

**The Future of Assurance in Capital Markets:
Reclaiming the Economic Imperative of the Auditing Profession**

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Abstract

Efficient capital markets rely on a continuous supply of reliable and timely information and auditors are critical to this process. The economic value of an audit derives from making information more reliable to users (i.e., to reduce the risk of erroneous or manipulated information influencing the judgments of market participants). Traditionally, the focus of auditing has been on annual financial reports; however, given the speed of information creation and dissemination, the role of auditors may need to adapt or expand in the future. There are three areas where auditors might help improve information quality: (1) non-GAAP earnings, (2) ESG reporting, and (3) cybersecurity risks disclosures. To provide assurance over these types of information, audit firms need to identify the appropriate *subject matter* for assurance, obtain the *expertise* to provide assurance, develop a *verification process* for providing assurance, and commit to a system of *organizational support* for the assurance process. Multidisciplinary practices have the potential to provide expanded assurance over more information, as well as assurance related to the processes that generate the information. However, success is not inevitable, and market, social, and regulatory forces will have much to say about the emergence of new assurance initiatives.

Key Words: Economics of Audit, Assurance services, Audit subject matter

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“The audit tradition is a professional asset of incalculable value. It derives from the market-place for high-quality, decision-making information.”
(Robert Elliott 1997)

Introduction

There is little debate that capital markets can only operate efficiently and fairly if they are transparent, which means that market participants must have access to a steady stream of reliable and timely information that is relevant to their decisions. Financial markets need reliable information in the same way that fire needs oxygen, and its absence will cause the energy of markets to dissipate. In the early days of capital markets, company information was tightly controlled by management, infrequent and limited, a trickle from a faucet. In the 20th century, more and more information became available to markets as accounting standards developed, disclosures expanded, quarterly reports were introduced, and managers periodically updated the investment community about their activities through other channels (e.g., earnings releases, conference calls). Reliability, timeliness, and completeness improved as accounting standards, regulation, technology, *and the auditing profession* matured and advanced. The last 20 years has seen the flow of information transform into a veritable flood. To the individual investor, the consumption of raw market information would be like drinking from a fire hose, creating an important role for information intermediaries. As a result, it has become increasingly difficult for market participants to separate good information from bad, fact from opinion, and the reliable from the unreliable.

As a result of this steadily increasing volume of information, as well as developments in

information technology, the financial reporting supply chain of most organizations has rapidly expanded in capacity and sophistication. The role and design of business processes, internal controls, internal auditing, and corporate governance has also evolved dramatically. Technology has made the process much more efficient and scalable as more data flows through internal accounting systems. The ability to capture, process, and report information has grown exponentially, and the growth of “big data” shows no signs of waning. The information currently flowing through the computer systems and cloud servers of most organizations is like the traffic on a six-lane superhighway at rush hour in Los Angeles, Tokyo, or London: steady, nonstop, rapid, and ever increasing in volume. Unfortunately, it is not clear whether the *external* reporting and auditing component of the information ecosystem has kept pace with the flood of *internal* information. The auditor is like a toll collector on the information superhighway ... with only one toll booth open. The *audited* data reaching external markets is constrained and compressed by various obstacles in an era when maintaining and evaluating the reliability of data has become increasingly difficult.

Participants in capital markets *want reliable* information but one could assume that they would *prefer assured* information. The insatiable demand for reliable information necessitates that participants in the financial reporting process examine how that information is produced, reported, and assured in today’s and tomorrow’s markets. Many initiatives are underway to try to address these information needs. The frequent reporting of non-GAAP and ESG information are obvious steps toward providing more complete information to capital markets. However, it is not obvious what role the auditing profession could, or should, play in improving the quality of this information.¹ Initiatives to foster integrated reporting may encourage the profession to adapt an

¹ Limited experience with greenhouse gas (GHG) disclosures suggests that auditors will have competition from other potential assurance providers when the auditor is not granted a legal monopoly over services (Simnett, Vanstraelen

expansive view of assurance (IIRC 2013).² However, important questions loom for the profession as it undertakes the effort to cope with, respond to, and improve the flow of reliable information to the marketplace.

In this paper, I address how auditors might adapt so that they facilitate, rather than constrain, the flow of reliable information to markets and how the auditing profession may adapt to the economic reality of high-volume, rapid, nonfinancial, and never-ending information flows. How can the profession add value to the market by assuring information outside of the traditional financial reporting cycle? Should they even try? Could assurance be extended to nonfinancial information? What skills are needed to provide this expanded assurance? How will auditors compete with other potential assurance providers? These questions all have broad and critical implications for the evolution of the auditing profession and capital markets.³

To Begin: Define Assurance

When market participants think about audit, they more or less understand the traditional role of auditors in the financial reporting ecosystem, that is, to provide assurance that financial statements are reasonably free of material misstatements as evidenced by the auditor's report. Meriam-Webster on-line defines an audit as "a formal examination of an organization's or individual's accounts or financial situation." This definition is a bit simplistic and incomplete. The "audit" is obviously much more than a simple opinion, and the audit process is highly complex. Other references (e.g., textbooks), may provide more expansive definitions of "audit" but it is

and Chua 2009). The farther afield from financial information, the less the auditor has a natural monopoly over assurance (Knechel, Eilifsen, Wallage and van Praag 2006).

² South Africa is a leader in the development of integrated reporting. Their experimentation provides some indications of how a system might work, as well as some of the potential obstacles (Atkins and Maroun 2015).

³ This paper does not address the *speed* at which information enters the market so it does not address issues such as media channel, continuous auditing, and mingling of audited and unaudited information. Rather, the report focuses on the narrower topic of expansion of assurance to additional types of information (i.e., subject matter). I discuss the role of technology in the context of defining the types of information that could be subject to assurance.

important to understand the nuances of auditing if we are to consider the expansion of assurance in the modern information ecosystem that feeds the needs of capital markets.

To this end, consider a more complex definition of an audit: “An economically motivated professional service designed to reduce information risk that relies on the knowledge and skills of experts used in a systematic process that considers the idiosyncratic needs of a client where the outcome is unobservable and subject to market forces and regulatory constraints” (Knechel, Mintchik, Pevzner and Velury 2013). This definition highlights a number of key elements that are potentially relevant to a discussion of expanded assurance. First, the focus on “information risk” is clearly not limited to traditional financial statements and could incorporate a wide range of other information. This view leads naturally to a discussion of the types of information that an auditor might assure. Any information that might “move the market” is a candidate for possible assurance.

Second, the definition places the expertise of auditors at the forefront. This realization is critical since a profession is only valuable for the knowledge and expertise it brings to a problem worth solving. As a result, significant expansion of assurance can only occur in parallel with a growth in the skill set of the profession. Assuring financial information — be it GAAP or non-GAAP — is an obvious strength of the auditing profession. Assuring environmental and social information — be it quantitative or descriptive — is a less obvious extension of the auditor’s expertise. While the subject matter of assurance may be increasingly far afield of traditional financial reporting, the auditor’s expertise to provide independent verification of information is unique among professions and can be readily applied to different types of information where reasonable criteria exist or can be developed. Further, access to the requisite knowledge and skills is inherent in the multidisciplinary structure of many large accounting firms.

Third, the reference to “market forces and regulatory constraints” reflects the fact that

auditing exists within a network of professional guidelines and regulatory boundaries, with independence being of prime importance to market participants and regulators. Other constraints include education, training, and licensing; scope of service; and form of practice. These constraints are relevant to our discussion since they may impose barriers to expanding the profession's approach to assurance services. A discussion of expanded assurance may lead to a debate about the relative merits of these boundaries in today's information-driven economy. Further, these boundaries and constraints are likely to influence whether and how the profession will be able to compete in an expanded assurance market with other potential suppliers that may not be subject to strong regulation (e.g., engineering firms in the case of environmental disclosures).

Finally, while the *output* of an audit — the auditor's report — is generally easy to observe, the *outcome* of the audit is directly related to the reduction of the residual risk of materially misstated or misleading information. It is this risk reduction that creates the primary source of economic value from an audit.⁴ Unfortunately, the achieved level of assurance (i.e., residual audit risk) is unobservable, uncertain, and unmeasurable. There is a difference between observing the *process* of an audit and observing the *outcome* of the audit. The *process* reflects the effort put into verifying financial statement information and can be subject to inspection by regulators (e.g., the Public Company Accounting Oversight Board). The focus on process may yield insight into the quality of auditor judgments but individual deficiencies may or may not translate into a loss of audit quality in terms of residual risk. No one really knows what the residual audit risk is after an auditor conducts the tests deemed necessary during the planning and execution of the audit process but the audit can never yield zero residual risk.⁵ The lack of observability in the outcome of the

⁴ The requirement to have an audit means that the mere existence of an audit opinion has value as a permission to participate in a market, but the greater benefit may be the reduction of information risk to the stakeholders of the firm.

⁵ The audit can never yield zero risk given the reliance on sample evidence (which potentially leads to overlooked problems), the completeness objective of auditing (which requires proving a "negative" assertion), and the need to

audit is a major contributor to the so-called “expectations gap” in auditing. This difference in expectations is apparent when the issue is something readily understandable like the existence of an accounting misstatement, but it may be less clear when dealing with the reliability of processes or the accuracy of descriptive social information.

Past as Prologue? An Economic Imperative for Expanded Assurance

Ever since Jensen and Meckling (1976) and Watts and Zimmerman (1983) laid out the early principles of agency theory as applied to accounting, auditing, and corporate control, research has observed time and again that the audit of the annual financial report is highly valuable in a market economy. The “historical financial statement audit remains a critical bedrock on which to base investment decisions” (ACCA/Grant Thornton 2016, 13). Evidence from copious and diverse empirical research suggests that audits are valuable to market participants (DeFond and Zhang 2014). Newman, Patterson and Smith (2005) find that external audits reduce risk to external shareholders; Botosan and Plumlee (2005) observe that auditing reduces a company’s cost of capital; and Allee and Yohn (2009) conclude that private companies benefit from audits in obtaining loans. Mansi, Maxwell and Miller (2004), Blackwell, Noland and Winters (1998), and Pittman and Fortin (2004) report that auditor quality is associated with a lower cost of debt. Other benefits of an audit include (1) fewer accounting errors (Kinney, Palmrose and Scholz 2004), (2) more efficient market reaction to earnings (Aobdia, Lin and Petacchi 2015), and (3) reduced fraud risk (Carcello and Nagy 2004; Lobo and Zhao 2013).

Evidence related to assurance of other types of information is relatively sparse, however.

As the financial statement becomes a smaller and smaller proportion of the vast pool of information

base many accounting estimates on expectations about the future (which are subject to uncertainties about events that may or may not occur in the future). Consequently, non-zero risk also implies that the actual residual risk (achieved assurance) in an engagement is unknown, although generally quite low.

available to companies and capital markets, will the audited annual financial statement become less valuable as market participants increasingly rely on other sources of information? Are there other avenues of assurance that can be developed that may provide significant economic value to market participants? Are there limits — practical, economic, legal, or regulatory — on what types of extended assurance the auditing profession might offer? Based on existing research, increased involvement of auditors in the superhighway of information in capital markets is likely to be beneficial for both the profession and stakeholders in the capital markets. However, before this can happen, numerous obstacles will need to be navigated.

The idea of expanding assurance services is not new but previous efforts have not always been successful. The introduction of audits of pension plans and quality control systems (successful), as well as management forecasts (unsuccessful), are examples of previous assurance initiatives undertaken by the profession. The era of the 1990s was a particularly active time with various firms and organizations exploring alternative forms of assurance because of the perception that the audit was becoming a commodity. The AICPA established the “Special Committee on Assurance Services” (i.e., the so-called “Elliott Committee”) to examine the future of assurance services. As the committee noted in their discussion, “there is no limit on the type of information [that can be audited]. It can be financial or nonfinancial. It can describe or measure performance or conditions” (Jacobson and Elliott 1996, 63).

Over twenty years later, it is not clear how much the Elliott Committee and related efforts stimulated the expansion of assurance into successful new services. One of the better known initiatives of the time, developed by the AICPA and CICA, was marketed under the appellation *WebTrust*. The goal of *WebTrust* was to provide assurance over systems that process business-to-consumer (B2C) Internet-based transactions. At the time, many believed that consumers would

not trust e-commerce and third-party assurance would be considered valuable by web-based retailers. A parallel service for providing assurance over controls related to business-to-business (B2B) transactions was *SysTrust*. In general, *SysTrust* succeeded while *WebTrust* had little market penetration. *WebTrust* may have failed because there were less expensive ways to provide assurance to consumers (e.g., fraud protection from credit cards, competing sources of web “assurance” such as the Better Business Bureau and Verisign). *SysTrust*, being a much more sophisticated business-to-business service, addressed significantly more material financial relationships while having much less direct competition.⁶

The challenge to the profession then, as now, was to define services that have an economic imperative so that third parties recognize a need for assurance and are willing to accept, and compensate, the auditing profession as the logical supplier of the service. One way to generate demand is through regulatory fiat. However, in the 1990s and early 2000’s, the profession tried to develop an economic justification for expanded assurance services. Unfortunately, the profession also faced a number of obstacles: (1) a circumscribed professional image due to well-known audit failures, (2) relatively rudimentary information technology, (3) a poorly formulated understanding of the information needs of market participants, and (4) a weak economic imperative for expanded market disclosures and related assurance. Many of these obstacles have been reduced in recent years. The market still places a great deal of trust in the quality of audits and the professionalism of auditors (CAQ 2017). This trust becomes particularly important as technology and the production/use of information advances to the point where new assurance services can be visualized (e.g., assurance related to cybersecurity or nonresidential data storage such as “cloud” computing). The key challenge, however, is in developing the economic imperative of expanded

⁶ The concepts, principles, and techniques developed for *WebTrust* and *SysTrust* engagements have now been merged and marketed by the AICPA under the nomenclature of “Trust Services Assurance”.

assurance services *within the accountancy profession*.

The nascent audit and assurance efforts of the 1990s suggest that initiatives that focus on “risk” and “risk management” have potential for success (Knechel 2002; Power 2003). Whether as part of a traditional audit, or as part of some other type of assurance, the efforts of the 1990s focused on ways in which the profession could address risks to the benefit of third-party stakeholders. Clearly, the primary purpose of the audit of financial statement is to reduce the risk that financial reports are misleading or fraudulent. The 1990s saw this focus on risk foster new auditing techniques within a general risk management framework (see COSO 2) that was collectively referred to as “business risk auditing” (BRA).⁷ These developments signaled a clear shift in the profession towards more explicit consideration of risk — and different types of risks — in both the supply and demand of audits (Knechel 2007; Curtis and Turley 2007). If there is a lesson to be taken from these prior experiences, third-party assurance may be of the most value when it addresses risks that are economically significant to a sizable constituency of third parties.

The increased emphasis on risk management creates opportunities for the profession to offer economically viable new *assurance* services. As pointed out by Beck (1992), society has reached a point where the distribution of risk across members of the society has an increasingly important influence on personal, business, and government decisions, ultimately determining who does or does not succeed based on the allocation of the responsibility for managing risk and the losses from risky outcomes. The global pandemic in 2020, and its commensurate effect on individuals, economies, and nations is a profound example of how risk is born by different

⁷ While some feel that BRA was not a success (Wyatt 2004; Zeff 2003a; Zeff 2003b), many of the concepts of business risk auditing are now clearly embedded in current auditing standards, specifically, International Standard on Auditing (ISA) 315, *Identifying and Assessing the Risks of Material Misstatement through Understanding the Entity and Its Environment*, issued by the IAASB in 2003 and revised in 2017, and Auditing Standard 12, *Identifying and Assessing the Risks of Material Misstatements* issued by the PCAOB in 2010 (Curtis, Humphrey and Turley 2016).

segments of a society. When the responsibility for managing risk becomes disconnected from exposure to the effects of that risk, moral hazard can arise and no one may feel responsible for managing the risk. Beck's thesis is generally couched in terms of societal and environmental risks (e.g., where to build a prison or power station); however, the concept of distributing risk across boundaries or entities is consistent with the risk management view applied to individual organizations. For example, when a company switches from a defined benefit pension plan to a defined contribution plan, risk shifts from the organization to the individual employee. These decisions have implications for the information supply chain because different stakeholders now have different information needs, as well as different capabilities for processing information. This reality can create a potential demand for different types of assurance. As noted by Power (2003, 1), information and reports "only become objects of explicit checking in situations of doubt, conflict, mistrust and danger."

Successful expansion of assurance services can follow when it addresses risks, and information related to risk, which auditors are uniquely positioned to examine (e.g., business system controls, as in *SysTrust*, rather than retail consumer protection, as in *WebTrust*). The expansion of non-GAAP, nonfinancial information being used by investors, analysts, and other stakeholders presents opportunities for auditors to expand the scope of economically viable assurance services. One example that already exists is the audit of disclosures related to greenhouse gas emissions (Simnett, Vanstaelen and Chua 2009) where the profession has developed specific practice standards. An ambitious expansion of this type of reporting is reflected in the development of Integrated Reports (IIRC 2013)

The Potential for Extending Assurance: Non-GAAP and Nonfinancial Information

The participants in the ACCA/Grant Thornton roundtable in 2016 stated: "Audit

providers should listen carefully to users, and understand who the users are, what information they use, and what they use it for” and “[t]he next generation of investors may want *different information*” (ACCA/Grant Thornton 2016, 7, emphasis added). A great deal of non-GAAP, nonfinancial information currently comes to the market through formal and informal channels of corporate reporting, press releases, and interactions with the investment community. While clearly not comprehensive, I consider three classes of information for the purposes of this discussion: (1) non-GAAP measures, (2) ESG reports, and (3) cybersecurity disclosures. All three are potentially relevant to risk management for various stakeholders. Developing an economic imperative for assurance of this information requires identifying a sustainable source of demand (revenue) and establishing the technical and economic viability of service delivery (cost).⁸

An Existing Challenge: The Case for Assurance of Non-GAAP Reporting

One well-established area is the presentation of non-GAAP financial information. According to analysis by Audit Analytics, 95% of Fortune 500 companies in the United States disclosed some type of non-GAAP metrics in 2017. This rate has been steadily increasing since 2003 when Reg G was issued by the SEC (Webber, Nichols, Street and Cereola et al., 2013).⁹

⁸ Some accounting theorists have argued that “soft” information, typically information that is not audited but also information based on subjective judgments and estimations (e.g., forecasts), can contain as much value to decision makers as “hard” information that has been verified if the two types of information are presented together (Liang 2000; Giger and Hemmer 1998). This view would suggest that assurance may not be needed for soft information, e.g., ESG reporting (Lundholm 2003). However, the *aggregation* of hard and soft information turns all information soft (Bertomeu and Marinovic 2016). This view suggests that integrated reporting might be *more* in need of assurance than separate disclosure of audited financial information and other “soft” information. This theoretical debate suggests that there are limits to the assurance market absent regulation but such limits would reflect the pareto efficient interaction of supply and demand among various participants, as discussed in more detail later in this paper. (I thank an anonymous referee for suggesting this observation.)

⁹ The SEC implemented Reg G in 2003 which, prohibits non-GAAP disclosures that are potentially misleading. It also required that the issuer present a reconciliation of non-GAAP information with the most directly comparable GAAP metric. The SEC issued a revised interpretation on non-GAAP issues in May 2016. Non-GAAP disclosures are the most frequent causes of SEC Comment Letters, representing more than 28% of all letters issued in the first half of 2017 (the next closest, fair value measurements, is 8.4%). These regulations do not apply outside of the USA.

Non-GAAP reporting usually involves calculating revised earnings by making adjustments to GAAP income that include or exclude certain types of income and expenses (e.g., EBITDA). In 2015, non-GAAP disclosures of Fortune 500 companies resulted in an average increase in net income of 82% over comparable GAAP numbers. In Australia, Coulton et al. (2016) report that in 2014 more than 40% of the ASX 500 in Australia presented non-GAAP results. General surveys suggest that investors use non-GAAP measures to assess earnings quality, facilitate trend analysis and forecasting, better understand performance, offset the (potential) conservatism bias of accounting standards, and evaluate industry reporting norms (Chartered Financial Analyst Institute, 2016).

The arguments for and against reporting non-GAAP results come down to the potential for manipulation versus increased disclosure and transparency. The possibility of manipulation is readily apparent when non-GAAP results are presented without context or assurance. Common adjustments that affect non-GAAP results include the costs of acquisitions and divestitures, restructuring costs, litigation costs, impairment of intangible assets, and deferred stock-based compensation. Some of these exclusions reflect transitory costs, but many may be opportunistic because they reflect costs that might be considered normal and recurring (Bhattacharya et al., 2004; Kolev et al., 2008; Black et al., 2012). On the other hand, the risk that readers of financial statements will be overly influenced by the reporting of non-GAAP results is partially alleviated if the GAAP and non-GAAP results are reconciled. Non-GAAP reporting also has the potential to provide additional insight into the performance of a company. Since non-GAAP reporting is voluntary, these disclosures can improve the value relevance of earnings (Lev and Zarowin, 1999; Black et al., 2018a), and allow management to provide clarity about their operations and economic

activities (Coulton et al., 2016, CFA Institute, 2007; Zhang and Zheng, 2011; Whipple, 2015).¹⁰

Early research suggests that investors may have overreacted to positive non-GAAP disclosures (Doyle et al., 2003; Landsman et al., 2007; Bond et al., 2017), suggesting that non-GAAP information might mislead the market. More recent evidence suggests that investors may not be “fooled” by non-GAAP disclosures (Guillamon-Saorin et al., 2017), especially professional investors (Frederickson and Miller 2004; Allee, Bhattacharya, Black and Christensen 2007). There is less research on the role of the financial reporting supply chain or auditors in non-GAAP reporting. Frankel, McVay and Soliman (2010) observe that firms with an independent board of directors report less aggressive non-GAAP earnings. Chen, Krishnan and Pevzner (2012) find that audit fees are higher, and auditors more likely to resign, for companies that report aggressive non-GAAP earnings. This limited evidence suggests that the governance structure and external auditors may have an important role to play in non-GAAP reporting.

A survey by PwC in 2014 revealed that only 22% of respondents considered non-GAAP disclosures to be reliable, while a survey by the CFA Institute (2016) reports that more than 80% of the respondents want auditors to provide some form of assurance about non-GAAP information. As investors become increasingly concerned about the appropriateness of some elements of non-GAAP adjustments (CFA Institute 2016), an increased role for assurance in this area could be beneficial to market participants. This position is consistent with Black and Christensen (2018) who argue that the PCAOB should require auditors to formally review non-GAAP disclosures, but Hallman, Schmidt and Thompson (2017) observe that auditor judgments are *less* conservative when a client reports non-GAAP results in the UK. Possible roles for auditors include direct assurance over non-GAAP numbers, assurance over the controls and procedures related to non-

¹⁰ Black, Christensen, Ciesielski and Whipple (2018b) and Coulton et al. (2016) provide thorough reviews of the extant research on non-GAAP reporting.

GAAP numbers,¹¹ or assurance over the reconciliation of GAAP and non-GAAP numbers (CFA 2016).

A Growing Challenge: The Case for Assurance of ESG Reporting

Another area where there has been significant evolution in the types of information available to markets is environmental, social, and governance (ESG) reporting. ESG reporting encompasses a number of different types of information that is also described as “corporate social responsibility reporting” (CSR). A 2013 survey by KPMG reports that 86% of the largest 100 firms in the US report some type of ESG/CSR information. On a global basis, 71% of the largest companies across 41 countries report this type of information (KPMG 2013). More and more companies are adopting a form of Integrated Reporting (IFAC 2017; Haller and van Staden 2014).¹²

The benefits and costs of ESG reporting have been extensively studied (Barth and McNichols 1994; Blaccouniere and Patten 1994; Cormier and Magnan 1997; Campbell, Sefcik and Soderstrom 1998). Early research often relied on limited *mandated* disclosures and found that markets penalize firm value for certain types of environmental disclosures (Hughes 2000; Johnston, Sefcik and Soderstrom 2008; Chapple, Clarkson and Gold 2013). Potential costs of disclosure may include litigation related to environmental risks, a wealth transfer from shareholders to other stakeholders (Moser and Martin 2012), other proprietary or competitive costs (Li, Richardson and Thornton 1997), or regulator intervention, although disclosing ESG information may be an attempt to stave off more draconian regulatory intervention (Blaccouniere and Patten 1994). However,

¹¹ The importance of establishing controls over non-GAAP reporting has been highlighted in speeches by SEC Commissioner Wes Bricker (2017, 2018). In 2018, he specifically stated that “our rules require that companies must have disclosure controls and procedures ... to prevent error, manipulation, or mischief with [non-GAAP] numbers.”

¹² The Sustainability Accounting Standards Board (SASB), established in 2011, has developed a conceptual framework for ESG reporting.

failure to make such disclosures can also come with a cost. If the market expects certain companies to disclose their impact on the environment and society, a lack of disclosures can influence market valuations (Matsumura, Prakash and Vera-Munoz 2014).¹³

ESG reporting can also be beneficial because it can impose discipline on an organization that yields operational benefits. Dhaliwal, Li, Tsang and Yang (2011) and Casey and Grenier (2015) report a reduced cost of capital for firms that disclose superior social performance. Guiral (2012) finds that loan officers view CSR favorably because of improvements in internal control within an organization.¹⁴ As noted by Huang and Watson (2015, 7), “evidence suggests that ... CSR can enhance firms’ reputation, brand, and trust, attracting customers and employees and ultimately increasing ... firm value.” One of the challenges of ESG reporting is to establish that the disclosures are credible and not an exercise in “greenwashing” (Cho and Patten 2007; Holder-Webb, Cohen, Nath and Wood 2009).¹⁵

Recent research provides evidence that assurance over ESG reports can also be beneficial. Brown-Liburd and Zamora (2015) observe that assured CSR disclosures have a positive impact on stock valuations. Pflugrath, Roebuck and Simnett (2011) report that analysts perceive CSR information to be more credible when assured, and also observe that credibility is highest when the assurance provider is an accounting firm. Knechel, Eilifsen, Wallage and van Praag (2006) report that accountants are the preferred assurance provider for certain types of services because

¹³ Note, once a company decides to voluntarily disclose certain ESG information, it is unlikely that the company will reverse that decision going forward given the potential harm to the firm’s reputation (Stanny 2013).

¹⁴ Additional evidence for a positive association between corporate social performance and financial performance can be found in van Beurden and Gössling (2008), Griffin and Mahon (1997), and McWilliams, Siegel and Wright (2006). A useful review and meta-analysis of the early research in this area is Orlitzky, Schmidt and Rynes (2003).

¹⁵ Current audit standards for ESG reports fall under the International Standard for Assurance Engagements (ISAE) 3000, *Assurance Engagements other than Audits and Reviews of Historical Financial Information*, with a specific standard applicable to greenhouse gas disclosures, ISAE 3410, *Assurance Engagements on Greenhouse Gas (GHG) Statements* (Simnett et al. 2009).

of the general reputation and independence of the accounting profession.¹⁶ However, Simnett et al. (2009) find that companies are not always more likely to hire an accountant to provide assurance for GHG reports.¹⁷ Thus, the relative value of assurance from an accounting firm may be conditional on entity and country factors such as culture, status of profession, and competitive sources of assurance (Zhou, Simnett and Green 2016).

Given the increasing role of ESG reporting in many companies, the appropriateness of assurance is relatively self-evident. Since the information is not financial, the biggest question looming over the profession is whether auditors will provide this assurance or will other service providers (e.g., engineers, consultants) make increasing inroads into what is likely to be a very competitive market. While auditors are not an obvious subject-matter expert for some types of environmental and social disclosures, their expertise in verification lends itself to a potentially expansive role in this market. Maintaining a diverse portfolio of subject-matter expertise is a direct benefit of a multidisciplinary practice. The ability to verify key quantitative information and to evaluate the process and controls used to develop, collect, and report this information, may give auditors a competitive edge in these assurance engagements.

An Emerging Challenge: The Case for Assurance of Cybersecurity

One of the most important emerging areas of disclosure for many organizations is cybersecurity.¹⁸ This focus is no longer a surprise given the nature of cyber breaches reported in

¹⁶ Other assurance providers include engineering firms, health and safety experts, and certification experts (e.g., Bureau Veritas). Assurance over CSR reporting seems to lag in the US (Simnett et al. 2009). Casey and Grenier (2015) present evidence consistent with the argument that this lag is due to the higher level of regulation in the US, particularly related to the social and environmental risks of the finance and utility industries.

¹⁷ Huggins, Green and Simnett (2011) argue there are benefits from using a multidisciplinary team for auditing GHG reports. Peters and Romi (2015) report that companies with a chief sustainability officer (CSO) are more likely to obtain assurance over CSR reports from a *consultant* rather than an auditor.

¹⁸ A recent speech by PCAOB Board Member Kathleen Hamm emphasized the need for financial regulators to focus on cybersecurity threats (PCAOB 2019). See <https://pcaobus.org/News/Speech/Pages/hamm-cybersecurity-where-we-are-what-more-can-be-done.aspx>.

the popular media. The breach at Yahoo, Inc. in December 2016 accessed more than three *billion* records.¹⁹ The most expensive breach, as of November 2017, was at Home Depot in 2014 and involved 108 million records and cost \$298 million to remediate. A breach that occurred at Target was executed through a fault in the point-of-sale system, a critical part of the accounting system. Garg, Curtis and Halper (2003) found that a cybersecurity incident could cost a company up to \$28 million *in 2002*. The Equifax breach in 2017 necessitated remediation costing \$87.5 million. The frequency and cost of breaches are likely to escalate. The problem may be even more important for cloud-based data storage (Duncan and Whittington 2016; Khan and Parkinson 2017) because of the complexity of systems and the attractiveness of the targets given their sheer size.

While there has not been a lot of research in this area from either a disclosure or assurance perspective, it is not hard to imagine that stakeholders would like to know more about what a company is doing to protect itself from a catastrophic cyber incident. A recent study by Li, No and Boritz (2020) reports that audit fees are significantly higher for companies that suffer a cyber breach, which suggests that auditors may already be assessing cybersecurity risks as part of the basic audit. The auditing profession has a significant amount of experience with internal controls related to information technology, and cybersecurity may represent a natural expansion of those experiences. Statement on Auditing Standards no. 70 (SAS 70), *Service Organizations*, was designed to assure whether a service organization's internal processes and controls were effective, especially controls related to processing data that belongs to customers of the service-provider (i.e., a forerunner of cloud computing). In 2011, SAS 70 was replaced by Statement on Standards for Attestation Engagements (SSAE) No. 16, *Reporting on Controls at a Service Organization*, and is now more generally covered under the AICPA heading of "Trust Services".

¹⁹ Cybersecurity statistics reported here come from a blog by Coleman (2017) posted on the Audit Analytics website.

Consideration of cybersecurity is accelerating in the profession. The Center for Audit Quality (CAQ) has developed guidance for boards on how to utilize public accountants to oversee risk management related to cyber threats (CAQ 2016). The American Institute of CPAs has also put out a set of materials to inform companies how they might report on risk management related to cybersecurity (AICPA 2018a).²⁰ Recently, the AICPA issued “SOC 2 Reporting on an Examination of Controls at a Service Organization Relevant to Security, Availability, Processing Integrity, Confidentiality, or Privacy” (AICPA 2018a) and a set of illustrative reports for cybersecurity risk management (AICPA 2018b). While few standardized disclosures exist at this time, the professional impetus to address risk management, reporting, and assurance related to cybersecurity is growing. Given the rate of change in technology, assurance related to information about cybersecurity is likely to become increasingly important.

A (Possible) Future of Assurance in Capital Markets

Some Obstacles

There is little doubt that shareholders, stakeholders, and markets could benefit from an increase in *assured* information. “The FRC believes that encouraging entities to prepare a high quality strategic report — which provides shareholders with a holistic and meaningful picture of an entity’s business model, strategy, development, performance, position and future prospects — is a key part of [fostering investment]” (FRC 2014, 3). Many organizations already have sophisticated reporting processes that integrate internal processes and controls, internal audit, corporate governance, and external auditing (see Figure 1). Unfortunately, much of the information flowing through an organization becomes highly constricted when it comes to external reporting, and what does go out may not be subject to assurance.

²⁰ The SEC also has issued Release nos. 33-10459 and 34-82746 that address disclosures for public companies related to cybersecurity and significant cyber incidents.

As illustrated in Figure 1, there are three obvious “filters” in the information process: (1) the choice/ability to capture and aggregate information; (2) the choice/ability to release information to the public; and (3) the choice/ability to obtain assurance over the information. These “filters” reflect different portions of the information supply chain. The first obstacle is embedded in internal processes and controls because a company cannot report what it does not know, and it cannot know something unless internal processes and controls are set up to reliably process the information. This constraint primarily depends on an organization’s willingness to invest in necessary systems and technology. The second obstacle reflects the willingness to communicate with outsiders and depends on corporate culture, management attitudes, and governance structures in place, and there may be uncertainty surrounding the company’s “return” on these disclosures. The third obstacle reflects the assurance “gate”. This bottleneck is the aspect of the information supply chain that most directly relates to the external auditor. It involves technical, economic, and possibly legal constraints. Significant investments may be needed to enable assurance of an expanded set of data. As with financial reporting, producing expanded assured information is subject to the economics of public goods so that many stakeholders may wish to see the information, but few may be willing to bear the cost of producing that information.

A Lesson from the Recent Past

Indicative of the potential challenges facing the audit profession, we can consider the experiences of auditors in the United States in the mid-to-late 2000s as they struggled to implement the requirements of the SOX-mandated *Integrated Audit*. The formal requirement to give an opinion on the effectiveness of internal control was challenging for the profession. The evaluation criteria to be used were generally vague and usually relied on guidance from the COSO reports on internal control (COSO 2013) or enterprise risk management (ERM) (COSO 2017). Many

auditors reported having troubles evaluating the nature and extent of risk assessment within an organization, one of the five key components of internal control as originally identified by COSO (2013). Particularly challenging was the need to define and identify deficiencies in internal control that might require disclosure as a material weakness.²¹ Additional challenges involved the need for adequate expertise; design of an appropriate testing, supervision and review process; and establishment of an organizational infrastructure to support the audit of internal control. Previous experience with internal control did not prepare auditors for the level of detail that needed to be considered in an *Integrated Audit*, especially relating to controls around data processing and system integrity in highly automated, technology-dependent environments. Supplemental expertise was often required within the audit team, creating new roles and demand for various types of specialists. Additional procedures needed to be designed and implemented, and additional training needed, to obtain the level of rigor envisioned by an *Integrated Audit*.

This experience highlights an important aspect of the auditor's role in the financial reporting ecosystem. The need to evaluate internal control at the level of detail envisioned by the auditing standard requires that auditors obtain a robust understanding of the components of the information system, including relevant risks, controls, and governance structures. These needs mean that individual auditors must often delve deeply into the inner workings of a client, working closely with client personnel, internal auditors, and technology experts. As a result, there has been a significant increase in the coordination between the auditor and the other elements of the information process. Further, as the volume of audit evidence derived from direct client

²¹ There is clear evidence that firms receiving an adverse opinion on internal control suffer adverse effects (Kim, Song and Zhang 2011; Ashbaugh-Skaife, Collins, Kinney and LaFond 2008; Li, Sun and Ettredge 2010; Rice, Weber and Wu 2015). However, even standard setters and regulators wrestled with the criteria appropriate for internal control over financial reporting as evidenced by the replacement of the original auditing standard (Auditing Standard 2, *An Audit of Internal Control Over Financial Reporting Performed in Conjunction With an Audit of Financial Statements*) with a revised standard (Auditing Standard 5, *An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements*) only three years later.

interactions expands, in contrast to impersonal documentary evidence, the ability of auditors to make sound judgments about evidence becomes more critical, an ability that develops with experience, maturity, and repeated interactions among stakeholders (Power 2003). Certain aspects of SOX also had the effect of significantly increasing the interactions with the board of directors, audit committee, and internal auditors (e.g., see Section 204). The increased level of interaction between the auditor and the client is both necessary and unavoidable (Knechel, Thomas and Driskill 2019) and is likely to be even more salient in situations with expanded assurance.

An Expanded View of the Role of Auditors in the Information Supply Chain

The idea of auditors being more heavily “integrated” into the financial reporting ecosystem may not feel natural for many stakeholders since auditor independence is a bedrock principle of the auditing profession. Regulators, investors, and boards have a natural abhorrence to undermining the independence of auditors. In the current audit model, however, auditors routinely and closely interact and coordinate with (1) internal process owners (corporate staff and accountants), to obtain information about controls and systems; (2) management, to obtain information about intentions, plans, risks, estimates, and valuations; (3) internal auditors, to obtain evidence about system risks, controls, and effectiveness; and (4) boards and audit committees, to assess their needs and to report conclusions from the audit. The use of different types of subject-matter experts, both internal and external, is also symptomatic of the need for coordination. Finally, the development of new technologies, especially as a result of the global pandemic in 2020, may mean that auditors will be even more integrated within client systems as more reliance is placed in the audit process on block chains, big data extraction, and process tracing.

Research in psychology, sociology, economics, and anthropology all find that human interactions will influence the attitudes and impressions of the parties involved. An auditor cannot conduct an engagement without extensive interactions with various participants, and it is inevitable

that auditors will be influenced by those interactions in subtle and subconscious ways. It is critical that an auditor maintain objectivity and an appropriate level of professional skepticism, but it is also important to understand how the increasing integration of the auditor in the financial reporting ecosystem, including coordination with other participants, can impact the quality and usefulness of the information that emerges from the reporting process. Emphasis on auditor independence and professional skepticism must never be sacrificed, but it is important to recognize the effect that *appropriate* coordination within the reporting supply chain can have on audit quality.

The production of information and financial reports is reflective of a professional service as described in Parasuraman, Zeithaml and Berry (1985) (see also Sampson (2010) and Knechel et al. (2019)). The literature on professional services points out that conducting a service engagement requires the participation of multiple stakeholders, and that the final result reflects the joint effort of both client-associated personnel and the service provider (i.e., auditor).²² Further, it recognizes that this joint effort may, in fact, involve an extended network of parties with potentially conflicting interests that have to coordinate their efforts to achieve a shared goal, in our case, reliable financial reporting (CPA Canada 2017). This view is also implicit in recent research on integrated reporting, which has noted that accountants should engage in “participatory processes ... for production of integrated reports” (Brown and Dillard 2014). Stubbs and Higgins (2014) further observe that adopters of integrated reporting encourage engagement in the process by internal and external stakeholders.

An audit has many attributes in common with other professional services, for example, the outcome is intangible and the service process must be adapted to a specific client.²³ This view

²² The service science literature typically refers to this coordination as “co-production”.

²³ Agency theory provides the common justification for audits. It also leads to a heavy focus on auditor independence since “coordination” is suspiciously viewed as the antithesis of “independence”. From this perspective, the relationship between clients and auditors is presumed to be adversarial. Agency theory may well explain the *need* for

leads to some general observations about auditing in the context of professional services (Knechel et al. 2019): (1) economic value arises from the participation, interaction and coordination of various elements of the reporting ecosystem; (2) the conduct of an audit involves a potentially wide network of participants defined by their unique roles and interests; (3) perceived value depends on the expectations of the participants and may be difficult to objectively measure; and (4) there is a fundamental tension between service quality and efficiency since standardization of a process tends to homogenize the unique requirements of the specific client. If audits are idiosyncratic, with an unobservable and uncertain outcome, then it would follow that the quality of an audit or expanded assurance is critically dependent on the quality, incentives, and coordination of the components of the information supply chain. The interaction of *multiple external stakeholders* (including the auditor) can serve as a counterbalance to the self-serving attitudes of a *single internal participant*.

Maintaining an independent professional attitude is critical because it is what a professional “knows” that makes them valuable (i.e., expertise). Failing to leverage that expertise can undermine the value of professional judgment. While independence-in-appearance is important, independence-in-fact may be more sustainable via the continual development of professional expertise *as applicable to a specific client* (von Nordenflycht 2010; Sharma 1997). The longer the client relationship, the more that each party makes engagement-specific investments that can improve the quality of the process and outcome (de Brentani and Ragot 1996; Sharma and Patterson 1999; Bell, Causholli and Knechel 2015). Long-term relationships tend to build trust,

audits, but it is less useful as a framework for determining the efficient and effective delivery of an audit. A service perspective acknowledges the complexities embedded in agency theory while also allowing consideration of the non-adversarial elements of the process that facilitate the production of reliable information (Knechel et al. 2019).

resulting in superior outcomes (Sharma 1997; Greenwood Li, Prakrash and Deephouse 2005).²⁴ In other words, superior knowledge within the context of a specific client provides a counterweight to internal/economic pressure that may arise in the process (Knechel et al. 2019) and can facilitate professional skepticism when needed (Hasson and Knechel 2019). Research on auditor-client negotiations is consistent with this observation, i.e., the better prepared an audit team, the greater the chance of obtaining a mutually beneficial outcome from the negotiation process (Gibbins, Salterio and Webb 2001; Gibbins, McCracken and Salterio 2010).

Finally, an important implication is that quality depends on the view of each participant in the information ecosystem. Audit quality can only be observed indirectly, and alternative views exist of what a high-quality assurance process may look like. Standard setters and regulators may adopt a specific view of audit quality, at least related to the *process* of assurance, but the reality of auditing is that there may be different paths that satisfactorily achieve a desired level of assurance (Knechel 2013). This implication is clearly applicable to expanded assurance opportunities and is consistent with recent research on audit quality:

“... the perception of audit quality can depend very much on whose eyes one looks through. Users, auditors, regulators and society — all stakeholders in the financial reporting process — may have very different views as to what constitutes audit quality ... The user of financial reports may believe that high audit quality means the absence of material misstatements. The auditor conducting the audit may define high audit quality as satisfactorily completing all tasks required by the firm’s audit methodology. The audit firm may evaluate a high audit quality as one for which the work can be defended against challenge in an inspection or court of law. Regulators may view a high quality audit as one that is in compliance with professional standards. Finally, society may consider a high quality audit to be one that avoids economic problems for a company or the market.” (Knechel et al. 2013, 385-386).

The Challenges of the Future

²⁴ While the profession and regulators have entered into an extended debate about whether long audit firm tenure undermines auditor independence and audit quality, there is little doubt that first time audits are much riskier than almost any other engagement (Chen, Ln and Lin 2008; Bell et al. 2015).

Further evolution in the auditor-client relationship is likely to follow as auditors expand their assurance into other areas of the organization — environmental, social, security, and governance — where they have previously trod lightly. Eventually, the ability of the auditing profession to extend the market for assurance services depends on the market demand for these services. While regulation can create an instant demand for assurance, developing a demand holistically is more difficult. Successful expansion of the supply of assurance services depends on at least four firm-specific factors (Figure 2): (1) specification of the *subject matter* for assurance (and adoption of appropriate criteria), (2) the nature of professional *expertise* to provide this assurance, (3) the *verification process* used to obtain assurance, and (4) the *organizational support* that is necessary to achieve high-quality outcomes. The dimensions are not independent, however, and all four factors must be developed in parallel. If auditors wish to turn the dial on the subject matter to be assured, they will also have to turn the dial on expertise, process, and infrastructure.

Subject Matter: Previously, I discussed three possible topics for assurance: (1) non-GAAP disclosures, (2) nonfinancial ESG information, and (3) cybersecurity risks. These are but a few areas where a demand for assurance may arise. I do not specifically address issues related to the reliability and security of client processes and systems in this paper, although they would also fit into this perspective. Technology could influence the nature of a subject matter that can be assured in two ways. First, developments in measurement technology have implications for *what* information can be reported (e.g., the company must have the ability to measure particulates in emissions before they can be reported). Second, technology will influence *how* information may be captured, processed, assured and reported. Technology may dictate how assurance is obtained and assurance can only be provided on information that is available to the client in a reasonably timely and reliable manner. As a result, technology will determine the boundaries of what is

feasible. Additionally, for information to be subject to assurance, a generally accepted set of clear measurement criteria must be developed and accepted by stakeholders since significant variations across organizations will reduce comparability and the potential usefulness of the information.

A successful service also requires a reliable source of demand and funding. That is, stakeholders must place enough value on the assured information to be willing to pay for it. This demand is likely to depend on the subject matter in question. One source of demand that the profession has long relied on has been regulatory mandates (e.g., the SEC Acts of 1933 and 1934 in the U.S. and Company Laws in other countries). However, even in the absence of a legal requirement, an economic demand may arise for specific types of assured information from various stakeholder groups who have the power to influence the decisions of an organization (e.g., audits for the purpose of obtaining a bank loan). As the demand for assurance over expanded information expands, demands for assurance from market participants may outpace the regulatory mandates for such assurance.

The current professional model in many countries is for auditors to contract directly with the reporting organization itself. Since many companies already obtain assurance over some non-financial information, at least in specific areas such as ISO 9000 compliance²⁵ and greenhouse gas emissions, the economic imperative and path for extended assurance may be readily established for non-GAAP, nonfinancial disclosures through a similar channel. However, it is also possible that assurance can be requested by external third parties. Different accounting firms may choose to offer assurance on different subjects, allowing firms to differentiate themselves in terms of their expertise in an otherwise homogeneous market for audits.²⁶

²⁵ Pivka (2004) finds that ISO 9000 audits add long-term value to an organization.

²⁶ Audit markets may not be as homogeneous as they appear. Prior research observes that certain types of client cluster by audit firm, meaning that a client of KPMG has more in common with other clients of KPMG than they do with like clients of EY, Deloitte or PwC (Brown and Knechel 2016; Gerakos and Syverson 2015).

Expertise: Obtaining adequate technical expertise related to a subject matter may be the biggest challenge for the auditing profession since they must be viewed as credible by stakeholders. As the subject of assurance moves farther away from financial information and processes, the need increases for non-accounting subject-matter experts (e.g., engineers, scientists, actuaries). Since outside stakeholders will rarely observe subject-matter experts that are included within an audit-based engagement team, credibility must arise from the general reputation of the audit firm. The need for subject-matter expertise to provide expanded assurance strongly suggests that engagement teams will be multidisciplinary, likely with both subject-matter experts and traditional auditors. Continued development of multidisciplinary practices and assurance teams (e.g., IT, ERM, valuation, engineering, and security specialists) will be of increasing importance, something that may only be efficiently and effectively accomplished in a large professional service firm (CAANZ 2019).

Obtaining subject-matter experts is mostly a matter of cost and coordination (i.e., hiring a subject-matter expert must fit within the cost structure of an expanded assurance engagement). *How* this expertise is acquired will likely influence the assurance process. If the subject-matter expertise is simply outsourced to other types of professional service firms, such as engineering consultants, it may undermine the economic imperative of having an *accounting* firm provide assurance. Subject-matter expertise is more readily observable and understood by third parties than expertise in verification, giving an independent expert a potential competitive advantage over an audit firm.²⁷ However, maintaining a high-level of multidisciplinary skills within a single firm may increase capital costs and raises potential management, coordination, and regulatory issues

²⁷ For example, an independent consultancy might use the knowledge of verification that they obtain while cooperating with an accounting firm to design and offer their own, competing assurance services not restricted by the tenants of the accounting profession.

that will also need to be addressed.²⁸

Verification Process: Establishing an effective verification process is probably the area where an auditor has the most unique competitive advantage. However, it is also a “skill” that is almost invisible to external stakeholders. An auditor provides credibility but that is directly linked to the ability to design, implement, and execute a reliable verification process, something a third party cannot observe or evaluate. Further, the value of assurance is contingent on the process having a reasonable cost. An ineffective process may create reputation and litigation costs, while an inefficient process may not be economically viable. Regardless of the subject matter being examined, the fundamental concepts of auditing are essential to establishing an effective verification process. Concepts such as inherent, control, and detection risk; materiality; and evidence are all applicable. Regardless of the subject matter, the ability of an auditor to assess inherent risk (i.e., the likelihood that a subject-matter assertion is inaccurate), evaluate control risk (i.e., the ability of the client to maintain reliable information processes and controls related to the subject matter), and minimize detection risk (i.e., the ability to discover errors or misstatements in information or deficiencies in the subject matter) are all pertinent to assuring non-GAAP, nonfinancial information. Materiality will also apply, particularly to quantitative information. Even in the case of assuring a process, materiality becomes a question of defining the nature of “significant” deviations much like identifying significant deficiencies or material weaknesses in internal control over financial reporting.

Finally, an assurance engagement draws on an auditor’s ability to obtain and evaluate relevant evidence. Identifying and evaluating risks and controls that protect against misstatements or manipulation may be just as important in an expanded assurance engagement as they are in a

²⁸ The large international audit firms already deal with this issue. The current debate about “audit-only” firms (Marriage 2018) after the Carillion scandal in the UK has important implications for the future of assurance services.

traditional audit. However, the substance of the relevant risks and controls are likely to be quite different, again pointing to a need for subject-matter expertise. The role of substantive testing will depend on the nature of risks and controls relevant to the assertions being examined, but will rely on evidence that is similar to that obtained in a traditional audit: confirmation, physical examination, observation, documentation, analytical testing, tests of accuracy, and client inquiry. Technology may also be critical to the verification of nonfinancial information since a company will need reliable information systems to produce the information. At the same time, the ability of the auditor to mobilize technology in the verification process could have a direct effect on the cost and quality of audit evidence. In short, the nature of the verification process will depend on the subject matter and assertions, but the evidentiary process would likely parallel that used in the audit of financial statements.

Organizational Support: Entering a new assurance market will require support from the entire firm which must possess the ability and willingness to invest in the necessary technology, data analysis, and process innovation. This issue gets to the heart of the information ecosystem and the auditor's role in assuring the information produced by the system. A new type of engagement may require new or augmented training, processes, data bases, support systems, audit processes, and quality controls. It will take time and money for a firm to develop the necessary support structures. New challenges in client coordination will also arise. In early engagements, the costs of developing these aspects of organizational support may outstrip the ability of the firm to generate fees, so initial engagements may serve as an investment for future revenue. To be economically viable, engagements must be profitable enough to allow amortization of the startup (and ongoing) investments. A potential by-product of expanded assurance may be that the audit of the financial statements benefits from the increased auditor skill set and understanding of the

client, its industry, and environment, which could partially offset the investment costs of expanding assurance services.

Moving Forward?

A final question to consider is where the primary impetus will come from for the potential expansion of assurance markets? This question has at least three important components: (1) Where does demand come from? (2) What should be reported? (3) Are auditors the right professionals to provide this assurance? The first issue reduces to a simple question of “who pays”? The push to expand assurance services could come from regulators who mandate the audit of certain information or clients or stakeholder who desire expanded assurance, either of which create demand. Alternatively, the profession or audit firms could design new services related to expanded information which creates supply. A regulatory mandate creates an instant demand but does not necessarily lead to an efficient service market if stakeholder needs are not well represented. Demand from specific clients or stakeholders may not generalize to the broader market, resulting in high engagement-specific costs. In reality, no single source of demand may make a service economically viable.²⁹ On the other hand, the profession has had some experience with expanded assurance in the past but their hits (*SysTrust*) and misses (*WebTrust*) suggest that they cannot always accurately read the market. An audit firm may choose one or more specific niches in which to expand but also has to consider service costs and their ability to build market penetration, especially in the absence of a regulatory mandate.

The second important issue that will influence the demand for expanded assurance is the specification of the *criteria* that should be used to report information related to a subject matter.

²⁹ Reliance on public demand alone increases the possibility of under-production since assurance is a public good (Stewart 2006), although it is not clear if regulatory intervention will result in an appropriate equilibrium for assurance. However, some researchers have argued that agency costs push auditing to an efficient level (Wallace 1981).

In theory, reporting criteria can be developed by different stakeholders. For example, the reporting entity can specify what they want to report, and decide how to report it, but they may also be perceived as being selective and opportunistic in their reporting decisions and disclosure is likely to lack consistency across organizations. For example, non-GAAP reporting became more useful after the passage of Reg G by the SEC and the requirement to provide a reconciliation with GAAP results. The assurance provider may be less opportunistic; however, they may contribute to a lack of comparability as different providers focus on different data, adopt different measurement criteria, and develop different reporting formats. The accounting profession itself may focus too much on information that is readily verifiable or undervalue some types of information. A third-party (e.g., trade) organization may be too responsive to members of the industry while not responsive enough to other stakeholders or may create criteria for which verification is difficult and evidence is lacking. Finally, independent standard setters may put too much emphasis on a single standardized set of reporting rules. In the end, expanded assurance is most valuable when the subject matter and criteria are agreeable to a broad range of stakeholders.³⁰

The third issue is the hardest to answer. While it may be obvious that an audit firm can develop the services envisioned in this paper, they have to operate under some important handicaps. Regulatory intervention to prevent some services in the name of protecting the quality of financial statements audits is an obvious constraint. Non-audit professionals may be subject to much less regulation allowing them more freedom to pursue these opportunities.³¹ Audit firms may also have to overcome the perception that they are not capable of dealing with technical, scientific, or engineering information. On the positive side, accounting firms are generally much

³⁰ A related question also arises: What is the appropriate level of assurance to offer? High assurance (i.e., an audit)? Moderate assurance (i.e., a review)? Or assurance through agreed-upon procedures?

³¹ An interesting what-if scenario is the potential takeover of an audit firm by an engineering firm (or other organization) to obtain the verification expertise of auditors.

larger than comparable organizations in other professions, meaning, they have the financial wherewithal to sustain a financial commitment to develop a high quality non-financial assurance service. They also have an established reputation for independence that might sway stakeholders to rely on audit firms for some expanded services. In the end, only experience will reveal if accounting firms can be successful in developing the economic imperative of expanded assurance.

Conclusion

The value of the traditional audit has been well-established for decades. The recognition that auditing provides valuable economic benefits through the reduction of information risk can encourage a broader view of the potential for assurance services. However, the challenges to the profession are not new. As recognized by Arthur Andersen when establishing his firm, once viewed as the “gold standard” of auditing: *“It has been the view of accountants up to this time that their responsibility begins and ends with the certification of the balance sheet and statement of earnings. I maintain that the responsibility of the public accountant begins, rather than ends, at this point,”* (Arthur Andersen 1913).³² Although early efforts to expand assurance services have not always been successful, the economic imperative for the profession to rise to the opportunities of expanded assurance has never been stronger. As noted above, there are numerous areas where auditors may be well-positioned to expand the nature of assurance, whether in terms of the accuracy of information or the reliability of information processes.

An auditor’s verification skills can apply to many types of information and situations. Further, auditors are a critical element of the information ecosystem of an organization. Rising to the challenges of expanded assurance may be an inevitable evolution, or it could be a survival necessity, for the accountancy profession. This expansion can only happen if markets place a

³² <http://encyclopedia.jrank.org/articles/pages/6081/Andersen-Arthur.html>.

reasonable economic value on expanded assurance or may be facilitated by regulatory intervention. In either case, the fundamental economic value of information, and the need to reduce risk surrounding information and processes, may spur the continued development of these services. Significant changes in the accounting profession to facilitate the expansion of assurance services will be subject to regulatory constraints which may also trigger reconsideration of the nature of those regulations, as well as some of the traditional and long-held tenets of what it means to be an auditor. Is auditing inherently an “accounting” discipline, or is it a separate field which subsumes some aspects of accountancy? The future expansion of assurance services may reflect a potential bifurcation of auditing, or at least assurance, and accountancy. Market and regulatory forces will have much influence on the development of these services going forward but the economic, social, and political imperative for expanded assurance is strong and growing.

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FIGURE 1

The Information Supply Chain and Critical Constraints on External Reporting

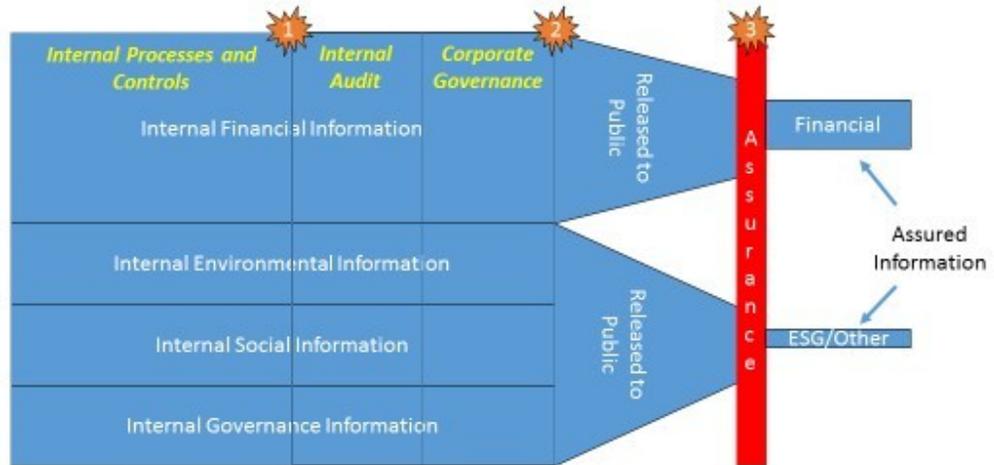


FIGURE 2

Expanding Assurance to Non-GAAP, Nonfinancial Information

