Improving the Quality of Financial-Statement Audits by Updating External Auditors’ Accountabilities

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Abstract: We draw on research in accounting, economics, psychology, neuroscience, and auditing to critique the accountabilities, incentives and learning opportunities embedded in auditors’ regulatory environment. We address the basic issue: How should regulatory inspections, auditor incentives, auditor judgment processes and audit reports be modified to improve audit quality? We first establish that estimates are the basis for most financial statement information and that most estimates are forward looking and highly uncertain, which increases the challenges faced by auditors. We show that auditors’ current regulatory accountabilities are in the form of penalties rather than rewards and primarily depend on audit outcomes rather than processes. We provide evidence from a range of disciplines to indicate that the present system is suboptimal for improved audit quality and heightens the risk of hindsight and other cognitive biases.

Based on this critique, we suggest seven reforms to the system by which society holds auditors accountable: (1) Regulatory inspectors should use a reasonableness test to evaluate auditors’ judgment processes and, accordingly, place less weight on their disagreements with auditors; (2) regulators’ inspections should include a concurrent element; (3) refine the concept of professional skepticism so that auditors must actively question their own judgment-process quality; (4) improve the content of audit reports; (5) enrich the feedback regulators provide in inspection reports by including descriptions of best practices rather than just descriptions of practices deemed to be deficient; (6) reward auditors who take stands for financial reporting quality; and (7) provide direct rewards to auditors who uncover material fraudulent reporting. These reforms are motivated by the desire to improve the quality of financial reporting and external audits rather than enhancing the sustainability of auditing organizations.

Key words: Professional judgment; professional skepticism; inspections; audit quality; accountability

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1. Introduction

Society relies on independent standard setters (e.g., International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB)) and regulators (e.g., U.S. Securities Exchange Commission (SEC) and U.K. Financial Reporting Council (FRC)) to govern the preparation of financial reports by public companies. Similarly, society relies on standards for external audits of financial reports. Until relatively recently, public company auditing in many countries was self-regulated (e.g., the Auditing Standards Board of the American Institute of Certified Public Accountants (AICPA)). Following the Sarbanes-Oxley Act of 2002 (SOX), however, the Public Company Accounting Oversight Board (PCAOB) assumed the standard setting role for audits of public companies, ending self-regulation in the U.S. The PCOAB attempts to promote informative, fair, and independent financial audits. Regulatory organizations with similar charges have emerged in many countries during the last decade, as evidenced by the 35 countries with membership in the International Forum of Independent Audit Regulators (IFIAR).

A critical way in which the regulators of public-company auditors attempt to ensure audit quality is by conducting periodic inspections of auditors’ compliance with applicable laws and auditing standards in their jurisdictions. Our review of public information suggests that, despite some differences, inspections by such entities have many common elements. As an example, inspections typically encompass both audits directly (e.g., risk assessments, audit procedures, and evidence interpretations) and quality controls over audits (e.g., supervision and review policies and determinants of partners’ compensation). Another common element is that the selection of

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1 While most jurisdictions use separate organizations to set audit standards and to conduct auditor oversight, the U.S. PCAOB combines these two functions (Simnett & Smith 2005).
particular audit engagements for inspection is predominantly non-random and based on regulators’ assessments of the risk of auditor non-compliance.

We believe that it now is time to critique the regulatory reforms of the last decade to assess whether and the extent to which they have improved, and likely will continue to improve the quality of financial-statement audits. In particular, we address the following over-arching question: *What kind of accountability framework should regulators use to motivate auditors to improve audit quality?* And, equally important—*What accountability framework should regulators employ to evaluate how well auditors have dispatched their duties?* We contrast our normative proposed answers to the above two questions by posing and answering the following prescriptive question—*How should regulatory inspections, auditor incentives, auditor judgment processes, and audit reports be modified to enhance audit quality?*

To address these questions, we describe, critique and suggest reforms to enhance auditors’ accountability framework in light of the 21st century financial-statement auditing environment. We begin by characterizing the financial-statement auditing context and proposing a two-dimensional accountability framework. We next apply these two dimensions—rewards-penalties and processes-outcomes—and research from accounting, economics, psychology, and neuroscience to describe and critique auditors’ current accountabilities. We then propose seven reforms to auditor accountability: (1) regulatory inspectors should use a reasonableness test to evaluate auditors’ judgment processes and, accordingly, place less weight on their disagreements with auditors, (2) regulators’ inspections should include a concurrent element, (3) refine the concept of professional skepticism so that auditors must actively question their own judgment-process quality, (4) improve the content of auditors’ reports, (5) enrich the feedback regulators provide in inspection reports by including descriptions of best practices rather than just descriptions of practices deemed to be deficient, (6) reward auditors who take stands for financial reporting quality, and (7) provide direct
rewards to auditors who uncover material fraudulent reporting. We provide concluding remarks in the final section of the paper.

2. The Context of Financial Statement Auditing

There is a resilient myth afloat—that financial statements reflect historic \textit{facts}. Regularly bolstered by bloggers (e.g., Stovall, 2009), the accounting-for-facts myth gets an occasional boost from judges in their rulings and accounting professors.\textsuperscript{2} This myth is problematic as it misdirects how society holds auditors accountable: How can it be that auditors reach materially wrong conclusions about factual, historic assertions?

In reality, estimates constitute the basis for most of the quantitative and qualitative information in financial statements. Most of these estimates concern future events and transactions, some of which are highly uncertain. As an example, consider the seemingly simple task of estimating a warranty reserve for a gaming console. In 2006, Microsoft’s warranty accrual for its \textit{Xbox} was $10 million, based on an estimated failure rate in line with the 3 percent historic failure rate for Nintendo’s \textit{Wii} (Sands & Tseng, 2009). It turned out, however, that actual \textit{Xbox} failure rates were much higher—recent estimates range between 23 to 54 percent (Sands & Tseng, 2009; Thorsen, 2009)—requiring Microsoft’s 2007 warranty accrual to explode from $10 million to nearly $1 \textit{billion}. Did Microsoft’s auditor fail by not flagging Microsoft’s original $10 million reserve as a misstatement?

As another example, consider Citigroup’s 2008 financial statements. At the 3\textsuperscript{rd} quarter, the asserted net book value of its deferred tax assets (DTAs) is $28.5\text{b}, \textit{exceeding} its market

\textsuperscript{2} See, e.g., \textit{In re: Employee Solutions Sec. Lit.}, 1998 WL 1031506 (D. Ariz, Sept. 22, 1998) the court rules that insurance company reserves are statements of present fact and not forward looking. Also see, e.g., \textit{In re: Reliance Sec. Lit.}, 135 F. Supp. 2d at 504 (D. Del. March 29, 2001), the court finds that loan loss reserves are not forward looking. Professors Merchant and Sandino (2009) similarly state “While value is future-oriented, accounting profit measures \textit{focus on the past}. Future revenues, and most future expenses are not anticipated.” Of course, accounting professors often try to dispel this myth. Glover, Ijiri, Levine, and Liang (2005), for example, develop and encourage adoption a financial reporting model that decomposes financial-statement line items into two categories: fact and forecast (Lundholm, 1999; Lev, 2003).
capitalization of $20.5b. While clearly material, whether these DTAs even constitute a financial-
statement asset is questionable, because it is uncertain whether Citigroup can reasonably forecast
that it will have sufficient taxable income during the next 20 years, as required by both U.S. GAAP
and IFRS. Several prestigious financial institutions already have fallen during the sub-prime
mortgage crisis, and a Bloomberg journalist decries Citigroup’s DTAs as being potentially
worthless, observing that Citibank might never return to profitability again (Weil, 2008). As the
auditor, would you say that you can acquire a sufficiently persuasive evidentiary basis to support
an opinion that pertains to these DTAs?

The acid test auditors must use, in assessing whether or not an estimate is materially
misstated, is reasonableness (e.g., ISA 540 in IFAC 2010), and auditors’ conclusions pertaining to
reasonableness are matters of professional judgment. While auditors clearly can acquire
sufficiently persuasive evidence to warrant reaching audit conclusions about most historical
estimates, it is more difficult to determine whether and when auditors have sufficient evidence to
verify future-oriented estimates. In many instances, future realizations of estimates will not occur
until substantial time has passed and, even then, many factors can affect ultimate realizations.

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3 Though referred to for decades, professional judgment was not explicitly defined in International
Auditing Standards until a 2009 revision of ISA 200, “Overall Objectives of the Independent Auditor and
the Conduct of an Audit in Accordance with International Standards on Auditing. ISA 200 now defines
professional judgment as “the application of relevant training, knowledge, and experience, within the
context provided by auditing, accounting and ethical standards, in making informed decisions about
courses of action that are appropriate in the circumstances of the audit engagement” (IFAC 2010, p. 77;
also see Gibbins 1984, p. 104).

4 Kinney (2000, p. 213) observes that “the term reasonableness in many contexts means a 60 to 70 percent
confidence interval.” Earlier he notes that, “Because no single estimate can be definitively defended,
GAAS directs the auditor to determine a ‘reasonable’ range for an accounting estimate. . . . ‘likely’
misstatement for an accounting estimate is zero if book value is within the range. If the book value falls
outside the ‘reasonable range,’ then only the difference between book value and the closest end of the
range is counted as a likely misstatement” (Kinney 2000, p. 213). It is also key to keep in mind that the
size of auditors’ reasonable ranges themselves may be multiples of materiality.

5 When it is difficult to assess service quality even after performance, the service is said to have credence
characteristics. Darby and Karni (1973, p. 68-69) stipulate that “Credence qualities are those
which . . . cannot be evaluated in normal use. Instead the assessment of their value requires additional
costly information. An example would be the claimed advantages of the removal of an appendix. . . . The
purchaser will have no different experience whether or not the organ was diseased.”
In recognition of this differential persuasiveness, the U.S. Securities and Exchange Commission (SEC) for decades required that only strictly factual information appear in registrants’ proxy statements, annual reports, and prospectuses (Romajas, 1993). The SEC (1969, p. 12) expressed its traditional argument in a document called *The Wheat Report*:

*Although company projections of sales and earnings are of great interest to investors, serious problems are associated with requiring, or permitting, such projections to be included in ’33 Act prospectuses. Because of their conjectural and rapidly changing character, projections would—if included in prospectuses—raise difficult questions of civil liability. Moreover, projections in filed documents might become traps for the unsophisticated who would be prone to attach more significance to such projections than they deserve.*

Today, ironically, once-prohibited information—including a wide array of business-condition predictions, broader economic forecasts, and even projections of long-term future earnings—forms the foundation for many financial-statement elements. Exhibit 1 provides several examples of forward-looking auditor judgments, including fair value ascertains and going concern assessments.

When financial-statement estimates rest on complex, future-oriented uncertainties, auditors must apply their professional judgment to assess reasonableness and, as warranted, apply strong communication skills when trying to persuade preparers that their complex estimates are unreasonable (Gevurtz, 1994, pp. 309-310). The task is difficult for auditors in part because management frequently knows as much or more about the underlying business environment and processes pertinent to the estimates (Bell, et al. 1997; Peecher et al., 2007), and because both auditors and preparers of financial statements tend to perceive greater judgmental latitude in the presence of uncertainty and ambiguity (Hackenbrack and Nelson 1996). And yet, any latitude afforded by salient uncertainties and ambiguities may attenuate or even disappear if the threat of adverse financial-statement outcomes is high or, especially, once such outcomes emerge (e.g., bankruptcy or allegations of fraud). Adverse outcomes create a challenge because hindsight complicates even good faith attempts to assess the reasonableness of foresight estimates.
In addition to many complex, future-oriented estimates, today’s financial reporting context features several inconsistencies that intensify the challenge auditors encounter when others question their professional judgments. For example, in the U.S., estimates that appear in Management’s Discussion and Analyses (MD&A) receive safe harbor protection as a result of being legislatively construed as forward looking. We are not aware of any legislator, standard setter, or regulator, however, who has moved to afford such protection for substantially similar estimates that appear in financial statements. In addition, whether management is required to report estimates in financial statements versus whether management has the discretion to disclose estimates in less-regulated formats (e.g., investor relations Web pages) is itself inconsistent across IFRS and U.S. GAAP. Yet another inconsistency is that, in the U.S., those responsible for preparing complex estimates can receive safe harbor protection, depending on disclosure location, whereas those responsible for auditing them cannot, regardless of the disclosure location. Extant regulations and standards seemingly presume that complex estimates can be magically transformed depending on where they are disclosed and whose responsibilities are being considered.

3. Auditor Accountability Framework

With these complexities and inconsistencies in mind, we offer a simple, two-dimension auditor accountability framework. One dimension is the degree to which auditors are accountable

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6 Safe harbor protection, in the U.S., comes from the Private Securities Litigation Reform Act of 1995 (PSLRA). It defines forward-looking information as a subset of soft information, which is “statements of subjective analysis or extrapolation, such as opinion, motive, and intentions, or forward-looking statements, such as projections, estimates, and forecasts.” The PSLRA’s safe harbor excludes statements for which the actual and known intent was to mislead investors (Horwich, 2009).

7 For example, FAS 107 does not require financial-statement disclosure of sensitivity analyses about the market risks of financial instruments (e.g., Value at Risk), but IFRS 7 does (Ernst & Young 2008, p. 33). The greater latitude in U.S. GAAP effectively provides an incremental safe harbor.

8 This is not to say that standard setters have been silent about complex estimates. Representational faithfulness has replaced reliability as a primary qualitative characteristic (e.g., FASB, 2008). Faithful representations convey imprecisions, volatilities, or other uncertainties about what the future likely will hold, arguing that, for some amounts, an “indication of the probabilities attaching to different values of an attribute may be the best way of giving information reliably about the . . . uncertainty that surrounds it” (FASB 2008, p. 29). In addition, auditors must retrospectively review prior-year management accounting estimates for evidence of bias (e.g., AU 316.64, in PCAOB 2003a).
for audit outcomes and/or financial-statement outcomes versus accountable for the quality of their professional judgment processes. The second dimension is the degree to which auditors’ accountabilities manifest in the form of penalties versus rewards. Exhibit 2 depicts these two dimensions and locates extant sources of auditor accountability in terms of these dimensions.

Notice that the southwest quadrant in Exhibit 2 is heavily populated and only two sources cross into the southeast quadrant (e.g., regulator inspection reports). The predominance of the southwest quadrant reflects how auditors’ current regulatory accountabilities manifest exclusively in the form of penalties and primarily depend on audit outcomes or financial-statement outcomes (and only secondarily on their professional judgment processes). The absence of accountability sources in the two northern quadrants reflects regulators’ neglect of or indifference toward providing auditors with rewards. It is particularly unfortunate that there are no regulatory rewards predicated on the quality of auditors’ judgment processes because, as explained later, the psychology and economics literatures alike show that rewards (alone or in concert with penalties) better accomplish positive frames of mind and better motivate desired performance levels compared to penalties alone.

An easily overlooked, but related point is that, ordinarily, different performance thresholds come to one’s mind when considering whether or not to give a reward versus exact a penalty. Penalties typically ensue when a minimum expected performance threshold is not met, whereas rewards emerge if performance is perceived to be particularly strong/meritorious. By overlaying this point onto auditors’ current spectrum of accountabilities, it becomes clear that regulatory accountabilities are unlikely to motivate auditors to supply particularly high quality financial-statement audits. Instead, these accountabilities likely motivate satisficing behaviors, with auditors gravitating just far enough away from the threshold of noncompliance to avoid unwanted
attention. Consequently, whether, how, and the extent to which auditors are motivated to perform above minimum thresholds, to perform at their best, and better over time are unclear given auditors’ extant accountabilities.

4. The Rewards-Penalties Dimension

Historic and Current Spectrum of Auditors’ Rewards-Penalties Accountabilities

Auditors’ accountabilities historically have manifested predominantly in the form of penalties, not rewards. In the legal liability context, the best outcome is avoidance of damages and settlements. Auditors’ new regulatory agencies, whose existence suggests that society lacked sufficient confidence in public-company audit quality near the end of the era of self-regulation, have generated a menu of new penalties, but no new regulatory rewards for auditors.^

More generally, there is a dearth of systematic evidence that auditors are rewarded for the use of particularly good professional judgment processes or innovative audit procedures. The limited evidence that exists comes from studies focusing on auditor expertise. These studies indicate that, as auditors gain industry-specific experience, their technical knowledge of accounting and auditing pronouncements, procedural knowledge about how to gather and interpret audit evidence, and their tacit knowledge about how to manage interpersonal relationships tends to improve (Tan & Libby 1997; Solomon, Shields, & Whittington 1999). These experience-related knowledge advantages enables auditors to better perform some important audit tasks, and, presumably, they do so.

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^ Society does not necessarily desire the highest-possible quality in financial-statement auditing (or financial reporting, for that matter). We assume, however, that society desires improved audit quality that, in turn, holds promise for improved financial reporting. While we acknowledge the possibility that society may desire no more than the regulator-mandated minimal degree of quality for particular organizations, we assume that society desires greater quality for at least some organizations.

^ Historically, regulators use rewards less frequently than penalties. We are aware that the U.S. SEC has rewarded tips about insider trading for about two decades. But, it has disbursed only $1 million dollars since its inception (Westbrook 2010). Most interestingly (and as discussed later section 6), recently passed legislation in the U.S. potentially will substantially change the rewards given to persons who blow the whistle on fraudulent financial statements.
Research also shows that elements of audit firms’ quality control processes, including their audit review and informal consultation processes, can identify and/or reward auditors who perform their task at relatively high-quality levels (e.g., Rich, Solomon, & Trotman, 1997a; Gibbins & Emby 1985; Nelson & Tan, 2005). Further, at least during certain market conditions, society rewards larger and/or specialist audit firms with reputational capital and audit fee premia (Craswell, Francis, & Taylor, 1995; Antle, Griffin, Teece, & Williamson, 1997).

Nevertheless, we do not know the degree to which these rewards motivate auditors to deliver particularly high-quality audits. Just as important, it is unclear whether these rewards reflect a higher probability that the auditor will supply: (1) an audit that just meets a statutory minimal-quality threshold, or (2) a qualitatively superior audit that exceeds statutory quality requirements. Interestingly, nearly all archival and experimental studies pertaining to auditor judgment either presume that especially good auditor performance is sufficiently rewarded or are silent about the degree to which better performance by auditors is rewarded.¹¹

Regulatory inspections are not reward-oriented and focus on locating audit firm quality-control defects as well as audit-specific deficiencies. In the U.S., the public version of PCOAB inspectors’ reports contain a case-by-case presentation of those audit deficiencies the inspectors

¹¹ Auditors may well receive such rewards, but little to no empirical evidence has been reported. There is, of course, a rich empirical-archival literature that examines relatively large-sample associations among audit-firm attributes, financial-reporting attributes, and market behaviors (e.g., Francis, Maydew, & Sparks, 1999; Khurana & Raman, 2004). Data limitations, however, severely prevent this line of research from identifying specific cases of particularly good jobs in auditing financial-statements (for discussion see, Dechow & Skinner, 2000). The U.S. PCAOB also self-reports that its inspectors have observed “situations in which audit quality did not appear to be a significant factor in the partner evaluation process or its role in that process was unclear” (2008, p. 21) and situations in which “technical personnel who were responsible for audit quality were reporting to and evaluated by those whose responsibilities included maintaining and growing audit practice.” PCOAB (2008, p. 26) later provides anecdotes as to some of the remediation steps firms have taken to redress this kind of quality control concern: “…revisions to the partner evaluation process to place greater, or more explicit, emphasis on audit quality and technical skills,” and “changes to provide greater separation between the audit quality function and the audit business operations.” More recently, the PCAOB (2010d) has issued a release that reminds U.S. public company auditors of their supervisory responsibilities and that failure to properly discharge them will result in sanctions and penalties. While these are rich and unsettling anecdotes, systematic empirical evidence bearing on the same issues would be more helpful.
have located and deemed to be so significant that the audit firm did not have sufficient, competent evidence to support its audit opinion on the financial statements or internal controls. While this inspection reporting process penalizes audit firms, at least in the sense that the popular business press uses the reports to question audit quality, it does little if anything to identify, encourage, or reward best practices. Similarly, while inspection summaries in Australia, Canada, Singapore and the United Kingdom indicate satisfaction across many of the inspected audit engagements, they still commonly highlight detected deficiencies.

To summarize, there are few tangible rewards for auditors who attempt to excel at their work and fulfill their professional responsibilities, other than rewards that may exist within the audit firms but about which little is known.

**Research Pertinent to the Rewards-Penalties Dimension**

Here we briefly outline some of the key findings from the research literature on behaviorism and judgment-and-decision making, experimental economies, and accounting. First, two oft-replicated findings from the behaviorism literature (Pavlov and Skinner) are that performance improves more following *positive* feedback (e.g., rewards) than *negative* feedback (e.g., punishment), and that *intermittent* positive feedback is better than *constant* positive feedback (Staddon, 2001). The judgment-and-decision making literature also discusses how rewards can increase aspiration levels (e.g., Payne, Laughhunn, & Crum, 1984), the care with which people pick their judgment strategies as well as the thoroughness of their search (e.g., Stone & Ziebart, 1995), and their decision accuracy (e.g., Ashton, 1990).¹²

Second, experimental economics research provides theory and empirical evidence showing that it is helpful to provide *carrots* (rewards) and not just *sticks* (penalties) when motivating performance. People often fight back when threatened with sanctions (Fehr & Rockenbach, 2003; ²⁰⁰³).

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¹² Positive reinforcement and other forms of rewards are not panaceas. Profit motives can result in fraudulent behavior and excessive rewards can bring too much pressure, consistent with an inverted-U relation between pressure and performance (Yerkes & Dodson, 1908).
Houser, Xiao, McCabe, & Smith (2008). Houser et al. (2008, p. 510) note, “…threats are not necessarily effective. Under threats employees might shirk … more than they had previously.” Other economists report conditions—in proposer-responder games—in which combinations of rewards and punishments are superior to either alone, but rewards alone still are better than punishments alone for maximizing proposers’ offers (Andreoni, Harbaugh, & Vesterlund, 2003).

Third, consistent with research by Thaler (1980) and Tversky and Kahneman (1981), Luft (1994) studies how employees respond to contracts that offer economically identical payoffs but are framed in either bonus or penalty terms. This simple difference in framing alters how people mentally account for incentives, and mental accounting affects a wide range of consumption and saving behaviors (e.g., Pralec & Loewenstein, 1998; Thaler, 1999). Luft finds that, all else equal, managers must pay more to hire employees under a penalty frame than under a bonus frame.

Theory-consistent experimental findings in Frederickson and Waller (2005) extend Luft (1994) by demonstrating that a bonus frame, compared to a penalty frame, enables participants to perform better. Better performance is achieved by more accurate participant interpretation of state signals, which, together with participant’s effort, determined payoffs. Participants who faced the penalty frame persistently underweighted the state signal. Thus, whether one frames incentives that are economically identical as rewards versus as penalties systematically alters how favorably or meaningfully persons interpret the incentives and how well they perform once operating under them (Ariely, Kamenica, & Prelec, 2008).

Research germane to the rewards-penalties dimension strongly suggests that it would be beneficial to identify new ways to reward financial-statement auditors, or to reframe auditors’ current incentives in reward terms. The current system, dominated by penalties, is likely sub-optimal. It makes sense to consider adding new rewards to the portfolio of mechanisms so that
auditors remain accountable for a broad range of performance levels, especially levels beyond a minimal performance threshold.

5. The Process-Outcome Dimension

Current Spectrum of Process-Outcome Accountabilities

The main way auditors historically have been held accountable is by using *ex post* adverse financial-statement outcomes as a means of obtaining settlements from auditors and/or of triggering hindsight-based examinations of their judgment processes (as illustrated in Exhibit 2). Alleged financial-statement fraud, bankruptcy proceedings, and steep stock price drops trigger litigation or other dispute-resolution proceedings (e.g., Carcello & Palmrose, 1994; Lys & Watts, 1994; Heninger, 2001; Beasley et al., 2010). Litigation and such proceedings entail careful, protracted, contested, high-stakes, and invariably retrospective assessments of auditors’ judgment processes.

Yet, continued use of financial-statement outcomes as the determinative factor in holding auditors accountable is inappropriate, for several reasons. One such reason is that variations in auditors’ judgment processes that are *not* followed by an adverse outcome are still significant. Poor judgment-process habits that one learns on audits that are not followed by bad outcomes can heighten the chance of bad outcomes on future engagements. In other words, bad outcomes will tend to occur relatively frequently in high business-risk environments despite truly excellent auditor judgment process quality, and bad outcomes will tend to occur relatively infrequently in low business-risk environments despite relatively poor auditor judgment process quality. A second reason is that the core purpose of audits is not to regulate the incidence of bad financial statement outcomes; it is to apply sound professional judgment processes in gathering evidence to support an opinion on the veracity of financial statements.
Consistent with the above, auditors’ accountabilities are evolving away from an exclusive reliance on adverse financial-statement outcomes. Globally, audit regulators now are conducting ongoing inspections of audits and audit firms’ quality control policies. Previously, regulators relied on adverse outcomes much like parties historically have done and continue to do in the litigation context. With inspections, today’s public-company auditors appear to be relatively more accountable for their judgment process quality than were public-company auditors in the self-regulation era.

These inspectors have a very complex task—one of judging auditor’s “judgments about judgments” (Kinney, 2008). The set of cues regulators rely upon to assess the quality of auditors’ judgment processes, and the timing of regulators’ inspections are most important. First, the set of cues regulatory inspectors use to select audits for inspection are undisclosed, but regulators do characterize their sampling process as being risk-based. We also know that regulators attend carefully to the content of auditors’ documentation. Internationally, for example, regulators adopt a “not documented, not done” philosophy or similar approach (e.g., PCAOB, 2004; POB, 2009; CPAB, 2010).

When evaluating selected audits and determining whether any audit deficiencies exist, regulatory inspectors appear to interpret disagreement with auditors’ judgments, choices or actions as evidence that an audit deficiency exists. Indeed, a review of inspection reports and audit firms’ responses suggests the inspectors at times substitute their judgments for auditors’ judgments, as is suggested by the following audit firm responses:

[F]or many of the findings we respectfully disagree with the conclusion that 'the Firm had not, at the time it issued its audit report, obtained sufficient competent evidential matter .... [w]e believe: The work performed was adequate in the context of the audit as a whole and therefore such findings represent good faith differences of opinion on the application of professional judgment. (PwC 2005)
The issues raised in the report … require significant professional judgment. This is particularly true as it relates to the testing, assessing the proper application of accounting principles and determining what constitutes sufficient documentation. We … disagree with certain views of the PCAOB. We base our views on significant discussion and consultation between the engagement teams and specialists within Grant Thornton. We believe these judgments were appropriately supported and well-reasoned. While we believe that the PCAOB should continue to challenge judgments and documentation during the inspection process, we do not believe that, in the end, reasonable judgments should be criticized and second-guessed. (Grant Thorton 2009).

With respect to the timing it is noteworthy that regulators use retrospective inspections to reach conclusions about whether or not an audit deficiency exists, with an audit deficiency being defined as an instance in which the firm failed to conduct audits in accordance with PCAOB standards (e.g., PCAOB, 2008, p. 10). The retrospective nature, however, means inspectors have informational advantages over auditors, thereby making it easier for inspectors to develop better estimates at the time of inspection compared to the estimates auditors considered at the time of the audit. Further, once inspectors determine that an audit deficiency exists, the PCAOB retrospectively concludes whether or not the auditor so egregiously failed to attain sufficient, appropriate evidential matter on which to base the financial-statement opinion that a re-audit and/or a restatement is required. The PCAOB explicitly describes these relatively egregious audit deficiencies in their inspection reports. A range of members of IFIAR employ similar practices.

\[13\] In PCOAB (2008), the Board summarizes its first four years of inspections. During this time, the PCAOB inspected facets of 1,662 financial-statement audits, of 46 percent, 43 percent, and 12 percent, respectively, pertained to registrants having market capitalizations of < $500 million, $500 million to $5 billion, and > $5 billion. Beyond these limited empirics, however, the PCAOB (2008) provides only anecdotal evidence regarding identified audit deficiencies and remediation plans. It notes that identified deficiencies have pertained to revenue, accounting estimates, auditing fair value measurements, analytical procedures, income taxes, internal control, audit sampling, use of the work of specialists, and materiality audit scope and audit differences. In the summary, the PCAOB also speculates about causes of these auditing deficiencies, conjecturing that weaknesses in training, audit methodology, firm’s monitoring of audit quality (e.g., supervision and review and application of professional skepticism), and firm’s enforcement of its own policies and procedures all played a role (2008, p. 20).

\[14\] Recent inspection report overviews in Australia, Canada, Singapore and the United Kingdom document improvements that need to be made. For example, in Australia ASIC divides these between (a) matters
To summarize, litigation contexts use adverse financial-statement outcomes to trigger retrospective attempts to discern the quality of auditor judgment-processes. Regulators, however, have moved away from exclusive reliance on adverse financial-statement outcomes that entail litigation or regulator sanctions to trigger investigations of auditors’ judgment processes. They do, however, have informational advantages over auditors in the sense that improved estimates usually are available at the time of inspection compared to the time of the audit. Such availability heightens the risk of regulators treating disagreement with audit conclusions as overly diagnostic of poor auditor judgment processes. That regulators can have the final say on the quality of auditors’ judgment processes brings to mind what Justice Robert H. Jackson once said:

*Whenever decisions of one court are reviewed by another, a percentage of them are reversed. That reflects a difference in outlook normally found between personnel comprising different courts. However, reversal by a higher court is not proof that justice is thereby better done. There is no doubt that if there were a super-Supreme Court, a substantial proportion of our reversals of state courts would also be reversed. We are not final because we are infallible, but we are infallible only because we are final.* (Brown v. Allen, 1953).

**Research Pertinent to the Process-Outcome Dimension**

**Primacy of judgment processes and suitability of outcomes as signals of judgment processes.** Psychologists emphasize that, because we rarely obtain perfect knowledge about judgment processes used, outcomes ordinarily ought to be used to some degree in assessing judgment-process quality (e.g., Einhorn, 1980).¹⁵ They also emphasize, however, that making outcome-informed assessments is fraught with risk of bias (e.g., Hershey & Baron, 1992, 1995). Numerous studies in accounting and psychology are motivated in part by the concern that adverse

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¹⁵ Economists come to a similar conclusion as psychologists on this issue. It is a truism in economics that, holding costs equal, relying on perfect knowledge about the quality of an agent’s judgment process (i.e., effort) dominates relying on outcomes for contracting purposes. First-best (optimal risk-sharing) arrangements with an agent are possible only when principals can perfectly observe an agent’s judgment process. When an agent’s judgment processes are unobservable, second-best solutions must be devised (e.g., Holström, 1979). In these situations, principals rely on combinations of outcome information and imperfect monitoring of an agent’s judgment processes.
outcome information causes people to be too harsh on evaluatees, by revising their beliefs too much about the likelihood of evaluatee culpability (e.g., Brown & Solomon, 1987; Anderson, Lowe, & Reckers, 1993; Kennedy, 1995; Kinney & Nelson, 1996; Tan & Lipe, 1997; Kadous, 2001).

This belief revision is called an outcome effect, and if it is too large, outcome bias occurs (Brown & Solomon, 1987). One reason outcome bias may occur is that people fail to realize that there only is a small difference between the objective probability of adverse outcomes conditional on acceptable versus unacceptable auditor judgment-process quality. Another reason is that outcomes appear more predictable to evaluators in hindsight than to evaluatees in foresight. People exhibit this hindsight bias by over-estimating what they would have known about the outcomes before learning about a realization and even by mis-remembering their own prior beliefs (e.g., Fischhoff, 1982; Christensen-Szalanski & Willham, 1991; Kennedy, 1995).

Recent theory and evidence about whether outcome effects indicate bias, both over-harshness and over-leniency, are reported in Peecher and Piercey (2008). Consistent with the weighting function from Cumulative Prospect Theory (e.g., Tversky & Kahneman, 1992; Camerer & Ho, 1994), they predict and find an inverse-S pattern of bias that starts with over-harshness (i.e., outcome bias) for relatively low Bayesian probabilities of auditor negligence, but flips—in the vicinity of a 40 percent Bayesian probability of auditor negligence—to over-leniency (i.e., reverse outcome bias) for relatively high Bayesian probabilities. Outcome bias for low Bayesian

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16 The Advisory Committee on Improving Financial Reporting (ACIFR, 2008) in the U.S. asserts that when evaluating preparer and auditor judgments, it is appropriate to use information that was obtainable at the time the judgment was made but inappropriate to use information not available at the time the judgment was made. Bayesians, however, would freely use information not available at the time judgments were made so long as they believe it to be correlated with information that was available. In this sense and from a Bayesian perspective, the Committee’s position is normatively indefensible, but it could be a useful prescription to the extent that evaluators are prone to over-rely on adverse outcome information.

17 Bayes’ Rules provides the normatively appropriate size of outcome effects. Its ingredients are individuals’ prior beliefs about the marginal and conditional probabilities of certain outcomes and different levels of judgment-process quality.
probabilities could lead to frivolous lawsuits against auditors, but reverse outcome bias may result in “not guilty” jury verdicts even when plaintiffs have strong cases against auditors.

**Social welfare risks with outcome accountability.** One variant of the view that auditors should be held accountable for adverse audit outcomes is strict auditor liability for third-party damages. An economic, theoretical analysis of strict auditor liability for damaged parties, however, indicates a loss in social welfare may well occur due to a combination of over-investment in risky assets and over-auditing (Schwartz, 1997). There also is theory and evidence to show that society could lose out in another way—when auditee organizations decrease their investment in new assets—under strict auditor liability rules (Shibano, 2000; Yu, 2001).

In addition, archival studies show that auditors use predictors of heightened risk of litigation to opt out of auditing clients that pose higher *ex ante* litigation risk (Krishnan & Krishnan, 1997). Because higher-litigation risk clients often are growth companies that invest in valuable, but higher business-risk goods and services, and because a move to strict liability standards likely would increase the degree to which audit firms drop high business risk auditees, a strict liability model is likely to be costly to society. As such, the conditions and extent to which, *if any*, under which society would realize a net benefit from a strict liability regime for auditors are quite uncertain.

Another version of outcome accountability would make auditors financial-statement insurers (e.g., Ronen, 2002; Cunningham, 2004) who help make injured parties whole in addition to reducing information risk (Dye, 1993). One can argue that, to a degree, auditors *de facto* already are insurers. Empirical evidence of stock price drops following relatively rare events, such as the Laventhal bankruptcy and the Arthur Andersen demise, suggests that auditors are, in part, insurers of public companies’ common shares (e.g., Menon & Williams, 1994; Chaney & Philipich, 2002).
If society were to seek a greater insurance role for audit firms, such firms would need to become better capitalized. Unlike major insurance companies, audit firms do not retain a large percentage of their annual surplus as investment capital and are therefore not in a position to cover full potential damages. At least to date, no major insurance company appears to have agreed to underwrite financial-statement assertions.

**Process vs. Outcome Accountability and Motivated Reasoning.** The psychology and auditing literatures emphasize that while both process and outcome accountability can either improve or impair judgment process quality, process accountability holds greater promise than outcome accountability for improving auditors’ judgment processes.

As Tetlock and Lerner (1999) observe, a low-cost heuristic for coping with either process or outcome accountability is to learn what one’s audience prefers and then tilt one’s judgment process to favor those preferences (i.e., *acceptability heuristic*). When evaluators’ preferred outcomes are known, evaluatees engage in directionally motivated reasoning, identify low-effort ways to marshal evidence to justify the outcome, and gravitate towards those processes (e.g., Kunda, 1990; Hackenbrack & Nelson, 1996; Peecher 1996; Kadous, Kennedy, & Peecher, 2003).

When held accountable for their judgment processes without knowledge of their evaluators’ preferences or when believing evaluators prefer neutrality and accuracy (in financial reporting this could be, e.g., true and fair estimates), evaluatees increase effort and become preemptively self-critical (refer to *self-discovery* and *external-discovery* strategies in Gibbins & Newton, 1994). Self-discovery is introspection about what evidence would be prudent to gather and about how to obtain it. External discovery entails balanced, deep information search for evidence in media or in advice from colleagues (Gibbins & Newton, 1994). These kinds of discovery processes tend to improve the accuracy and justifiability of conclusions reached by both individuals (e.g., Suedfeld, Tetlock, & Streufert, 1992; Peecher et al. 2007) and groups (Scholten, et al. 2007).
Some of the more salient indicators of greater accuracy are less bias and noise in judgments, and better-calibrated confidence levels (e.g., Simonson & Staw 1992; Siegel-Jacobs & Yates 1996).

Outcome-driven accountability, in contrast, is associated with increased stress levels and frustration in evaluatees (Siegel-Jacobs & Yates 1996) and defensive bolstering (Lerner & Tetlock, 1999). This especially is the case when outcome accountability is implemented after evaluatees already have reached their conclusions, as in litigation or regulator inspections. Instead of rethinking how they could have improved their initial conclusions, evaluatees “dig in” and rationalize their public conclusions. If anything, they become more polarized (Tetlock, Skikta, & Boettger, 1989) and more committed to sub-optimal courses of action (Simonson and Staw 1992).

Thus, on balance, society likely would be better off if auditors were, and had good reasons to believe that they were, primarily accountable for their judgment processes instead of for specific conclusions reached or subsequent outcomes.

**Linking Judgment Processes and Outcomes: Learning, Feedback and OILS**

Psychology research shows that learners come to most deeply understand how to perform tasks and how well they perform tasks when provided with timely, accurate judgment-process (i.e., explanatory) feedback (Einhorn & Hogarth, 1978). Outcome feedback alone, i.e., whether or not a performance failure has occurred, tends to be insufficient for accounting learners to master tasks (e.g., Bonner & Walker, 1994). Upfront, explanatory instruction coupled with outcome feedback can help, as can mechanisms that encourage self-explanatory thinking during task performance (Earley, 2001). Delayed feedback makes it very difficult for learners to associate actions and consequences, and, during the interim, learners tend to build a false sense of confidence.

Auditors, unfortunately, seldom receive high-quality and timely outcome feedback, in the sense of ascertaining when and whether audit values approach true values (e.g., Anderson & Kraushaar, 1986). In addition, the quality and timeliness of auditors’ judgment-process feedback...
varies considerably (at times it is non-existent) and heavily dependent on the effectiveness of the audit supervision and review processes (e.g., Rich et al., 1997a; Gibbins & Trotman, 2002; Rich, 2004; Peecher, Piercey, Rich, & Tubbs, 2010).

Sometimes auditors’ own actions limit their feedback opportunities, further impoverishing their mental models about the quality of their judgment processes, as a result of an Outcome Irrelevant Learning Structures (OILS) problem (Einhorn, 1980). Suppose, for example, that audit partners promote and mentor subordinate auditors because they think these subordinates are more likely than others to develop sound professional judgment processes. If partners later review promoted subordinates’ work and conclude that it is of acceptable quality, the partners likely will too hastily conclude that they are skilled at selecting particular subordinates to promote and others to fire.\(^{18}\) It could be, however, that selected subordinates are not any better than unselected subordinates, and it is possible that even stronger subordinates were overlooked because they were erroneously judged to be relatively weak (Waller and Felix, 1984).

Similar concerns about the quality of feedback, in part due to the OILS problem, apply to regulators and others who try to evaluate auditors’ judgment-process quality. If inspectors from the PCAOB (U.S.), Professional Oversight Board (UK), etc. happen to locate audit deficiencies in audit working papers thought to pose heightened post-audit risk of material misstatement, they might too hastily and erroneously come to believe that they are experts in assessing post-audit risk of material misstatement.

**What does consensus reveal about judgment process quality or accuracy?** A popular signal of an audit deficiency, despite the complexities of hindsight discussed earlier, is when an inspector reaches a conclusion that they would have done something differently on the audit (e.g.,

\(^{18}\) It is also plausible that their supervisors are overly optimistic for non-OILS reasons. Auditors are overconfident in their subordinates’ technical knowledge (Kennedy & Peecher, 1997), and they are susceptible to halo effects in reviewing familiar subordinates’ work (Asare & McDaniel, 1996; Tan & Jamal, 2001).
conducted alternative audit procedures). Using the absence of inspector-auditor consensus on what audit procedures (and evidence) should have been performed (collected) as a deficiency signal is consistent with now debunked conjectures in the psychological literature to the effect that inter-judge consensus is a necessary condition for competence (Einhorn, 1974). We now understand that experts frequently can disagree, (Ashton, 1985; Mumpower & Stewart 1996), and that consensus is a potentially misleading measure of auditor expert performance, especially when a majority of auditors who are inexperienced at a (new) task reach the same, erroneous conclusions (Davis, Kennedy, & Maines, 2000).

More recent research from a related paradigm—neuroscience—also suggests that each human reasons using entirely idiosyncratic perspectives, based on biological predispositions and life experiences. One neurobiologist now argues that, “The presumption that each of us, if presented with the same evidence, should draw the same conclusions, isn’t consistent with modern neuroscience’s view of brain function” (Burton, 2010). Thus, when regulatory inspectors (or others) are sure that they would have handled things entirely differently, which of course may well be distorted due to hindsight and/or outcome bias, much less than it may appear has been gleaned about auditors’ judgment-process quality.

To summarize, research suggests that society would benefit if auditors were accountable primarily for their judgment-process quality. Holding auditors accountable for conclusions or adverse financial-statement outcomes is apt to heighten the risk of hindsight and other cognitive

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19 There has been considerable research on the extent to which experienced auditors agree with one another’s conclusions on a variety of audit tasks. Solomon and Shields (1995) report that, in 22 studies of auditor judgment on a range of tasks (e.g., internal control strength assessment, audit test planning, evaluating test results, and opinion issuance), the mean correlation between pairs of auditors is +0.59 (ranged from +0.28 to +0.93). The average correlation of +0.59 is modest in the sense that a similar level led Einhorn (1974) to question the competence of medical doctors, but it is higher than consensus levels that Shanteau (2002) reports as being commonly found in studies of experienced stockbrokers (+0.32), polygraphers (+0.33), and clinical psychologists (+0.40). It is quite plausible that auditor consensus would be lower today considering that almost all studies of auditor consensus reviewed by Solomon and Shields (1995) are from data gathered in the 1970s and 1980s—before the current move towards fair values and other complex, future-oriented estimates gained momentum.
biases that cause over-reliance on outcomes in assessing judgment-process quality. This literature also suggests that, even if auditors are primarily accountable for their judgment processes, care needs to be taken to rely on a diagnostic set of cues in assessing the quality of these processes. One cue that easily could be over-weighted is lack of consensus between auditors and regulators as a signal of deficient audit judgment processes.

6. Suggested Reforms to Auditor Accountabilities

We now describe seven related ways to improve the system by which society holds financial-statement auditors accountable. As a package, these reforms have considerable potential to provide greater balance in terms of the reward-penalty and outcome-process dimensions of our accountability framework. We provide these reforms as a means of prompting discussion that, hopefully, leads to implementation of an enhanced spectrum of auditor accountabilities to best serve society. We provide Exhibit 3 to illustrate how the reforms alter auditors’ accountabilities in terms of our two-dimensional framework.

1. Use a Reasonableness Test to Evaluate Auditors’ Judgment Processes

We recommend that regulators use a reasonableness test to assess auditors’ judgment processes. Such a test would reduce how heavily regulators weight disagreements with auditors’ conclusions as positive evidence of a deficiency in auditors’ judgment processes. It also would moderate the weight accorded to new information about estimates not available at the time of the audit, including adverse financial-statement outcomes. These disagreements, new information, and adverse outcomes may have some diagnostic power in locating auditor deficiencies, but they also are rather disconnected from auditors’ professional judgment processes.

This approach also would be more consistent with how professional standards direct auditors to evaluate management estimates. In particular, PCAOB and IAASB auditing standards both require auditors to give preparers some discretion while auditing accounting estimates. Even
if an auditor were to develop his/her own estimate and learn that it differs from the preparer’s estimate, or use a different method to make an estimate than used by the preparer, or believe that his/her estimate or estimation process is superior to the preparer’s estimate, the auditor plausibly still may conclude that the preparer’s estimate is not unreasonable and, therefore, not materially misstated.

Requiring auditors to use a reasonableness test in auditing estimates makes sense given previously discussed research showing that even when experts are presented with the same evidence, they still often reach different conclusions (Burton 2010; Mumpower & Stewart 1996). Similarly, conclusions may differ more often than not between auditors and auditors’ inspectors (or other evaluators), but such differences do not, in themselves, suggest that one judgment is unreasonable and that others are reasonable. Consistent with this conclusion, ACIFR Recommendation 3.5 reads (2008, p. 93):

*The SEC should issue a statement of policy articulating how it evaluates the reasonableness of accounting judgments and include factors that it considers when making this evaluation. The PCAOB should also adopt a similar approach with respect to auditing judgments.*

Another rationale for an auditor’s requirement to give preparers some latitude when auditing estimates is that managers ordinarily know more about the underlying business environment than do auditors (Bell et al., 2005). Similarly, auditors ordinarily know more about their own clients’ business environments than do regulators.

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Mumpower & Stewart (1996) identify several reasons why disagreement can be common among experts: different information sets, different mental models, different ways of combining information, different weight of information, different thresholds for reaching various conclusions, different propensity to be biased and differential variance in judgment. Despite all of these reasons, some regulators have a propensity to treat variation within and across auditor or preparer judgments as a symptom of judgmental error or bias. For example, the UK’s Financial Services Authority (FSA), “is concerned that the dispersion in valuations – both within and between firms – for similar items is higher than might be expected . . . . dispersions can affect comparability across firms” (FSA 2010, p. 23), and “… there is a wide range of loan loss provisioning levels across banks . . . the reasons for the differences are not immediately obvious in terms of the credit quality or collateralisation of their books . . . (FSA 2010, p. 24). We would note that while an unreasonable lack comparability is undesirable it would be equally and potentially more undesirable to force comparability when legitimate diversity of opinions exists among experts.
We further recommend that this reasonableness test be integrated with concepts that underlie and that led society to establish a *business judgment rule (BJR)*. Under the BJR, society has elected a default condition to defer to corporate directors’ good-faith business judgment calls. Further, society has extended a variant of the BJR to certain psychiatrists, creating, as it were, a *medical judgment rule*. This occurred in a landmark appellate court case, Currie v. United States:

> In the business judgment rule, courts defer to the decisions of disinterested directors absent their bad faith or self-interest. Many of the considerations cited as justifications for the business judgment rule are applicable to the present case. For example, as with business decisions, the court is not particularly qualified to review commitment decisions involving mental health and dangerousness. . . . and ‘after the fact litigation is a most imperfect device to evaluate’ those decisions, as in the corporate setting . . . . Finally, policy considerations favor giving psychotherapists, as well as corporate directors, significant discretion to use the best judgment, recognizing that ‘a rule which penalizes the choice of seemingly riskier alternatives may not be in the interest’ of parties or society. (Currie v. United States, 1987).

In Exhibit 4, we summarize many of the common rationales used to compare and contrast judgment rules for directors and medical practitioners and extend these to auditors, together with relevant abstracts from the U.S. Treasury’s ACAP Committee (Treasury 2008). After comparing across directors, physicians and auditors, we recommend upholding the BJR pre-conditions that there must be good faith and the absence of conflict of interest before any auditor judgment rule would apply. *Further, we would append a new requirement: that the judgment processes auditors use to reach their conclusions be reasonable.* We further concede that an *auditor judgment reasonableness rule* need not apply to simpler, historical assertions; it could be applied selectively, e.g., for complex, future-oriented assertions like DTAs and examples listed in Exhibit 1.

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21 We also note that the Canadian Public Accountability Board (CPAB 2010, p. 18) is seeking legislation change related to their inspections including “immunity’—so long as CPAB acts within its authority and in good faith.”

22 While psychiatrists and psychotherapists are evaluated within the framework of a medical judgment rule, many medical practitioners are not. There is ongoing, vigorous debate as to whether a more general medical judgment rule should be crafted. Interested readers should refer to both Arkes & Schipani (1994), who outline various rationales for why a medical judgment rule should not generally apply to all physicians, and O’Connell & Boutros (2002) who analyze each of these rationales and conclude that they are insufficient to justify withholding a medical judgment rule from all physicians.
It is also crucial to differentiate between our proposed auditor judgment reasonableness rule from a *safe harbor*. Our rule would hold auditors to a *reasonableness* standard. The indicators of reasonableness would evolve over time but clearly include: Did the auditor consider relevant authoritative accounting standards and auditing guidance? Did the auditor consider relevant evidence in reaching conclusions? Did the auditor consult in the firm or with external specialists? And, as we discuss later, was the auditor skeptical of the quality of his own judgment processes? A safe harbor, in contrast, would shield the auditor even if none of these indicators were present. A safe harbor could incent auditors to reduce audit quality, as a result of a reduced threat of litigation or regulator sanctions (see Treasury, 2008, fn 120 and 121, VII, p. 31 for full references).

Our auditor judgment reasonableness rule also resonates with the professional judgment framework in ACIFR (2008). This report does not recommend a preparer safe harbor, but rather stresses “*reasoned* evaluation made in good faith and in a rigorous, thoughtful and deliberate manner” (ACIFR, 2008, p. 94, italics added). In addition, responses to the ACIFR’s Interim Report from large accounting firms indicate that none of them expected a safe harbor, as indicated by their references to *reasonable judgments* and *good faith* (e.g., Ernst & Young, 2008).

2. Regulators’ inspections should include a concurrent element

One way regulators should credibly communicate to auditors that they are primarily accountable for the quality of their judgment processes is to diversify their current portfolio of retrospective inspections by adding some concurrent inspections. There really is no perfect

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23 It is noteworthy that while management is held accountable for reaching reasonable judgments about financial-statement amounts and disclosures, and while we advocate that auditors should similarly be held accountable by regulators and other evaluators for making reasonable audit judgments, there is no apparent analog for audit committee members. Quite to the contrary, although audit committee members are a critical part of the financial-reporting supply chain, their work is not subject to sanctions or penalties and, as one recent study states, “…directors with state-of-the-art insurance policies face little out-of-pocket liability, and even in a perfect storm they may not face out-of-pocket liability. The principle threats to outside directors who perform poorly are the time, aggravation, and potential harm to reputation that a lawsuit can entail, not direct financial loss” (Black, Cheffins & Klausner 2006). As such, we believe regulators and other evaluators should hold audit committee members to a reasonableness judgment standard, creating consistency throughout the financial-reporting supply chain.
substitute for regulators, who are charged with assessing the competence and judgment processes used by auditors assigned to a task, than simply asking auditors to concurrently explain their judgment processes to them.

Psychology researchers interested in capturing participants’ judgment processes have learned that doing so is nearly impossible by using retrospective participant verbal or written accounts of their judgment processes (Ericsson & Simon 1984; Ericsson 2006). Retrospective accounts, even for experts, often entail stylization, intentional or unintentional bias (preference-consistent changes in memory can occur), and they are incomplete (memory decays). Thus, a best practice in understanding participants’ judgment processes entails capturing a concurrent protocol.

Similarly, compared to retrospective inspections, use of more concurrent approaches would provide inspectors with unique, first-hand evidence for assessing auditor judgment processes. We know of no better way than concurrent observations or protocols to accurately assess auditor compliance with documentation requirements; that is, to what degree are auditors’ documented explanations and justifications in their working papers a representational faithful depiction of the uncertainties, facts and circumstances, and alternative courses of action considered as of the time of the audit (e.g., Auditing Standard No. 3, PCAOB 2004)? In addition, audit research suggests that training and quality-control benefits arise from including some concurrent reviews of subordinate auditors’ work instead of relying exclusively on retrospective reviews (e.g., Rich, Solomon and Trotman, 1997b; Gibbins & Trotman, 2002). Among these benefits are better diagnoses of subordinate’s shortcomings and prevention of subordinate errors.

3. **Require Auditors to be Skeptical of their Own Judgment Processes.**

Auditors should be required to be skeptical of judgment processes that they use and, especially, of the judgment processes that other auditors on their engagement team have used. Auditors should take careful stock of research showing even when people sense that they are
certain, neuroscience, consistent with psychology research (e.g., Einhorn & Hogarth 1978), shows that people rather frequently still are wrong (Burton 2008). Auditors should understand that even judgment processes that they are confident about still could be biased as a result of common heuristics (e.g., anchoring) and biases (e.g., confirmation bias) and motivated reasoning.

The practice of auditors being skeptical of their own judgments could take many forms, and research is needed to identify the most helpful formats (Grenier 2010). Potential approaches include considering the opposite, that is, engaging in counter-explanation (Koonce, 1992; Hirt, Kardes & Markman 2004), and considering that multiple alternative realizations of estimates could obtain and not just management’s preferred realization (Hirt & Markman 1995). Another approach would be to for auditors to challenge each other’s thinking by assuming the other has been duped and made a judgment error and asking where that most likely occurred and why.

Auditors’ emphasis on the fallibility of their own and their colleagues’ judgments also has the potential to discourage the historic practice of censoring or stylizing information documented in working papers (Gibbins 1984). Auditors would be more likely to seek, consider, and document alternative viewpoints, such as the possibility of a well-concealed fraud, instead of bolstering their own or management-preferred conclusions (Bell, et al. 2005; Grenier 2010). They also likely would document a more integrative and balanced set of the uncertainties and trade-offs they wrestled with in reaching audit conclusions (Suedfeld, Tetlock & Streufert 1992). In addition, such a shift in the nature of what is documented in working papers would position auditors for higher quality, frank discussions with audit committees and, as discussed next, to communicate more information in the audit report.

4. Improve the Content of Audit Reports

The time has come for the content of the audit report to be modified. Today’s binary opinion suppresses attempts by auditors to increase quality given the execution costs of higher-
quality audits. More thorough audits—such as those based on particularly persuasive evidence about the organization’s business processes, performance, and risks (Bell, et al., 2005), at best will yield the same “pass” opinion. Such a relatively low ceiling makes it more difficult for organizations to credibly signal to users that their financial statements reflect a high-quality, and not merely an acceptable, application of accounting principles (Whitehead et al., 1999). The essentially binary report does not provide auditors with sufficient opportunities to differentiate the degree of assurance provided or to communicate, in a frank and open manner, their opinions about the quality of financial accounting policies and of particular financial accounting treatments. Assessment of what constitutes particularly high-quality, merely acceptable quality, or particularly low-quality financial statements can be facilitated by reference to characteristics emphasized in conceptual financial-reporting frameworks (e.g., relevance and representational faithfulness) and to the particulars of adopted financial-reporting standards (e.g., IFRS and U.S. GAAP).

Interestingly, to varying degrees, proposals in the U.S. Treasury (2008) white paper would make public the auditor’s views on many qualitative financial-statement matters that public-company auditors in the U.S. already must communicate with audit committees. These qualitative factors include accounting principles, estimates, disclosures and related matters (AU 380.67, PCAOB 2003b; ISA 260, IFAC 2010). Proposed rules for public company auditors would expand the nature of qualitative information required to be shared with audit committee members,

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24 While pass/fail forms of assurance exist outside of financial-statement auditing (e.g., Underwriter Laboratory seals on either on an appliance or not), gradations of assurance also are common (e.g., ratings agencies; Consumer’s Reports).

25 One might think higher audit fees could signal higher assurance. The problem, though, is that higher audit fees could signal heightened pre-audit misstatement risk instead of post-audit assurance. Information asymmetry prevents users from being able to tell the difference.

26 Along these lines, following a recommendation by the U.S. Treasury (2008), the PCAOB is considering alternative reformulations of the auditor’s report. The PCAOB’s Standing Advisory Group developed a white paper that discusses a range of options, including requiring or permitting long form reports (that include, for example, justifications of the auditor’s procedures) or an entirely new report called “Auditor’s Discussion and Analysis” (PCAOB, 2010b)
including auditor’s frank assessments of management’s judgments and management’s assumptions underlying their financial reporting results (PCAOB, 2010c). Thus, the issue of whether, and the degree to which, qualitative information that auditors privately share with corporate officials charged with governance responsibilities should ultimately become public will likely remain an issue of debate. A factor that favors greater public disclosure, however, is that some audit committee members appear to have short-term incentives and questionable expertise in understanding, pricing, or managing risk (e.g., Levitt, 2010).

5. Provide Auditors With Feedback About Best Practices

While professional accountants have advocated a more balanced approach, inspection processes currently fixate on whether and the degree to which audit deficiencies or weaknesses in quality control exist. Such a focus constrains auditors’ ability to learn the traits inspectors consider as markers of more desirable or exemplary judgment processes or instances of the exercise of professional skepticism. If regulators were to provide balanced feedback, the library of inspection reports that accumulates over time would be a valuable resource for auditors, auditing instructors, and auditing students. In addition, audit firms would be in a better position to reward specific auditors for jobs that third parties consider to have been particularly well done (and not just penalize auditors whose work has called into question). Auditors, carrying out the review process, could also inform preparers about pertinent matters, e.g., the nature of evidence that would be a best practice.

Regulators themselves also would benefit from acquiring and providing more balanced feedback. Whereas some OILS problems are unavoidable, the PCAOB’s risk-based sampling appears to needlessly exacerbate the OILS problem. That is, inspectors in most countries (including

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27 In response to a UK Professional Oversight Board consultation document KPMG noted “It is just as important to focus on what has been done well as what has not been done so well” and London Society of Chartered Accountants “This ought to mean that both positives and negatives are included and not just adverse findings” (POB, 2007).
the PCAOB in the U.S.) apparently sample only from audits that they think have a relatively high risk of audit deficiencies. Thereafter, they look for and find some audit deficiencies. A concern is that the inspectors will misinterpret these positive hits as evidence confirming that they have made accurate risk assessments. A superior approach would be for inspectors to avoid needlessly exacerbating the OILS problem by introducing a substantial degree of random sampling.

Even if the regulators were clairvoyant assessors of the risk of audit deficiencies, the choice to not study instances of the lowest risk of audit deficiencies still would carry a steep cost. As noted earlier, this choice makes it impossible for regulators to learn for themselves from auditors’ best practices and communicate to others about what the highest quality professional judgment processes look like. While populating inspection reports with anecdotes of audit deficiencies helps auditors to learn something about how to avoid falling below a minimum threshold of judgment-process quality, it does little to help them learn how to excel.

6. Reward Auditors Who Take Stands on Financial Reporting Quality

Society likely would benefit from greater transparency with regard to what the auditor has learned about the quality of management’s accounting policies, accounting estimates, internal controls (e.g., tone at the top), etc. Auditors presently can and must communicate concerns about the quality, not just the acceptability, of management’s accounting policies and practices with audit committees. Currently, however, opacity surrounds such discussions, as all that society observes is a standard unqualified audit opinion. Other vehicles are either rare or similarly opaque: qualified audit opinions are rare and resigning from the engagements, while more common, generally provide very limited information on the reasons. That is, even when auditors incur the immediate and substantial cost of walking away, they receive no tangible incremental reward for being transparent about the degree to which disputes over accounting policies or practices were factors in
the resignation. The SEC encourages, but does not reward, forthcoming disclosure of the reasons for the change.

Consistent with this cost-benefit analysis, evidence in Hackenbrack and Hogan (2002) shows that language in auditor-change filings ordinarily is uninformative about whether and the degree to which accounting disputes exist (76.8%, or 3,112 of 4,066 changes). Explicit language about an accounting dispute occurs in just 11.5 percent (468) of the 4,066 cases. Further evidence in Hackenbrack and Hogan (2002) suggests that explicit language about accounting disputes influences investors’ decisions in in allocating their resources. They report smaller stock price changes per unit of earnings surprise conditional on a dispute over accounting being mentioned in the resignation filing than conditional on the absence of such language.

We propose that consideration be given to how one might reward auditors who resign from public company audits when they are concerned about accounting principles and practices. One possibility is that audit firms receive a substantial payout (perhaps some multiple, 5x, of the most recent audit fee) if, within a specified window after the resignation, the public company’s financial statements are subsequently restated. The specifics of the reward could evolve over time (e.g., Does the auditor need to mention the accounting dispute in the form to regulators?).

7. Provide Direct Rewards for Auditors for Fraud Detection

Society should create new incentives for whistleblowers, including auditors, whose claims that fraud exists in financial-statements are later validated. For auditors, such rewards would augment any reputational gains and psychic income they might obtain from discovering and reporting financial-statement fraud. It is plausible that auditors currently perceive themselves as having net disincentives to undertake research and development to improve their fraud detection capabilities because it is unclear they can charge a premium to recoup accompanying costs.

28 In many countries including the U.S., management must provide the reasons for the change in auditor and auditors append a letter indicating that they agree or disagree with management’s stated reasons.
Similarly, they may lack incentives to fully deploy and lever their current capabilities to reveal fraud on a particular engagement any time after the client-acceptance decision. Upon finding fraud in a continuing client, discussions with audit committees become more difficult, collecting audit fees on the current engagement becomes doubtful, and, in litigious jurisdictions, auditors very well may find themselves a defendant in a lawsuit claiming that they failed to detect the fraud earlier.

Consistent with auditors having relatively weak incentives to detect fraud, research suggests that parties other than financial-statement auditors are considerably more likely to be whistleblowers at any point in time during the lifecycle of fraud (Dyck, Morse & Zingales 2010a). In their sample of 216 detected corporate frauds at U.S. companies between 1996 and 2004, external auditors account for only 7% of the dollar-weighted revelations of frauds (weight is a function of settlements and fines). In contrast, the value-weighted percentage of frauds initially revealed by the media (24%), employees (17%), analysts (16%) and short sellers (14%) is much more substantial. This pattern is consistent with parties other than auditors having better, more timely information about specific frauds and/or stronger incentives to reporting fraudulent activities at earlier times.

Other recent research suggests that auditors’ incentives relating to searching for fraud are more complex than one might think. Reffett (2010) reports an experiment in which lay persons act as jurors in a setting in which fraud has occurred. A key finding is that auditors who identify and perform extra audit tests intended to determine whether fraud exists, but still fail to find the fraud, are judged to be more culpable and liable for greater damages than auditors who do not identify such tests. This finding suggests that society may benefit from incremental incentives to make it more cost-effective for auditors to conduct extra procedures to detect fraud.

Related research sheds some light on why analysts, media, employees, and short sellers may have greater incentives than auditors to find and reveal fraud. These parties, unlike auditors,
stand to directly benefit or lose as public companies’ stock prices increase or decrease. A recent study estimates that once fraud is announced a company loses about 40% of its pre-fraud firm value (Dyck, Morse & Zingales 2010b). In addition, when auditors are not the initial whistleblower, the stock price for other public companies that operate in the same industry and are audited by the same audit firm suffer an incremental negative abnormal stock return, -1.26%, during the five day window around the first disclosure date of the fraud compared to other public companies in the same industry but audited by different audit firms (Guler, Heron, & Zur 2010). On the relatively rare cases in which the auditor first detects the fraud, however, the analogous incremental abnormal stock return is positive, +0.71%, consistent with investors benefiting from an enhanced auditor reputation for fraud detection. Auditors, however, do not stand to benefit directly from these positive abnormal stock returns, and the conditions, if any, under which auditors can convert this reputation enhancement into greater market share or larger audit fees are presently unknown.

One reason this could be the case is that specific audit committees and management teams are likely to feel certain that fraud is not occurring at their organization. Thus, from their perspective, any premium should be borne by clients posing a greater fraud risk. Another possibility is that auditees and/or auditors under-estimate the base rate occurrence of fraud. To this point, Dyck et al. 2010b estimate a fairly high base of fraud in large public companies: 7 percent of large public corporations are estimated to commit fraud every year, translating to an ongoing fraud incidence rate between 11 and 13 percent.

These recent research findings suggest that society would be willing to provide auditors with greater direct incentives to detect fraud and/or invest more in research and development to improve their fraud detection techniques. One avenue by which this could be done is to model the new auditor incentives after qui tam lawsuits in the U.S. Qui Tam is an abbreviated form of a Latin
phrase meaning that the plaintiff is prosecuting on behalf of “the king,” and *qui tam* provisions enable private individuals to bring legal actions on their sovereign’s behalf (Lovitt, 1996, pp. 852-3). Society may find it beneficial to apply *qui tam* or a similar theory of law because, as Treasury (2008, p. 8) notes, “auditing of public companies is fundamentally a matter of national interest and concern.” If preparers or auditors learn of unreported and/or unmitigated financial-statement fraud, they may need strong incentives to report, as whistleblowers ordinarily suffer significant adverse consequences (Alford, 2002). These consequences may be more severe for preparers and will span social (e.g., ostracized), financial (e.g., fired) and health (e.g., depression) dimensions. In addition, litigation settlements take a long time (5 to 10 years).

It is clear that *qui tam* has provided compelling incentives to those who have brought suit under its provisions. Under *qui tam*, when a lawsuit involves a fraud against the U.S. federal government, individuals are entitled to between 15 and 30 percent of the money recovered (Dyck et al. 2010). They note that *qui tam* is not available for many industries in the U.S., but it is generally available for healthcare, as the government is a significant consumer of healthcare services. In their sample of 216 corporate frauds, 17 were in the healthcare industry, and individuals on three *qui tam* cases already had won substantial settlements of $35 million, $35 million and $70 million. More damages may manifest as cases are litigated.

Further, the evidence is that the mere availability of *qui tam* is associated with a higher chance (41.2% versus 14.1%) that an employee of the organization committing fraud is the first to blow the whistle (beating analysts, auditors, client/competitors, investors, regulators, law firms, media). While others argue *qui tam* does not incentivize whistleblowers to come forward at socially optimal times (Depoorter & De Mot, 2004), Dyck et al. (2010a, p. 32) conclude their paper by noting:

*The idea of extending the qui tam statute to corporate frauds (i.e. providing a financial award to those who bring forward information about a corporate fraud)*
is very much in the Hayekian spirit of sharpening the incentives of those who are endowed with information. This proposal is consistent with a recent IRS move, which instituted a form of qui tam statute for whistleblowers in tax evasion cases.

In the U.S., the pendulum is swinging towards qui tam for tips that result in monetary sanctions/fines being collected by the SEC pursuant to administrative or judicial actions. Specifically, Section 922 Whistleblower Protection in the sweeping Dodd-Frank Wall Street Reform and Consumer Protection Act (111th Congress 2010) stipulates that whistleblowers will earn 10 to 30 percent of monetary sanctions collected, at the SEC’s discretion. The rewards will come from a new, self-financed Investor Protection Fund.

While a broad range of whistleblowers are eligible to receive rewards, Section 922 expressly excludes financial-statement auditors from eligibility for rewards. This is a lost opportunity in our view. It is odd that CPAs charged by U.S. society to prevent and detect fraud are one of the few parties ineligible for direct regulator rewards for doing so while CPAs who blow the whistle after learning of fraud on a non-audit engagement are eligible.

There appears to be considerable room for improved and more timely fraud detection and/or reporting on auditors’ part. Providing incremental, direct rewards for auditors who uncover fraud likely would motivate helpful innovation by auditors to develop novel procedures that are more likely than current approaches to unearth fraud. Without such innovation, auditors will continue to be the least likely to detect fraud, and their fraud detection capabilities are unlikely to improve.

7. Concluding Remarks

We have addressed two big questions in this paper: What kind of accountability framework should regulators use to motivate auditors to improve audit quality? What accountability framework should regulators use to evaluate how well auditors have dispatched their duties? We address these questions via a two-dimension (rewards-penalties and process-outcomes)
accountability framework. This framework helps one to think critically about extant and desired accountability mechanisms. It also fosters consideration of what the research in psychology, neuroscience, economics and accounting would suggest for extant and reformed accountability mechanisms. Based on these analyses, we propose and discuss seven related reforms: (1) regulatory inspectors should use a reasonableness test to evaluate auditors’ judgment processes and, accordingly, place less weight on their disagreements with auditors; (2) regulators’ inspections should include a concurrent element; (3) refine the concept of professional skepticism so that auditors must actively question their own judgment-process quality; (4) improve the content of audit reports; (5) enrich the feedback regulators provide in inspection reports to include descriptions of best practices rather than just descriptions of practices deemed to be deficient; (6) reward auditors who take stands for financial reporting quality; and (7) provide direct rewards to auditors who uncover material fraudulent reporting.

Collectively, these reforms would yield a more balanced accountability structure by which to reward (and motivate) auditors to use especially sound judgment processes and to innovate their fraud detection technologies (compare Frameworks in Exhibit 2 and Exhibit 3). Improved judgment processes, in turn, hold great promise for improving financial reporting. We also recognize, however, that there is a limitation of thinking about how to reform society’s accountabilities for auditors without a more in-depth analysis of accountabilities across the larger financial reporting supply chain (e.g., Should audit committee members also be held accountable for a judgment reasonable rule?). Our hope, nevertheless, is that the ideas herein will spark productive debate and that reforms we suggest or improved versions thereof will be implemented.
Exhibit 1: Illustrative Forward-Looking Auditor Judgments

(i) In some situations, auditors are concerned with assertions that intrinsically comprise considerable uncertainty. An example is complex estimates including the increasingly important realm of fair value assertions, especially those that entail what standard setters have coined Level 2 and/or Level 3 assets. For the latter cases, a ready liquid market does not exist and so preparer and auditors are left to develop well-justified beliefs about the quality of inputs used to assess value. Auditors cannot be expected to generate predictability out of inherently unpredictable phenomena.

(ii) Auditors also are concerned with assertions whose veracity are particularly sensitive to time. As we move towards increasingly more fair values it becomes central to consider the volatility of underlying markets that attempt to efficiency price these fair values. Consider, for example, a case when an auditor does all the best-practice things to audit fair value and later, after year-end and the subsequent events window, market conditions change due to release of new information. Upon the changing market conditions, this auditor requires a writedown—perhaps in the 2nd quarter of the next year—to reflect the new information. What if another auditor believes that the configuration of cues available prior to year-end precipitated the drop in market value? Yet another thinks it was probable the drop occurred during the subsequent event period. All arrived at their beliefs in good faith and without any independence compromises.

(iii) Auditors are increasingly concerned with assertions related to the reporting entity’s capability to continue indefinitely as a going-concern, and not just because of recent market volatility. Specifically, FASB (2008, iii) is moving towards heightening preparer and, hence, auditor responsibility by adopting new future-oriented language. It is adopting the IAS 1 language of at least, but not limited to, twelve months from the end of the reporting period in lieu of the AU341’s language of not to exceed one year beyond the date of the financial statements). So, for an indefinite future-oriented window, auditors need to consider future profitability of the company, potential cash to be received from the sale of assets, revenue projections, the likelihood of obtaining future clients, profitability of those owing money to the company, and even future stock prices.
Exhibit 2: Accountability Framework

* We assume that rewards would be given when audit processes or outcomes are evaluated as falling in a range from being at least of desirable quality to being of excellent quality, e.g., truly exemplary as a best practice. We further assume punishments or penalties would be given when audit processes or outcomes are evaluated as falling somewhere below some minimal quality standard.
Exhibit 3: Illustrative Enhanced Accountability Framework

* We assume that rewards would be given when audit processes or outcomes are evaluated as falling in a range from being at least of desirable quality to being of excellent quality, e.g., truly exemplary as a best practice. We further assume punishments or penalties would be given when audit processes or outcomes are evaluated as falling somewhere below some minimal quality standard.
### Exhibit 4: Comparing Directors, Physicians and Auditors Without Judgment Rules

<table>
<thead>
<tr>
<th>1. Role of Risk Taking</th>
<th>Directors</th>
<th>Physicians</th>
<th>Auditors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Become risk adverse in decisions and opportunities for new ventures.</td>
<td>Less inclined perform difficult and high-risk procedures. Use of defensive medicine; declining to perform difficult or experimental procedures.</td>
<td>Less inclined to take on clients with high business risk. Use of defensive auditing; declining to move to new techniques.</td>
<td></td>
</tr>
</tbody>
</table>

For all professions it appears that risk taking is reduced without BJR. Insights from Treasury (2008):

“The combination of catastrophic litigation risk and difficulty obtaining insurance exacerbates concentration in the profession. Smaller firms are reluctant to pursue public company clients to increase their market share given the disproportionate threat of liability.”

“The threat of disproportionate liability can harm audit quality by … impeding the evolution of more useful audit reports and causing overly cautious audits or ‘defensive’ auditing.”

<table>
<thead>
<tr>
<th>2. Fear of Liability</th>
<th>Directors</th>
<th>Physicians</th>
<th>Auditors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-qualified individuals rejecting corporate positions (e.g., Board of Directors).</td>
<td>Physicians leaving high risk geographical areas, moving to less litigious fields of medicine, early retirement, gifted students seeking alternate professions.</td>
<td>Gifted students choosing consulting and banking,</td>
<td></td>
</tr>
</tbody>
</table>

While it has been suggested that introducing BJR could negatively impact quality in all professions there is no evidence it would impact quality differentially across professions. Insights from Treasury (2008):

“The threat of disproportionate liability can harm audit quality by discouraging the best and brightest from entering and remaining in public company auditing, inhibiting the use of professional judgment, impeding the evolution of more useful audit reports and causing overly cautious audits or ‘defensive’ auditing.” (VII: 28)
<table>
<thead>
<tr>
<th>3. Lack of Accepted Methodologies</th>
<th>Directors</th>
<th>Physicians</th>
<th>Auditors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differences of opinion on whether commonly accepted methodologies exist for officers and directors; likely to vary considerably with the task.</td>
<td>Practice of medicine is case specific; importance of clinical reasoning skills; detailed knowledge of individual patients needed and complicated information search and combining of cues involving interactions.</td>
<td>Auditing relies on experience and judgment; importance of clinical reasoning skills and knowledge of the auditee and the environment; complicated information search and combining of cues involving interactions.</td>
<td>None of the professions can have a ‘cook-book’ approach and considerable judgment is required in all professions. Insights from Treasury (2008): “The Committee notes that the increasing complexity of global business operations are compelling a growing use of judgments and estimates.” (VII: 17)</td>
</tr>
</tbody>
</table>

| 4. Does Judgment Entail Prediction of Complex Trajectories and Pattern | Yes, how will markets react to new products, changes in interest and exchange rates, etc. | Yes, how will a person react to certain drugs and treatments; how will the drugs and treatments interact; what are long-term effects; what are effects if other diseases are contracted. | Yes, extent of prediction orientated tasks are increasing; deferred tax example given in the text; cash flow projections involved in many audit procedures particularly related to fair value. |

Answer is ‘yes’ for all professions and the extent of future orientated judgments of auditors is increasing. Insights from Treasury (2008): “The Committee notes that the increasing complexity of global business operations are compelling a growing use of judgments and estimates.” (VII: 17) |

| 5. Reliance on Market Effectiveness (i.e., will judgment quality decline) | Market mechanisms check officers’ and directors’ behaviors to ensure management and shareholders’ | Hospitals use performance reports and physicians face dismissal and difficulty in getting new positions if poor | Many external and internal reviews of auditors (internal quality reviews, PCAOB, SEC, etc.) |
### Directors

| without BJR) | interests (moral hazard literature?) | performance. | |

|  | In all cases, market mechanisms will impact as all three professions are evaluated and rewarded on performance. |

|  | Insights from Treasury (2008): |

|  | “The threat of disproportionate, catastrophic liability is not necessary to preserve or enhance audit quality. Auditors have many incentives to perform audits to the best of their ability, without the added threat of catastrophic liability. Professional standards, PCAOB inspections and SEC enforcement activities, internal firm evaluations, ordinary civil liability based on actual misconduct, and reputational concerns, are all more than sufficient to ensure professional behavior.” (VII: 27) |

| 6. Do Plaintiffs Voluntarily Subject Themselves to Risk | Investors knowingly buy stock because they want to earn a return in exchange for risk. | Much less voluntarily risk but there are exceptions (smoking, alcohol, etc.) | Investors knowingly buy stock because they want to earn a return in exchange for risk. |

|  | No real differences between directors and auditors on this dimension. |
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