the time Pacioli had set down the basics, the medieval accounting revolution was largely complete. New organizational forms would require further innovations in accounting, but the broad outlines that would allow for that innovation were set. After 1500, "accounting made little headway until the growth of large-scale enterprise in the 19th century brought to the fore new problems and solutions."[31]

A crucial new problem by 1900 was how to certify the accuracy and integrity of the books of a corporation whose stock traded publicly. During the 1800s and 1900s, the number of corporations with legal limits on owners' liability expanded greatly. As capital intensity and the scale of production grew, business appetites for financial capital from investors also grew.

The eventual goal of building great corporations was not merely to limit or share risks. To amass great capital stock under unified direction required assembling many investors who would put their combined wealth to work. Publicly recorded failures of earlier corporations, sometimes under suspicious conditions, would decrease the willingness of investors to risk their wealth. A certified system of auditing the books of corporations, if thought reliable, would encourage investors to risk wealth.

The theoretical contribution to economic efficiency and the general social welfare of such a system again depended on all parties to an investment having accurate information. Like the benefits of private accounting, public accounting contributes to improved distribution and employment of resources, as Robert Bushman, Joseph D. Piotroski, and Abbie J. Smith note:

> Efficient capital allocation dictates that capital be invested in projects expected to be value creating and withdrawn from projects with poor prospects. At the heart of economic theories connecting a country's financial-sector development with enhanced resource allocation is the role of the financial sector in reducing frictions due to information asymmetry and in promoting value-maximizing decisions by managers of firms. Financial disclosure and related institutions

> designed to promote credible disclosure between managers and investors play a key role in facilitating efficient capital allocation.[32]

In short, accurate and trusted financial accounting reduces transaction costs of investing and increases the willingness of those with wealth but with no good personal uses for the funds to make them available to publicly held corporations.

The Rise of the Corporation

A joint-stock company sells shares to investors, who may be active or inactive as managers, and who may have limited or unlimited liability for its debts. A benefit of organizing a business as a joint-stock company is that added shareholders can supply added financial capital as a company grows. Where laws allowed free contract, joint-stock companies required no government charter before they could form. Investors simply signed on to the enterprise.[33]

After 1500, joint-stock companies became increasingly common in Europe, as the needs of large-scale production and expanding trade and finance required. Partnerships and joint-stock companies differed in their main organizing purpose. Partnerships primarily organized competent, trustworthy people around a business. Joint-stock companies organized wealth and the silent partners who made it available to fund a project too big for the firm's partners. "The need for permanence and large sums of money in overseas trade," Clough and Cole observe, "[were among] the chief incentives to the rise of the joint stock companies."[34] Joint-stock companies were the precursors to modern corporations, with their limited liability for shareholders and their potentially large size.

Commercial for-profit corporations that offered limited liability to all shareholders did not grow in number until various state and national laws allowed them in the 1800s. The US Constitution allowed corporations to register in any state, and so state laws applied. Gradually, then, American corporations came into existence by registration instead of by a political act of chartering by the sovereign government. Shareholders owned these registered corporations and eventually had limited liability for the debts of what was an entity separate from its owners, with legal standing in the courts..

The British Parliament passed the Joint Stock Companies Act of 1844, creating an office through which British citizens could register (rather than charter) corporations. In the Limited Liability Act of 1855, shareholders' liabilities for debts of British corporations were limited to whatever portion of their shares they still owed to the corporation.

In Britain and in the United States, the legal stage was thus set for limited-liability corporations. This legal means of reducing investment risk encouraged an increase in demand for shares. At the same time, ongoing technical progress that led to more capital-extensive and capital-intensive production processes contributed to increases in the supply of shares in corporations during the 1800s and into the 1900s.

Corporations that spread risk among shareholders and that offered them limited liability for corporate debt did not eliminate the risks to an investor's capital. Casualty risk and other risks of business failure due to excess debt, specific or general collapse of demand, or increased resource costs still threatened dividends and principal. Alongside these was the risk of business fraud, either from the start of the enterprise or as a later response to reversals to protect the directors and their friends. Memories of such financial reversals cause investors to hesitate before putting savings at further risk.

One example worth noting from the late 1800s is the fraudulent watering of shares of stock to be publicly sold. During the terms of Presidents William McKinley and Theodore Roosevelt, the US Industrial Commission (USIC) investigated widespread corporate fraud and financial abuse (1898–1902). United States history texts once taught of "stock watering schemes" by which a financier inflated unfairly the value of shares of corporate stock before selling the shares to unsuspecting and trusting private investors in the stock market.[35] Financiers could manipulate stock share prices through various schemes. One involved reforming the corporation several times and inflating share values at each sale by entering fraudulent "goodwill value" on the books of the firm.[36] A related method was through questionable promotions of issuing shares to the unsuspecting public by associating the new shares with the name of a financier that the public admired as an astute investor.[37]

Two problems arise when investing in risky projects directed by a subset of investors or by managers as agents for investors: knowing how to discriminate first between fraudulent and honest companies and second between profitable and unprofitable projects. The financial community required new processes, rules, and organizations to reassure investors and to reduce their actual and perceived risks. Chief among them were the conduct of certified independent audits of the financial reports of publicly traded corporations. If in 1900 financial markets had not solved investors' information problems involved in putting capital at risk in other's projects, the economy could not have grown as quickly due to inefficient capital investment. Slower rates of capital formation would then have meant less than the best rates of increase in wages and in standards of living.

Public Accounting and FASB

The rise of an American system of public accounting and the organizations that implemented or oversaw it is, therefore, an important feature of the history of American free enterprise. Public accounting by principled, independent auditors emerged as a key feature of corporate self-governance and as a substitute for coercive government oversight of corporate finance. Formal organization of public accountants in the United States began in 1887 with creation of the American Association of Public Accountants (AAPA). Voluntary self-regulation of accounting practice for the public good continued into the 1900s, under the guidance of the AAPA, later known as the American Institute of Accountants (AIA) and then the American Institute of Certified Public Accountants (AICPA).

State societies of public accountants in New York, Pennsylvania, and Illinois arose around the turn of the century to address the need for certifiable financial information. In 1902, the Federation of Societies of Public Accountants in the United States formed "with the announced intention of promoting uniform CPA laws.… The New York state society … perceived that goal as considerably less important than the development and enforcement of professional standards."[38] This emphasis on reflexively established professional standards for accounting education, practice, and ethics demonstrates how business contributes to civil society.

The rise of "financial capitalism" in the United States in the late 1800s shifted the profit-making emphasis from controlling productive capacity to controlling financial assets. Financial capitalism led to financial manipulation in which accountants employed what were then morally questionable practices and what would now be considered fraudulent bookkeeping, including abuses noted earlier such as stock watering and writing fraudulent goodwill value onto the books of large enterprises.[39] The attention that the USIC then brought to these and other abuses in 1900 led to public demands for increased financial accountability.

Even before 1900, New York Stock Exchange President Henry Clews and economist John Bates Clark, among others, had favored publicizing financial information.[40] The wave of demands crested in 1900, during the USIC's investigations. "Many … who testified before the Industrial Commission, including most of the businessmen, felt that corporate publicity was the best alternative available for reducing various corporate abuses."[41]

The USIC recommended government rules that required financial accountability and transparency. Three decades later, the Great Depression and the inauguration of Franklin D. Roosevelt in 1933 set the stage for increased financial

regulation in the Securities and Exchange Act of 1934 (SEA '34). The US government continued to refuse to set particular accounting rules.[42] While the SEA '34 gave its commission (SEC) the right to do so, the SEC left such regulation to the accounting profession itself. Business favored such a system over government regulation: "Although they may have preferred corporate secrecy," one account of the period notes, "the real threat of direct government intervention rendered the alternative—independent audits by established professional accountants—more attractive."[43] The SEA '34 did, however, establish financial reporting requirements for medium and large public corporations "to keep shareholders and the markets informed on a regular basis in a transparent manner."[44] These financial reports were then subject to audits by certified public accountants, one of their assurance services.

After Congress created the SEC in 1934, the AIA created a Committee on Accounting Procedure to set rules, and in 1959 an Accounting Principles Board superseded the Committee.[45] Voluntary self-regulation further advanced in 1973 when the AICPA formed the Financial Accounting Standards Board (FASB) to create "a formal standards-setting process" to insure "uniformity" and "comparability" in financial accounting.[46] The AICPA created FASB "because giving authority to a committee composed primarily of independent auditors did not appear to provide equal opportunity for all interest groups to participate in (and to affect the outcome of) the standards-setting process."[47] As such, FASB became even more of a civil-society organization than the committees it had replaced.

The developments of a profession of certified public accountants and of their professional associations were remarkable events in the history of the participation of private for-profit businesses in civil society. The FASB and its predecessors helped to secure the financial rule of law through written principles, not arbitary decisions, that applied to all. All those trained as CPAs, whether operating inside a corporation or as independent auditors of the accuracy of regular reports by internal accountants, were operating with the same set of instructions. The FASB thereby increased accountability and financial transparency in the for-profit *and* the not-for-profit sectors,[48] and established the orderly basis for self-government and for petitioning the rule-setting authorities for reasonable changes to the rules.

Along the lines suggested by Robert Bothwell regarding civil-society-organization interaction with government,[49] the FASB not only works with government (the SEC) but also works to avoid excessive government interference in the private economy by meeting the social needs described here. Ideally, financial accounting follows set rules for all with similar business circumstances, and audits by independent experts assure compliance with those rules and certify the accuracy of statements about the financial condition of the firm. When the system works,

these published financial reports decrease uncertainty for those who may have material interests but limited access to a business's internal operations.

Economic Aspects of Independent Auditing

In what way does a twenty-first-century free-enterprise economy depend on independent auditors? The literature on economic institutions and transactions costs explains the economic aspects of the public-auditing function and the institutions or rules of the game that arose with it. One reason we impose economic rules is to reconcile diverse economic interests. The interests of investors who own shares in the publicly owned corporation are different from those who manage it and who keep its internal accounts. The interests of those holding ownership shares in the corporation are different from those considering investing in the company. And the interests of those who own and manage the corporation differ from those of bankers, bond investors, and a firm's suppliers who extend credit.[50] Analysts use financial and nonfinancial information to assess credit risks on behalf of lenders.[51] When the state oversees the commercial public square, it also takes interest in public accounting and in regulating it further when it goes awry.[52]

Owners who are neither managers nor directors want honest information about how the corporation is being managed—and so do potential investors and lenders. In an ideal financial exchange such as trading stock or lending and borrowing funds, efficient contracts require equal information on both sides and information that is materially accurate and complete. That is the task of imposing on financial reports uniform accounting rules and certified audits.

When, however, substantial asymmetries in information about the state of the corporation arise, owners, investors, lenders, and governing regulators will make bad decisions due to inaccurate or intentionally distorted information. The fraud perpetrated against investors for years by Bernard Madoff, at the cost in 2008 of $64.8 billion of investor wealth, is a case of asymmetric information due to a joint failure of public auditing and SEC oversight. As it turned out, Madoff managed his own books and did not open them honestly to reliable independent auditors or regulators: He knew much more about the fraud he was perpetrating than did investors and regulators. SEC inspectors, victims of their own misplaced trust in Madoff as a known fund manager, were too late in discovering and revealing the fraud. Apparently, the auditors of large investment companies that placed funds with Madoff's private hedge fund were also victims of misplaced trust and a lack of due diligence, taking reports produced by Madoff himself at face value.[53]

Uninformed or misinformed potential investors in mutual funds will mistakenly invest in shares at overinflated prices. Enron Corporation also committed

accounting fraud supported by auditors who were also acting as consultants. In 2000, the *New York Times* reported on the long list of investors burned by the 99.5 percent drop in the value of Enron shares in one year, noting that it "begins with anyone who bought shares in a Standard & Poor's 500 index mutual fund before Enron was dropped from the index late last week."[54] It also included investors who owned shares in popular mutual funds, such as Alliance Capital, Vanguard, and Janus Capital.

Poorly informed prospective bank lenders and bond buyers will unwisely extend credit. When Italian dairy corporation Parmalat went bankrupt in 2003 in Europe's largest corporate failure, its books had understated its debt. Revealing the extent of losses to ill-informed lenders and other investors, forensic auditors discovered that Parmalat's actual debt of over $14 billion was about eight times the debt listed in its books.[55] In short, asymmetric financial information will lead to poor management and allocation of capital and of loanable funds. Moreover, as investors come to understand the scope of the financial-information asymmetries, financial markets will be subject to the same failures that characterize a market for used automobiles with buyer uncertainties about quality.[56] Less trade in stocks and bonds than is ideal will occur until institutions develop that improve financial understanding, especially the institutions of improved public accounting. Reestablishing trust that has been lost, however, is costly and takes time.

To the point, managers and internal auditors whose company is secretly in distress can postpone the financial day of reckoning for their poor stewardship by cooking the firm's books. For a privately held company, the costs of such accounting shenanigans would be borne mainly by poorly informed owners and managers, and their bankers, workers, and suppliers. For a publicly traded company, corrupt accounting spreads the costs of bad management or fraud onto a broader group, the unsuspecting public of investors and others. Such commercial opportunism (taking advantage of unequal information about the poor state of the firm), when discovered, destroys trust in the financial system and leads to a reduced level of future investor funding for all corporations.

Not all accounting failures involve internal auditors colluding with corrupt owners and managers to give the investing public a distorted picture of the firm's finances. In the well-known failure of WorldCom in 2002, its chief internal auditor, Cynthia Cooper, revealed that the company had improperly listed costs of leases and current expenses of its telecom business as long-term capital expenditures. Even so, critics questioned how such a basic accounting error could have been missed until Cooper came forward.[57]

What did analysts make of all of this accounting fraud? In late January 2002, *Business Week*'s cover proclaimed "Accounting in Crisis" and the subtitle of

the story inside was "Reform is urgent."[58] The old system of certification by independent external auditors had broken down so thoroughly at Enron and at other corporations, that the story declared:

> As shocking as Enron is, it is only the latest in a dizzying succession of accounting meltdowns from Waste Management to Cendant. Lynn E. Turner, former chief accountant for the SEC, and now a professor at Colorado State University, calculates that in the past half-dozen years investors have lost close to $200 billion in earnings restatements and lost market capitalization following audit failures…. That sorry record has cast doubt on a once-honored profession.[59]

Causes of the failure of corporate internal audits and certified external audits have been covered elsewhere and are too complex for this history. A key culprit—public accountants' conflicts of interest and sacrifice of independence by mixing external auditing and internal consulting[60]—should not tarnish the entire accounting profession. Even so, it has. Once discovered, these spectacular failures of public auditing contributed to flagging trust in all public financials and the crisis brought rapid and intrusive regulation by the federal government. As a political response demanded by angry investors and critics of capitalism, the regulations have attempted to mandate corrections but have also imposed their own inefficiencies. They also depart from an ideal that the earlier system of independent public audits attempted to approach: effective self-governance of corporate finance. Certain members and practices brought this on their own profession and the corporations they serve, with the effect of added costs for many other corporations who had by and large played by the old rules.

Accounting and a Liberal Education

This history of its contribution to civil society illustrates why accounting should have a place in the curriculum of a liberal-arts college.[61] Consider certain aspects of a liberal education. The student is trained as an individual for independent thought and moral behavior. Education develops the student as a citizen of various communities—local, state, and global—with an appreciation of civic duties that advance the commonwealth. The curriculum is broad, including study of other disciplines outside the major area.

Training to be a public accountant (or even an internal auditor) requires precisely such training. The nature of public accounting is private enforcement of acceptable practices to maintain a measure of economic liberty in commerce. The student must develop an independent spirit, one that considers whether financials presented as fact do indeed represent the facts and conform to accounting

principles. Rather than committing only to the interests of the firm's owners, the practicing accountant must consider the broader community interests. That is, the student must appreciate the civic role of public accounting and an auditor's responsibility to the investment community and the community of auditors. The ideal public accountant defends the investors' interests and the reputation of other auditing professionals through principled and ethical practices. Those who govern certification as a CPA in New York State require that the candidate "be of good moral character."[62] In Tennessee, candidates for the CPA must "pass an ethics examination given by the American Institute of Certified Public Accountants (AICPA) with a score of 90% or better."[63]

A liberal education cultivates the very civic virtues and moral virtues that we hope will animate the public accountant. Unfortunately, the recent crisis in accounting to which *Business Week* referred, seems to reflect a decline of civic and moral virtues. Public accountants' collective unwillingness to address their growing conflict of interest after 1970 between providing certified audits to the same corporations with which they also consulted suggests a serious erosion of "professional spirit," as R. H. Tawney put it. In his otherwise unfortunate call for curtailing economic freedom, Tawney correctly identified the importance of "spirit" and "zeal" as motives, aside from seeking higher monetary compensation, that contribute to business efficiency and national defense:

> Professional spirit is a force like gravitation … which the engineer uses, when he can, to do his work for him…. In what are described *par excellence* as "the services" it has always been recognized that *esprit de corps* is the foundation of efficiency … indeed the power upon which the country relied as its main safeguard in an emergency was the professional zeal of the navy and nothing else. Nor is that spirit peculiar to the professions that are concerned with war.[64]

Tawney would likely agree that an *esprit de corps* and a moral zeal are also important to the efficiency and honesty of professional public accountants. Had that spirit of service prevailed earlier, Congress may not have felt pressed to intervene with the Sarbanes-Oxley Act of 2002 that, among other things, no longer allowed a corporation to hire certified auditors and accounting consultants from the same public-accounting firm. Government regulations, written by energetic congressional staffers, industry insiders, and executive-agency staffers can create a mess. Moreover, even excellent regulations can fail to work effectively if oversight is underfunded or if a cozy relationship develops among regulatory officials and financial-market participants.[65]

To the extent that government interventions are less efficient than zealous self-regulation, continued economic efficiency depends on reestablishing this

spirit among any public accountants who lack it in sufficient measure. Rebuilding civic spirit and fortifying moral zeal are also crucial tasks for educators who train public accountants. Those tasks will best be done in educational institutions committed to promoting civic and moral virtues.

Summary and Conclusions

This article examined certain historical economic functions of modern accounting and the practice of auditing the books. It highlighted the benefits of private and certified public accounting in improving stewardship of resources and detection of fraud and abuse due to agency problems. Owners and their bookkeepers served as internal auditors for their own private medieval-era trading and finance companies. Widespread use of the new methods after about 1400 gave owners more-timely and more-accurate accounting reports. The new methods provided better-organized and up-to-date real and financial data about which uses of a business's capital and which employments of its raw materials and workers' efforts would create the greatest value while reducing unintentional waste. Double-entry bookkeeping using Arabic numerals and multiple accounts together permitted timely calculation of balances by hand, allowing for detailed and up-to-the-moment assessment of a company's overall profit or loss and the profitability of individual projects and branches. Regular detailed accounting reports also tended to reveal more quickly and clearly any fraud and theft that was diverting resources and products from their best uses, and into wasteful or illegal activities that did not create value. As improved private accounting contributed to more efficient business decisions, the resulting lower costs and the ongoing spread of commercial competition also contributed to economic progress and rising standards of living in Europe.

After 1900, public accountants began to serve as external auditors for publicly traded corporations. Their role was to verify a firm's declared profitability and to assess the accuracy and consistency of its books. In their new role of providing certified audits, public accountants began to serve a civic function, supporting the rule of financial law and promoting efficient distribution of society's resources among competing uses. A central role of public accounting was to establish and maintain high trust in the books among investors, lenders, suppliers, and even workers, so as to assure that capital flowed to its most efficient uses and its most effective stewards. Self-governance among public accountants, as long as the profession maintained its moral vision and independence, contributed to the ideal of free enterprise with few entanglements from inefficient government bureaucracy.

Recent failures of internal and external auditing have eroded investor trust, upset an efficient allocation of capital, and invited more government interventions that do not universally improve efficiency. A thriving free-enterprise system requires that for-profit agents organize and submit to effective self-governance that is free of conflicts of interest and improper bias. The private and social values of certified audits depend on the skill, accuracy, independence, and moral integrity of public accountants. In short, private commercial morals and their private enforcement by honest and effective auditors are crucial to a free-market economy.

Therefore, the study of accounting and of the role of accurate and independent audits in the history of economic development belongs in a liberal-arts curriculum that seeks to explain our past and present economic and political situations. An effective liberal education requires training in moral and civic virtues, and students trained in the "arts" of being a free, self-governing, and moral people will make the best accountants and auditors, well suited to preserving economic and political liberties.

Notes

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1. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, ed. Edwin Cannan (1776; repr., New York: Modern Library, 1937), quoted in Michael Jensen and William Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics* 3, no. 4 (October 1976): 305–60.

2. Geoffrey Mills, "Early Accounting in Northern Italy: The Role of Commercial Development and the Printing Press in the Expansion of Double-Entry from Genoa, Florence, and Venice," *Accounting Historians Journal* 21, no. 1 (1994): 81–96, http://www.accountingin.com/accounting-historians-journal/volume-21-number-1/early-accounting-in-northern-italy-the-role-of-commercial-development-and-the-printing-press-in-the-expansion-of-double-entry-from-genoa-florence-and-venice/.

3. Civil society is the middle ground between coercive government and privately motivated, for-profit enterprises. See Robert O. Bothwell, "Indicators of a Healthy Civil Society," in *Beyond Prince and Merchant*, ed. John Burbidge (New York: Pact Publications, 1998), 249–62.

4. Niall Ferguson, *The Ascent of Money: A Financial History of the World* (New York: Penguin Press, 2008).

5. Shepard Bancroft Clough and Charles Woolsey Cole, *Economic History of Europe*, 3rd ed. (Boston: D. C. Heath, 1952), 80.

6. M. M. Postan, E. E. Rich, and Edward Miller, eds., *The Cambridge Economic History of Europe Vol. III* (Cambridge: Cambridge University Press, 1963), 87, hereafter cited as *CEHE*.

7. *CEHE*, 87.

8. Paul Strathern, *The Medici: Power, Money, and Ambition in the Italian Renaissance* (New York: Pegasus Books, 2016), 29–30. Strathern concludes the story: “It seems that he finally caught up with them in Poland, at Cracow, where he managed to collect part of the debt; but by now he was so far from home that he decided against sending the money back to Giovanni, and chose to begin a new life on the proceeds.” As Strathern observes, “Such a tale vividly illustrates the circumstances of banking in the early fifteenth century: as ever in commercial practice, risk and trust were finely counter-balanced.” Thanks are due to Kaylee Jentsch for pointing out this illustrative story from Strathern.

9. Raymond de Roover, “Characteristics of Bookkeeping Before Pacioli,” *Accounting Review* 13, no. 2 (June 1938): 144–49; de Roover, “New Perspectives on the History of Accounting,” *Accounting Review* 30, no. 3 (July 1955): 405–20. Note also the earlier European sources that he reviewed. See also de Roover, “The Development of Accounting Prior to Luca Pacioli According to the Account Books of Medieval Merchants,” in *Studies in the History of Accounting*, ed. A. C. Littleton and B. S. Yamey (Homewood, IL: R. D. Irwin, 1956), 114–74.

10. De Roover, “New Perspectives,” 405.

11. De Roover, “New Perspectives,” 405, 408.

12. De Roover, “New Perspectives,” 406.

13. De Roover, “New Perspectives,” 411. De Roover did not explain the implication of more than one currency for DE methods, but the potential consequences of shifting exchange rates for the balance should be obvious.

14. De Roover, “New Perspectives,” 411.

15. De Roover, “New Perspectives,” 411.

16. B. S. Yamey, “Scientific Bookkeeping and the Rise of Capitalism,” *Economic History Review*, Second Series 1, no. 2/3 (1949): 113; quoted in De Roover, “New Perspectives,” 414.

17. De Roover, “New Perspectives,” 414–15.

18. *CEHE*, 91–92.
19. Strathern, *The Medici*, 15.
20. Luca Pacioli, *Summa de arithmetica, proportioni et proportionalita* (Venice, 1494).
21. *CEHE*, 93.
22. *CEHE*, 93.
23. De Roover, "New Perspectives," 413.
24. "The introduction of Arabica numerals … greatly simplified all calculations and computations. It is obvious that it is more difficult to handle CCCLXXVIII and XXXIV than 378 and 34 whether one is adding, subtracting, or multiplying. Indeed, working with Roman numerals was so hard that the use of an abacus or calculating board was almost obligatory." Clough and Cole, *Economic History of Europe*, 80.
25. Michael Chatfield, *A History of Accounting Thought* (New York: Dryden Press, 1977), 46, quoted in Regina Libinia, "The Development of Double Entry Bookkeeping and Its Relevance in Today's Business Environment" (Pace University Honors Thesis, 2005), http://digitalcommons.pace.edu/cgi/viewcontent.cgi?article=1022&context=honorscollege_theses. Joseph Gilligan highlighted this useful Chatfield quote in Libinia's essay.
26. Clough and Cole, *Economic History of Europe*, 81.
27. Clough and Cole, *Economic History of Europe*, 80.
28. Ferguson, *Ascent of Money*, 48.
29. For a discussion of the role of credible threats to punish people who violate contracts and credible commitments to keep the terms of a contract, see Douglass C. North and Barry R. Weingast, "Constitutions and Commitments: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England," *Journal of Economic History* 49, no. 4 (December 1989): 803–32.
30. See also Douglass North, *Institutions, Institutional Change and Economic Performance* (Cambridge: Cambridge University Press, 1990), 138. North applied a similar logic to explaining how "effective [informal] institutions of honesty, hard work, and integrity simply lowered the costs of transactions," promoting increasing standards of living in nineteenth-century America.
31. *CEHE*, 93.
32. Robert Bushman, Joseph D. Piotroski, and Abbie J. Smith, "Capital Allocation and Timely Accounting Recognition of Economic Losses," *Journal of Business Finance & Accounting* 38, nos. 1 and 2 (January/March 2011): 1–2.

33. "Joint Stock Companies," *Gale Encyclopedia of US Economic History*, https://www.encyclopedia.com/social-sciences-and-law/economics-business-and-labor/economics-terms-and-concepts/joint-stock-company.
34. Clough and Cole, *Economic History of Europe*, 149.
35. Financial "stock watering" is analogous to inflating the weight of cattle at the watering trough just before their sale at a given price per pound.
36. See John Gary Previts and Barbara Dubis Merino, *A History of Accounting in America: An Historical Interpretation of the Cultural Significance of Accounting* (New York: John Wiley & Sons, 1979). See also Robert Black, "Henry Sidgwick and the Institutionalists on Goodwill of the Firm," *History of Political Economy* 24, no. 1 (March, 1992): 96, for a brief history of fraudulent entry of goodwill value on the books. See especially the quotes in Black from Thurman W. Van Metre, *Economic History of the United States* (New York: Henry Holt & Co., 1921), 505–11.
37. Earlier examples of fraud before widespread use of public accounting abound in economic history. Consider, for instance, the collapse of the Mississippi Bubble in 1720. Without any required publications of certified accounts using standardized rules, in France, John Law could issue shares of stock in his Mississippi company and could profit along with others as they increased in value without a sound financial basis for the inflated prices. Law's bank had financed many purchases of successive issues of shares by issuing loans to investors based on the rising share values and paid for in notes issued by the bank itself. See Clough and Cole, *Economic History of Europe*, 283–84 and 296–99.
38. Previts and Merino, *History of Accounting*, 142–43.
39. Black, "Henry Sidgwick," 96.
40. Previts and Merino, *History of Accounting*, 129–30.
41. Previts and Merino, *History of Accounting*, 133–34.
42. Paul B. W. Miller and Rodney Redding, *The FASB: The People, the Process, and the Politics* (Homewood, IL: Irwin, 1986), 19.
43. Previts and Merino, *History of Accounting*, 135.
44. "Public Company SEC Reporting Requirements," Legal & Compliance, LLC, http://www.legalandcompliance.com/securities-resources/sec-requirements-for-public-companies/.
45. Miller and Redding, *The FASB*, 19.
46. Miller and Redding, *The FASB*, 9, 15.
47. Miller and Redding, *The FASB*, 19–20.

48. Investors in corporate stock and donors to not-for-profits both have an interest in seeing certified financial reports of companies of interest.

49. Bothwell, "Indicators," 249–62, see esp. 254–55.

50. Bushman, Piotroski, and Smith, "Capital Allocation," summarize the value of accurate financials:

    > In particular, credible financial accounting information forms the foundation of the firm-specific information set available to investors, regulators and other stakeholders in an economy. Financial accounting provides a rich set of credible variables that support a wide range of enforceable contractual arrangements and that form a basis for outsiders to monitor and discipline the investment decisions and statements of firms' managers. (1–2)

51. Ryan Buckley contributed helpful suggestions on the list of those who use public-accounting reports to make financial decisions. Banks and other lenders, for instance, use them to assess appropriate risk premiums when issuing credit. For a mathematical approach to assessing credit risk using discriminant analysis, see Sihem Khemakhem and Younes Boujelbene, "Predicting Credit Risk on the Basis of Financial and Non-Financial Variables and Data Mining," *Review of Accounting & Finance* 17, no. 3 (2018): 316–40.

52. The SEC is charged with ensuring compliance to federal law. When the system failed, Congress intervened in 2002, but not with uniform agreement about its success. See R. S. Kulzick, "Sarbanes-Oxley: Effects on Financial Transparency," *S.A.M. Advanced Management Journal* 69, no. 1 (2004), 43–49.

53. Stephen Gandel, "The Madoff Fraud: How Culpable Were the Auditors?" *Time*, December 17, 2008, http://content.time.com/time/business/article/0,8599,1867092,00.html.

54. Kenneth Gilpin, "Enron's Collapse: The Investors; Plenty of Pain to Go Around for Small Investors, Funds, Workers, and Creditors," *New York Times*, September 9, 2000, https://www.nytimes.com/2001/12/04/business/enron-s-collapse-investors-plenty-pain-go-around-for-small-investors-funds.html.

55. Sophie Arie, "Parmalat Dream Goes Sour," *The Guardian,* January 3, 2004, https://www.theguardian.com/business/2004/jan/04/corporatefraud.parmalat2.

56. George A. Akerloff, "The Market for Lemons: Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics* 84, no. 3 (1970): 488–500.

57. "What Went Wrong at WorldCom?" *Knowledge@Wharton*, July 3, 2002, http://knowledge.wharton.upenn.edu/article/what-went-wrong-at-worldcom/.

58. Nanette Byrnes et al., "Accounting in Crisis," *Business Week*, January 28, 2002, 44–48.

59. Byrnes, "Accounting in Crisis," 44.

60. James Brickley, Jerold Zimmerman, and Clifford Smith, Jr. present a helpful review of the failures of public accounting caused by mixing that function with internal accounting. See James Brickley, Jerold Zimmerman, and Clifford Smith, Jr., *Managerial Economics & Organizational Architecture*, 3rd ed. (New York: McGraw-Hill, 2003).

61. This does not apply to every interpretation of the "liberal arts." It would be foolish to go to a state education department and ask that accounting courses be registered as liberal-arts classes, counting toward a bachelor-of-arts degree. Even after distinguishing between bookkeepers who make entries to accounts and the accountants who design bookkeeping systems, accounting courses have a decidedly technical feel and a preprofessional bent. The claim to a place for accounting applies to meanings other than inclusion in official state lists of approved courses and programs. Accounting has a place in a liberal-arts program because it has important connections to an older sense of the term: a liberal education that trains students to live in freedom and to govern themselves individually and corporately.

62. "Initial License: General Requirements," *NYSED: Office of the Professions*, http://www.op.nysed.gov/prof/cpa/cpalic.htm#who.

63. Tennessee State Board of Accountancy, "Licensing Requirements and Exams," *Tennessee Department of Commerce and Insurance*, https://www.tn.gov/commerce/regboards/accountancy/license-applicant-resources/licensing-requirements-exams.html.

64. R. H. Tawney, *The Acquisitive Society* (New York: Harcourt, Brace and Howe, 1920), 149–50.

65. A troubling example of much-too-cozy relations emerged from the Bernie Madoff scandal. An SEC official met with Madoff's legal-compliance officer in 2005 (a position that Sarbanes-Oxley required). Madoff's compliance officer was his niece. The SEC official helped close the case, dated and married the niece, and the scandal was not made public until 2008. Brian Ross and Joseph Lee, "SEC Official Married into Madoff Family," *ABC News*, December 16, 2008), https://abcnews.go.com/Blotter/WallStreet/story?id=6471863&page=1.