IMPLICATIONS OF SECTION 201 OF THE SARBANES/OXLEY ACT: FEASIBILITY AND CONSEQUENCES OF THE PROHIBITION ON EXTERNAL AUDITORS ENGAGING IN CONSULTING AND INTERNAL AUDITING

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Abstract

In the wake of the Enron and Andersen scandals, Congress passed the Sarbanes-Oxley Act of 2002, Section 201 which was aimed at ending the practice of auditing firms providing management consulting and internal auditing services to their clients. Consulting and assurance lie on a continuum and clearly there is no ambiguity between the two when comparing the endpoints of that spectrum, for example, financial statements attestation versus strategy formulation or CRM software implementation. But precisely because it is a continuum, a fundamental question arises as to whether a clean break can be made between the two, or whether it will always be a source of contention as to where assurance ends and consulting begins. Similarly, the Section 201 ban on the outsourcing of internal auditing to the external auditor raises the question of whether internal and external auditing can be neatly differentiated, or whether, as in the case of auditing and consulting, the line between them is a matter of degree. What we show in this paper is that the very way in which auditing is carried out inevitably presses auditors against the consulting and internal auditing boundaries, because the act of comparison of firm data against audit benchmarks almost always generates new information about anomalies in the firm's control systems. The auditor is then in the best position to resolve those anomalies, but doing so potentially violates the ban on consulting and internal audit type work. Our objective in this paper is not to argue that the provision of consulting and internal audit services does not have the potential to compromise auditor independence, nor that Congress should not have taken action on these issues. But we feel that there is a need for all parties to more clearly understand how the conflict between consulting and auditing emerges from the very essence of how an audit is carried out, and therefore, why separating the two have real costs as well as benefits. In particular, implementing Section 404 of the Sarbanes/Oxley Act highlights the tradeoffs inevitable from the ban on auditors doing any consulting type work for their clients or working with the firm's internal auditors, even when, as in this instance, that work is designed to enhance the effectiveness of the reporting process. In the long term, a more important disadvantage is the barrier the ban on consulting type work imposes on the development of continuous auditing practices.

1. INTRODUCTION

TITLE II FAUDITOR INDEPENDENCE
SECTION 201: Services Outside The Scope of Practice Of Auditors

(a) PROHIBITED ACTIVITIES- Section 10A of the Securities Exchange Act of 1934 (15 U.S.C. 78j-1) is amended by adding at the end the following:
(g) PROHIBITED ACTIVITIES- It shall be unlawful for a registered public accounting firm (and any associated person of that firm, to the extent determined appropriate by the Commission) that performs for any issuer any audit required by this title or the rules of the Commission under this title or, beginning 180 days after the date of commencement of the operations of the Public Company Accounting Oversight Board established under section 101 of the Public Company Accounting Reform and Investor Protection Act of 2002 (in this section referred to as the `Board'), the rules of the Board, to provide to that issuer, contemporaneously with the audit, any non-audit service, including--
(1) Bookkeeping or other services related to the accounting records or financial statements of the audit client;
(2) Financial information systems design and implementation;
(3) Appraisal or valuation services, fairness opinions, or contribution-in-kind reports;
(4) Actuarial services;
(5) Internal audit outsourcing services;
(6) Management functions or human resources;
(7) Broker or dealer, investment adviser, or investment banking services;
(8) Legal services and expert services unrelated to the audit; and
(9) Any other service that the Board determines, by regulation, is impermissible.

The Enron scandal and the alleged role played in it by Arthur Andersen resulted in Congress passing the Sarbanes-Oxley Act of 2002, Section 201 of which requires auditors to separate themselves from activities that are deemed to be outside their core duties, in particular consulting (such as Financial information systems design and implementation) and internal auditing (Congress, 2002). The fact that Andersen received more from consulting for Enron than it did in audit fees • the now infamous $27 million versus $25 million in 2001 • is widely held to have prejudiced its independence and its incentive to question the actions of Enron management.[1] Even prior to the passage of the act, some

[1] The academic literature has failed to reach consensus on whether consulting affects auditor independence. In one of the first studies on the subject, Frankel et al (2002) received much publicity for their

businesses had effectively implemented such a separation on their own, by hiring another accounting firm to conduct the management advisory services previously carried out by their external auditor. The calls for separation came despite the move by several of the Big-5 accounting firms over the last few years to divest themselves of their consulting divisions, notably the spin-off of Andersen Consulting into Accenture and the sale of Ernst & Young Consulting to Cap Gemini. Clearly, this was seen as an inadequate step, especially as Andersen then promptly rebuilt a new consulting arm, Arthur Andersen Consulting.[2]

While Section 201 has now mandated the separation of auditing from consulting, the seemingly inexorable ties between the two raise the question of what auditing means in business today and what exactly is its relation to consulting. Consulting and assurance lie on a continuum and clearly there is no ambiguity between the two when comparing the endpoints of that spectrum, for example, financial statements attestation versus strategy formulation or CRM software implementation.[3] But precisely because it is a continuum, a fundamental question arises as to whether a clean break can be made between the two, or whether it will always be a source of contention as to where assurance ends and consulting begins. A similar question arises about the consequences of separating external from internal auditing. While Section 201 only outlaws the outsourcing of internal auditing, the general attitude embodied in the Sarbanes-Oxley Act that auditors should focus on their core duties has resulted in auditors being very careful that they are not seen as intruding into the internal audit function in any way.

The debate over the appropriate scope of assurance services and how practicable it is to sharply define their boundaries is impacted by widely differing views on what auditors do in the first place. To the American Institute of Certified Public Accountants (AICPA) the distinction between assurance and consulting is drawn on the basis of whether the engagement results in better decision making by the client or better outcomes for the client. On this basis, consulting naturally flows from assurance, as an efficient means of helping the

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work which seemed to show that the amount of consulting revenues earned by an auditor is correlated with the magnitude of discretionary accruals—a commonly used measure of earnings management—in the client's reported earnings. But subsequent research, for example, by Antle et al (2002), Ashbaugh et al (2003) and Whisenant et al (2003), has found no such association.

[2] In these cases of divesture there remain issues with the residual ownership of the divested firm by the audit firm—for example, Ernst & Young owns 40% of Cap Gemini. Is independence preserved if a firm passes over consulting activities to the divested consulting arm and profits from it? Will anyone talk to us after this paper?

[3] Anderson (2003) provides an interesting discussion of the assurance/consulting continuum.

client operationalize information generated in the process of doing assurance. By contrast, to the congressional critics who promulgated Section 201, auditors need to focus on their core function of verifying management assertions, a task that may sometimes require an adversarial attitude that could be compromised if auditors depend on those managers for any non-audit business. From that independence perspective, consulting and involvement with internal outsourcing is clearly "outside the scope of practice of auditors".

The ability to reconcile these differing viewpoints is constrained by the fact that much academic research on auditing is mainly focused on the 'moral hazard' issue between the principals and agents.[4] The problem is that in this paradigm the auditor is restricted, by construction, only to verify existing information, and so these models are mute on the creation of new information. Thus the analytic literature sidesteps the question of when auditing intersects with consulting. The narrowness of this perspective can be judged from the fact that even non-systematic material misstatements are assumed away in the academic model, the correcting of which, is, in practice, the lower bound on the amount of improvement to the quality of information provided by auditing.

Clearly, there is an urgent necessity to rethink the scope and purpose of an audit, and in this paper we propose an approach based upon an analysis of how information is generated in an audit. By coming at the issue from the perspective of audit methods, we find that the ambiguity between consulting and assurance or internal auditing is an inescapable outcome of the difficulty in separating audit practices, which are designed to verify compliance, from consulting engagements which explicitly aim to improve company's operations by examining its control and information systems. We show that the very act of auditing, which in its essence, consists of comparing company's data against some expected benchmark almost inevitably results in the generation of new information about potential failings in the company's control systems. The question is who should investigate and correct those anomalies: the auditor is in the best position to do so, but that potentially crosses the line into consulting, while having yet another third party do so results in duplication of effort and higher societal costs. The auditor could also cooperate with the

[4] The principal (stock holder) cannot observe directly the actions and results of the agent (management), and therefore needs a trusted third party to attest for their faithfulness. See Antle (1982) or Magee and Tseng (1990). Orginal paper is Ng and Stockenius.

internal auditor, but auditors have become much more cautious in the wake of Section 201 in what they pass on to internal auditors and how much they rely on their work.

Some commentators on these issues have adopted a classification based approach to the question of what comprises the appropriate activities of an auditor, simply listing what services they feel fit with auditing and which do not. This is the approach that was followed by Congress in Section 201, but it isn't a substitute for a conceptual framework for helping distinguish between consulting and auditing. This empirical, as opposed to a normative approach does not provide a means of understanding such issues as what types of consulting services truly benefit the audit, and when they can compromise independence. The classification approach also does not explain the dynamics of the consulting/audit boundary, which has meant that in practice, even divestiture has provided no guarantee against "mission creep" by auditors—as demonstrated by the example of Andersen, which actively built up a replacement audit business after the split with Andersen Consulting. By showing that the act of auditing almost inevitably results in an intrusion into consulting, we would suggest that the classification based approach to banning consulting is both too coarse a control and one that will result in an ever increasing list of excluded activities.

Our objective in this paper is not to argue that the provision of non-audit services does not have the potential to compromise auditor independence, nor that Congress made a mistake in passing Section 201. But we feel that there is a need for all parties to more clearly understand how the conflict between consulting or internal auditing and auditing emerges from the very essence of how an audit is carried out, and therefore, why constraining what activities an auditor can perform has a real cost as well as benefits.

The next section of the paper examines the difficulty that the AICPA had in drawing a distinction between assurance services and consulting, prior to the Section 201 ban. Section 3 then makes the central point of our paper, that auditing is a dynamic process of information generation, which makes the separation of auditing from consulting and internal auditing both difficult and costly in terms of information loss and misallocation of effort. This point is extended in Sections 4 and 5 which examine the effect of the consulting and internal auditing ban on the implementation of Section 404 of the Sarbanes-Oxley Act and on the development of the emerging field of continuous auditing. Section 6 offers some concluding comments.

2. How to Define the Difference between Auditing and Consulting?

The AICPA (1997) examined the issue of what auditing is and how it differs from consulting in its study of the future of assurance services and it drew the conclusion that,

> "The difference between consulting and assurance services is based on the goal of the engagement. Consulting services focus on outcomes, assurance services focus on decision-makers and the information they use. Consulting services are designed to improve the client's condition directly. Assurance services attempt to help decision makers (who might not be the client) arrive at optimum decisions. An assurance service is intended to improve the decision maker's condition only indirectly (that is, through the use of high-quality information for decision making). The provision of assurance services involves work that results in the practitioner's recommendations for improvement, for example, in an entity's processes. Attestation assurance services generally result in such ancillary recommendation.[5]

The AICPA expands on the distinction between consulting and auditing in the following table, which is revealing of the difficulty that the profession evidently faced when trying to draw a line between the two:

Table from AICPA: Assurance Services – Definition and Interpretive Commentary[6]

	Attestation	Assurance	Consulting
Result	Written conclusion about the reliability of the written assertions of another party.	Better information for decision-makers. Recommendations might be a byproduct.	Recommendations based on the objectives of the engagement.
Objective	Reliable information.	Better decision-making.	Better outcomes.
Parties to the engagement	Not specified, but generally three (the third party is usually external); CPA generally paid by the preparer.	Generally three (although the other two might be employed by the same entity); CPA paid by the preparer or user.	Generally two; CPA paid by the user.
Independence	Required by standards.	Included in definition.	Not required.
Substance of CPA output	Conformity with established or stated criteria.	Assurance about reliability or relevance of information. Criteria might be established, stated, or unstated.	Recommendations; not measured against formal criteria.
Form of CPA output	Written.	Some form of communication.	Written or oral.
Critical information developed by	Asserter.	Either CPA or asserter.	CPA.

[5] http://www.aicpa.org/assurance/about/comstud/defncom.htm

[6] The table can be found at the web site mentioned in the prior footnote. Note that the authors of this paper do not necessarily endorse the statements made in the table. It is presented solely to convey the point of the view of the AICPA.

Information content determined by	Preparer (client).	Preparer, CPA, or user.	CPA.
Level of assurance	Examination, review, or agreed-upon procedures.	Flexible, for example, it might be compilation level, explicit assurance about usefulness of the information for intended purpose, or implicit from the CPA's involvement.	No explicit assurance.

To the AICPA, the distinction between the different types of engagements comes down to whether their output helps the client directly (in the case of consulting) or indirectly, through improved quality of information (assurance), and it does not shy away from the fact that it is not always clear-cut when an assurance engagement slides into consulting:

> "Distinguishing assurance and consulting services is not always easy, similar goals can be achieved through either approach. For example, a client that wants information about the quality of its internal controls could engage a CPA to provide a critique with suggestions for improvement under the consulting standards or provide a report on internal controls effectiveness under the attestation standards."

The difficulty that the AICPA has in drawing a line between auditing and consulting is not surprising given that the auditor, in his letter to management, provides constructive comments on controls and other matters. But the ambiguity felt by the AICPA stands in stark contrast with the point of view expressed by Congress and the media post-Enron, to whom it is apparently self-evident that only greed and lack of ethics prompts auditors to offer consulting services. The concept of auditing evidently held by these critics is that it should be no more than compliance attestation: the certification of whether financial statements are prepared in accordance with GAAP (Generally Accepted Accounting Principles) and contain no material misstatements. Proceeding from this assumption, it follows to these critics that it is a trivial matter to make auditors go back to only doing auditing • and that they should be forced to do so by law, since consulting was too lucrative for them to abandon the practice voluntarily. But as we argue in this paper, this simplistic argument ignores the key difficulty that audit firms face in cleanly separating what they do in auditing from what is done in consulting.

The audit profession has long recognized that the goal of compliance attestation requires more from the auditor than the mere checking of how the firm closes its books.

The wider scope of auditing held by practitioners can be seen from the textbook definition of auditing: "Auditing is the accumulation and evaluation of evidence about information to determine and report on the degree of correspondence between the information and established criteria. Auditing should be done by a competent, independent person."[7] By this characterization compliance attestation is simply a special case in which the quantifiable information is the annual financial statement of a publicly traded company and the established criteria is GAAP.

The point auditors make is that assuring GAAP compliance is not a yes or no question. GAAP only provides a (incomplete and imperfect) measurement standard, and the auditor has to look at the economic activities, their measurement, and then whether their reporting is according to GAAP, to see whether in totality the company's financial statements fairly reflect its performance and financial position. To accomplish this requires the auditor to develop expertise in the company and its industry. As companies have become more specialized, both on the operations side and with the use of customized derivatives on the financing side, the level of expertise needed to adequately audit has also increased immeasurably.

The consequence of the dramatic increase in the level of expertise required to properly conduct an audit is to greatly increase the fixed costs of an audit and the level of investment in personnel and technology needed to stay current with a changing client. But as Williamson (1985) points out, dedicated investments of that sort inevitably impact the relationship between buyer and seller. In the case of audits, the threat to the independence of the auditor increases as the time period needed to recoup investments in a client increases.[8] Having a large overhang of fixed costs can constrain the auditor's freedom of action, but there is no obvious way of avoiding such a situation, short of refusing to make any kind of company-specific investments, as opposed to training and hiring decisions that enhance audits of all clients. Independence depends on the ability of the auditor to walk away from an engagement rather than acquiesce to company management • and its

[7] Arens and Loebbecke (2000, page 9). The AICPA's definition of assurance services is even broader: "Assurance services are independent professional services that improve the quality of information, or its context, for decision makers." (From http://www.aicpa.org/assurance/about/comstud/defncom.htm).

[8] http://www.aicpa.org/assurance/about/comstud/assind.htm: "Assurance independence is an absence of interests [economic or psychic] that create an unacceptable risk of material bias with respect to the quality or context of information that is the subject of an assurance engagement."

credibility when making such a threat. This is an issue that has received less attention in the current debate about banning consulting.

It is important to note that the level of in-depth knowledge required to carry out an audit appropriately does increase the ability of those auditors to offer non-audit services to the client. While this is now perceived as a clear threat to the auditor's integrity, there is an alternative perspective. Doing consulting allows the auditor to cover his fixed costs more quickly, thereby restoring some balance to the auditor–client relationship. Consulting also facilitates in acquiring the company and industry specific expertise which can be transferred back to auditing and result in the improvement of audit quality. The problem arises from the allegedly relatively greater profitability of consulting (albeit, accompanied by greater volatility) and its much greater potential for growth, which can over time result in a distortion of the auditor's incentives. Some critics argued that as a result auditors were tempted to use the audit as a loss leader, by lowballing their audit fees, hoping to recoup their audit losses and get higher profits from consulting.[9] In the environment of mostly fixed audit fees, this strategy may lead to insufficient effort, acquiescence to the client, and therefore compromised quality of statutory audit. The critics claim that it is to avoid this problem that auditors have to be prohibited from offering consulting services to their audit clients. It is further suggested that such prohibition does not prevent the auditors from obtaining higher and faster returns on their investment in industry-specific expertise, if the auditors are allowed to offer consulting services to other companies in the same industry that are not their audit clients. This argument is used to justify the claim that prohibiting the auditors only from offering consulting services to their audit clients should not result in any unnecessary societal costs. In the next section we examine the validity of this assertion.

3. Impact of Section 201 on Internal Control Improvement

To understand why any complete separation between auditing and non-audit services, under which the auditors are prohibited from offering consulting services to their

[9] Antle and Gitenstein (2000), however, argue that auditing is more profitable than it is often said to be, thus undercutting the widely held public perception that it was used as a loss leader for consulting. Indeed, their study shows that assurance services have the highest profit margin before partner compensation per dollar of revenue, while consulting is by that measure, less profitable than either assurance or tax services. Of course, independence is threatened by perception as well as by reality, and consulting did have the highest overall gross profits.

audit clients, and effectively maintain an arm's length relationship with the client's internal auditor, inevitably leads to unnecessary societal costs, one has to consider the effects that a statutory audit should normally have on the internal management control system. In an ideal world in which the company's control systems were 100% reliable, the auditor, in his examination of these controls, would find no anomalies. Thus any comments that the auditor would make regarding controls in his management letter would focus on their completeness and not on shortcomings of existing controls. Of course, real systems are never perfect, and the audit process inevitably identifies certain discrepancies that have to be investigated in the existing set of controls. These abnormal events are identified by certain audit tests and procedures conducted as part of the audit process. The probabilistic properties of the stream of abnormal events captured by the audit process can provide important information about the root causes of these variances. Kogan, Sudit and Vasarhelyi (1999, page 94, emphasis in the original) formulate an important hypothesis about these probabilistic properties:

> "… since the auditing system is by its own nature a parallel system, it should not be relied on for routine control functions, i.e., for detecting systematic problems. … If the stream of audit alarms is not completely random, then the COA system is probably being relied on for some systematic signals. These signals should be normally provided by the internal management control system."

While Kogan et al. raise this point in the limited context of continuous auditing,[10] their argument is much broader, and speaks to assurance as a whole, having particular significance for the debate over the boundary between auditing and consulting, or between external and internal auditing. If the stream of abnormalities drawn from a comparison between the company's information flows and the established criteria is not truly random, then the audit process is generating new knowledge about systematic deficiencies of the company's internal control system, and the auditors are responsible for communicating this new knowledge to the management and/or board of directors. This particular outcome of the audit process is not that dissimilar from the outcome of a consulting engagement focused, say, on competitive benchmarking, or even, at a more prosaic level, on variance analysis, since the act of comparison is inherently a search for new information, not a confirmation of existing knowledge. **The fact is that, since no management control system is perfect, there must be new knowledge gained from conducting an audit.**

[10] See Alles, Kogan and Vasarhelyi (2002, 2004) for a discussion of continuous auditing, which we shall also examine in greater detail later in this paper.

This is a profound point, which undercuts both the AICPA's attempt to distinguish between consulting and auditing and the critics' argument that auditing should be no more than GAAP attestation. The fact that, since no management control system is perfect, there must be new knowledge gained from conducting an audit, makes it hard to sustain either an assumption that all an audit does is to either check on GAAP compliance alone, or that it does not influence decision making.

This perspective also stands in stark contrast to the way in which audits are often modeled in accounting research, where the auditor is used to monitor the effort input or private information of management. This is much more like the AICPA view of audits improving information quality through third-party verification rather than a setting in which audits actually contribute to and shape the information set of the firm. In a principal/agent model of auditing, it is the initial statement of the manager regarding his performance that is value relevant to the company and all that the auditor does is to confirm the truthfulness of that disclosure—if the statement could be checked by other means then the audit serves no purpose. In practice, however, neither the company nor its managers know everything about the company, how its performance should be measured and what it should be compared against, so when an audit test yields non-random results, that is an indication to all parties that their underlying beliefs need to be updated. Such an implication is ruled out in the principal/agent models by the assumption that there is full knowledge about all aspects of the "game" other than the agent's private information.

By way of contrast, consider the following example of a non-random audit test result and its consequence: The introduction of continuous online auditing methodology at a major health care services provider enabled analytical reviews to be conducted on accounts payable at an unprecedented level of details.[11] These test revealed a non-random event:, a spike that was regularly observed in the time to clear accounts, which, upon further investigation, turned out to coincide with the days on which the most experienced account clerk was regularly absent due to family obligations. Thus the need to better standardize the abilities and training of the account clerks was made apparent. Now, as it happens, the company's internal auditor, not its external auditor, undertook this particular exercise in continuous

[11] This example is drawn from the actual experience of a major health services provider that was communicated privately to the authors.

assurance. But analyzing payables is a standard task in an external audit, and moreover, the external auditor would have to review this analysis, even when undertaken by the internal audit department, and sought explanations for any anomalies.

In general, if the abnormalities detected by the audit process do not appear to be random, then their root cause is very likely to be a systematic problem in the internal management control system. It is important to analyze what feature of the audit process enables it to detect systematic abnormalities. It is often the case that the capability of the audit process to detect such non-random abnormalities is due to the development by the auditors of special procedures or sets of test focused on potential systematic problems.[12] For example, in the case of the audit of accounts payable, the internal auditor developed special procedures to identify duplicate payments. Then, if this audit sub-process identifies some duplicate payments, the auditor will have to address this issue with the management and make sure that the identified duplicate payments are recovered. However, such a recovery, while correcting the problem in this particular audit, will stop short from addressing the underlying systematic problem with the internal management control system.

Since an audit is an on-going process (except for the last year in a term-limited contract), if there is a non-random signal one year because of a systematic problem, then it is likely to reoccur the following year too, unless the systematic cause is dealt with. If the management does not fix the problem, then the audit process will continue dealing with and correcting for a non-random stream of abnormalities generated by the systematic problem. In this case, the audit process will in effect become a part of the managerial control system, since it will have to correct issues caused by systematic problems. This is not an acceptable outcome, since it will result in the audit itself institutionalizing inefficiency and error, which is contrary both to the requirements of professional standards, the spirit of an audit and to what investors think an audit is supposed to do. Such an outcome should not normally occur since the auditor will address the identified systematic control weakness in the management letter, and the management will be compelled to modify its controls to eliminate the weakness. The management has three different ways of eliminating this control weakness. First, it can utilize the control sub-system developed by the auditor. Second, it can hire a

[12] In general terms, if a particular abnormality type is identified, it is usually possible to develop specialized audit procedures for its detection and potentially for automatic correction.

consultant to develop a new system to remedy the identified control weakness. Third, it can employ its own stuff to develop such a system.

Since capability of the auditor to catch the anomalies and identify control weaknesses is enabled by the development of specific focused audit tests for such purposes, and given that the auditor has already developed specific tests to identify the anomaly, the elimination of duplicate payments as a systematic source of audit events can be generally achieved by a transition of the system developed by the auditor into the internal managerial control system. The additional benefit of such transition is the possibility of running duplicate payment tests before sending the checks, thus converting a detective control into a preventive one. Such transition will be usually viewed as consulting, however, and will likely be classified as remediation service on the assurance/consulting continuum of Anderson (2003), especially because it is a fair expectation on the auditor's part to be compensated for this system.

Such additional compensation can be justified by several considerations. First, even though the sub-system, such as the duplicate payment detection system, has already been developed, its transition into the internal managerial control system will require some extra work on the part of the auditor. Second, the auditor may have to develop additional audit tests and procedures to make sure that this system continues to operate properly under management's supervision. The compensation discussed here is nothing else but a remediation service consulting fee. It is realistic to expect that this fee will be significantly less than what has to be paid for developing a new remediation sub-system from scratch (either in house or outsourced). The reason is two-fold. First, the cost of the required additional transition and audit work is significantly less as compared with the alternatives. Second, the auditor has to underbid the alternatives to make this engagement attractive for the client. One may disagree with the latter claim, arguing that even if auditor's consulting fee simply matches the alternatives, the client may still decide to give the remediation engagement to the auditor in hope of inducing more lenient treatment of possible audit issues. A way to mitigate this problem is to require disclosure of both audit and consulting fees paid to the external auditor, thus creating a counteracting disincentive towards hiring the auditor for the remediation engagement.

The **ongoing transition** of auditor-developed systems into operations will result in the elimination of non-random components from the stream of audit events, and in a

continuous decrease in the rate of audit events. At the same time, the ongoing development of new audit tests and new audit subsystems should result in the identification of additional irregularities ("higher-hanging fruit"). This, in turn, will result in some increase in the rate of audit events, which can partially offset the decrease mentioned above. If a "steady state" is achievable in these processes, then the audit system should be processing truly random events which are not due to any systemic reasons, and the rate of arrival of such events should be fairly low, which is indicative of a well-controlled managerial system.

If the auditor is precluded from transitioning auditor-developed systems into the company's operations, then the company will have to invest into developing an alternative system by itself, or into hiring a management consultant other than the external auditor to do the job. But there is no guarantee that this other party would obtain the same insights into the company that the auditor did. For one thing, the external auditor has a quasi-legal status when obtaining information, which is not enjoyed by a management consultant. A client developed system may also eliminate the systematic problem and improve the internal control system, but it will be clearly inefficient from the societal point of view, since it will very likely duplicate what the auditor has already done.

One can argue that in our example of duplicate payments, the problem can be eliminated as a result of implementing a tight integration between purchasing, accounts payable and the general ledger, e.g., after a fairly complete implementation of an ERP system. However, it is not very likely that a company will implement a fully integrated ERP system just to solve the problem of duplicate payments. It is much more likely that an efficient solution to the problem of duplicate payments, no matter who implements it, will be quite similar to the system of various statistical and logical tests that the auditor had to develop to detect them in the first place.

The example of duplicate payments discussed above is not an isolated special case. Similar considerations apply to numerous other audit tests and procedures, such as those developed to identify lost volume discounts in the audit of accounts payable, undercharging for goods or services, un-reimbursed services and unjustified discounts in the audit of sales, excess inventory in the audit of inventory, etc. All such audit sub-systems share the property that they not only enable the auditors to find anomalies and identify control weaknesses, but they can also be utilized as controls in the management system to prevent anomalies from

happening in the first place. These systems have to be either transitioned into or re-implemented in the internal managerial control system to eliminate systematic sources of errors. If the external auditor is not allowed to transition such systems into operations, then either a third party consultant or company's own stuff will have to develop an alternative. This suggests that from the point of view of maximizing social welfare, complete separation of audit from consulting as mandated in Section 201 will result in additional societal costs, stemming from an inefficient duplication of effort.

4. Section 201 Effects on Auditor Rotation and Section 404 Compliance

It is important to note that if the auditor is allowed to transition into operations some of his tests and procedures, then after a while, inevitably, certain components of the managerial control system will be essentially developed by the auditor. While this improves the managerial system, it will also create a problem with auditor's independence in an ongoing engagement—the auditor will have to audit a part of his own work, thus resulting in "psychic dependence", which is how the AICPA defines a lack of independence.[13] The longer the term of a properly conducted audit engagement, the more serious the independence problem will become. A natural way to deal with this issue seems to impose limits on the term of auditors, i.e. to mandate the rotation of auditors. As was discussed by Alles et al. (2003), rotating auditors might create problems and societal costs of its own, such as steep learning curve and the associated higher probability of audit failure in the early stages of the engagement.[14] . The issue is if auditor rotation benefits are larger than its cost, and the impact of Section 201 on the implementation of the financial reporting controls required by Section 404 of the Sarbanes-Oxley Act suggests some of the issues that arise in this context.

Section 404 requires managers to report on the effectiveness of financial reporting controls and auditors to attest to that assertion (see Alles and Datar, 2004). Despite the emphasis in Section 404 on the role of management, companies have largely outsourced the task of creating new controls over financial reporting and documenting existing ones to

[13] http://www.aicpa.org/assurance/about/comstud/assind.htm

[14] While Sarbanes-Oxley chose to go with the lesser option of partner rotation, Singapore has mandated a five-year term limit for auditors of its locally incorporated banks (New York Times, March 14, 2002, page W1).

outside consultants. Indeed, the Big 4 audit firms have won much of this new business, though the ban on consulting as well as concerns with auditors auditing their own work has caused companies to hire someone other than its external auditor to create its 404 control infrastructure.

Clearly the hiring of a third party to document internal controls results in some duplication of effort and possible loss of information since the external auditor has already examined controls as part of the standard audit. Moreover, even if two audit firms are engaged, can one really act independently of the other? It is highly doubtful that the firm creating and documenting 404 controls would proceed without an ongoing assurance from the firm providing the external audit that those controls meet that auditor's requirements. Without such coordination, there is clearly the possibility, along with the obvious inefficiency, for the 404 controls to be implemented only for the company to be informed at the year's end by its external auditor that they are lacking in some way. Similarly, at least some of Section 404 work inside the company is likely to be assigned to the internal audit department, which, ordinarily, would work closely with the external auditor to ensure that whatever work they do is sufficient for the 404 opinion. But there is some concerns that external auditors will respond to Section 201 by being much more cautious in how they interact with internal auditors, because of concerns that suggesting to them what controls are needed would be tantamount to taking responsibility for those controls in a way that would violate the prohibitions on consulting and/or internal audit outsourcing.

What has not been widely discussed is the fact that now some companies have relationships with not one, but two of a progressively smaller set of major audit firms. As a consequence, the ability of the company to rotate to another auditor is considerably reduced. The issue that will soon arise is whether the audit firm that installed 404 controls could, at the end of that engagement or some time thereafter, become the new external auditor for that client. While not strictly speaking a violation of the prohibition of Section 201, as currently written, it would create an enormous conflict of interest since Section 404 controls, because of their very comprehensiveness, will have an increasing role in subsequent external audits. Indeed, given the intent of the Section 404 controls, it is logically arguable that the external audit will, in the future, largely consist of audits of those controls, since the

company's financial statements will be the output of that control system over financial reporting.

Paragraph 9 of Section 201 gives the PCAOB the power to add to the list of proscribed consulting activities and one can predict that this is an issue that they will have to act upon. More generally, paragraph 9 will have to be relied on to deal with the dynamic process in which auditing gives rise to information on systematic anomalies which auditors will feel that they are in the best position to remedy, but which they will feel constrained to act upon because of the Section 201 prohibitions on consulting and internal audit outsourcing.

5. Impact of Section 201 on Continuous Auditing

Perhaps the most important long term impact of Section 201 will be in the emerging area of continuous auditing. Continuous auditing (CA) is technology-enabled auditing which produces assurance simultaneously with, or a short period of time after, the occurrence of relevant events. In comparison with the traditional financial statements audit, CA is distinguished by being:[15]

- More timely.
- More comprehensive.
- More accurate.
- Less costly.

Utilizing the power of online IT systems, CA provides the potential for a wider set of assurance reports encompassing a broader set of variables, alerts and analytical procedures. CA extends the analytical methods of traditional auditing as well as introduces new forms of analytics by examining continuous flows of data, with models of system behavior used to establish expectations for data content. Monitoring the content of the client's data flow focuses on examining for both exceptional transactions and exceptional outcomes of expected transactions. CA software can continuously monitor company transactions, comparing their generic characteristics to observed/expected benchmarks, thus identifying anomalous situations. When significant discrepancies occur, alerts can be

[15] "A continuous audit is a methodology that enables auditors to provide assurance on a subject matter, for which an entity's management is responsible, using a series of reports issued virtually simultaneously with, or a short period of time after, the occurrence of events underlying the subject matter." (CICA/AICPA Research Study on Continuous Auditing, 1999).

triggered and routed to the appropriate stakeholders that normally include not only the external auditors, but also the internal auditors and the management of the client. This form of real time or near real time intervention, impossible in the traditional audit, creates some conceptual difficulties since CA, as argued below, becomes a de-facto form of meta-control on which organizations will grow to rely, which will create independence issues and potentially conflict with Section 201.

A major facilitator for CA is the implementation of a monitoring and control (MC) layer, which unites various IT systems in a company into one integrated platform that allows for seamless real-time information exchange. ERP systems allow for an unprecedented level of automation and integration and substantially facilitate the creation of the MC layer. For organizations where all systems are encompassed in an ERP, the monitoring and control layer could be part of this system. A user of the layer, for example, an auditor, would be able to drill down all the way to the individual transaction level and then roll up the data for analysis at any level of aggregation. It is this capability that CA systems can draw upon to enable real-time confirmation and matching and to do new data-intensive forms of analytical procedures.

But it is precisely the fact that CA systems will be built upon real time monitoring of the company's transactions and control systems that will bring CA into conflict with Section 201. Instead of assuring a prior assertion of management, as in a standard audit, the auditor will now be observing company information contemporaneously with, or even preceding management review. As with the dynamic generation of information in auditing, CA would then lead to the creation of new information about the firm. This is particularly true as CA enables the use of much more sophisticated audit benchmarks[16], such as continuity equations that will model business processes to an unprecedented level of detail (see Alles et al, 2004b). In the past managers had access to data that was far more detailed and obviously timelier than the auditor, who came into the picture only at the year's end. But with CA the auditor can simultaneously or even earlier see the same data as the managers. Thus the CA

[16] A new generation of models, providing benchmarks for comparison with actual values, must arise in the practice of M&C and CA. These models must be dynamic and adaptive to a much larger extent and corporate IT must be recalculating them in the fly to increase both their sensitivity and decrease false positives. These models would take into consideration the nature of transactions flowing through processes, business cyclicality, and seasonality, among other things.

system can provide information with real operational consequences, which obscures the line between auditing and control monitoring.

While a CA system does not have to be configured to send real time notifications to the client management about the identified problems, withholding such notifications is problematic from the legal, business and ethical points of view[17]. Acting upon the real time CA notifications and correcting the identified problems will be an obligatory function of managerial control. It will be untenable for managers to not act upon the real time CA notifications and correct the identified problems, since they may face legal liability if high quality information with operational implications is seen as being ignored. Therefore, the widespread deployment of CA will likely result in the effective integration of the CA system with the managerial control system, with the former becoming a critical sensory component of the latter, which would conflict with both the letter and the spirit of Section 201. Thus either the provision will have to be changed before then, or else the developments of these CA technologies will be severely constrained.

Independence and Section 201 concerns would not arise in the same way if the CA system was implemented by the internal auditor, who would be the party most naturally interested in CA's monitoring capability. But it would be inefficient for the internal CA system to not play a role in the external audit, and that requires the external auditor to at least comment and advise on the CA system design. The open question is how constrained the external auditor will feel in the post-Section 201 environment in undertaking such an interaction with the internal auditor. More generally, this issue raises the question of the feasibility of drawing a clear line between internal and external auditing, and how the Sarbanes-Oxley Act construes "internal audit outsourcing services". While Congress clearly had in mind the practice that arose in the 1990s of the external auditor undertaking almost all internal auditing, it is yet to be determined in case law whether that narrow interpretation will prevail, or whether almost any substantive interaction between the auditors can be interpreted as a form of outsourcing. Such a broad interpretation will preclude internal and external auditors from coordinating the design of a CA system that the latter can rely on and in which the former can make use of the broader knowledge of the latter.

[17] The CPAS effort at AT&T (Vasarhelyi and Halper, 1991) led to the development of the Prometheus system under which line management used essentially the same tooling as the external auditor.

Section 201 concerns have already led some of the major external audit firms to reconsider their investment in continuous auditing R&D. Certainly the lead in the development of CA has now shifted to internal auditors, who are not subject to the 201 mandate. It is not uncommon for the audit procedures utilized by internal auditors to be provided by or coordinated with the external auditor, since in large companies the external and internal auditors have no choice but to work the audit in tandem. Whether the external auditor is providing specific audit procedures to the internal auditor or certifying internal audit procedures in order to avoid duplication of effort, the question arises as to whether that interaction breaches the ban on consulting when the internal auditor develops CA systems, since the resulting real time system will not simply provide audit tests but also improve operational effectiveness.

The possible impact of Section 201 on the development of CA and the likelihood that the audit firms will not bring their expertise to bear on CA is a potential major source of societal costs, because CA extends the reach of auditing from ex-post verification to real

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