

A Relative Cost Framework for Rethinking Assurance of XBRL Filings

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Abstract: There has been much discussion in the academic literature and in the XBRL community on the need to provide assurance of XBRL filings, especially now that the use of XBRL has been mandated in the United States. Several recent research papers (Srivastava and Kogan, 2010; Boritz and No, 2011; Boritz and No, 2009), as well as the practitioner literature (AICPA 2002; Trites 2005, 2006), have proposed conceptual frameworks for the assurance of XBRL filings, but none of these papers discuss the cost of providing that assurance. In this paper we put forward a framework for rethinking XBRL assurance predicated on two relative cost arguments. First, that in the absence of a mandate for XBRL filings to be assured by an external auditor, managers will tradeoff the cost of obtaining external assurance versus the cost of obtaining it internally. And second, managers will not pay more for external assurance on a XBRL filing than they paid to prepare it, with that preparation cost falling rapidly from an already low level. We call the former the **external relative to internal cost** consideration, and the latter the **external relative to preparation cost** consideration. We predict that in response to these two forces assurance will shift from the XBRL filings themselves to assurance of the preparer, through a SSAE No. 16/SAS No. 70 report. As a result, the cost of XBRL assurance will be converted from a variable cost to a fixed cost that is spread amongst many filers, thus restoring a relative cost balance.

Keywords: XBRL, assurance, relative cost, SSAE No. 16, SAS No. 70.

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1. Introduction

The CEO, CFO, and board members want a high level of confidence that their XBRL-related documents and XBRL-instance statements are free of material errors (hereafter we shall refer to all such documents tagged with XBRL and submitted to the SEC as XBRL filings). No matter what degree of importance these executives place on their XBRL filings, they would not want to see their company's name associated with the *error* or *warning* validation codes on such online analysis websites as www.xbrlcloud.com, accompanied by the risk of subsequent unfavorable press coverage.

Based on a review of reports from the SEC, the professional and academic communities (Boritz and No, 2008; Debreceeny et al, 2010; Bartley et al, 2010), and the near real-time reporting on www.xbrlcloud.com or www.edgar-online.com, the ongoing incidents of errors in XBRL filings would seem to indicate the need for better quality controls to achieve a high level of confidence in these filings. Besides the imperatives of company executives, the analyst community may be reluctant to use XBRL filings if their confidence in those filings falls below their minimum quality threshold.

As Figure 1 illustrates, there are several factors that determine the level of confidence that an XBRL filing is free of material errors. The overall confidence of management in the XBRL filing is a combination of the confidence in the skills of the internal staff involved in preparing, reviewing, and/or approving the XBRL filing; the confidence in the validation tools in the XBRL conversion software (or other validation tools) that may be used to prepare/validate the XBRL filing; the confidence in the filing agent or other outside service provider that may be used to prepare the XBRL filing; and the confidence provided by the external accounting firm that may be utilized for assurance services.

Potentially, then, there are a variety of providers who individually and in aggregate can deliver a desired level of confidence about the XBRL filings to the CEO, CFO, and board, as well as, the analysts communities. As such, a role for the external audit firm as the source of assurance for XBRL filings cannot be taken for granted, as it obviously can with the financial statements themselves where auditing is mandated by law.

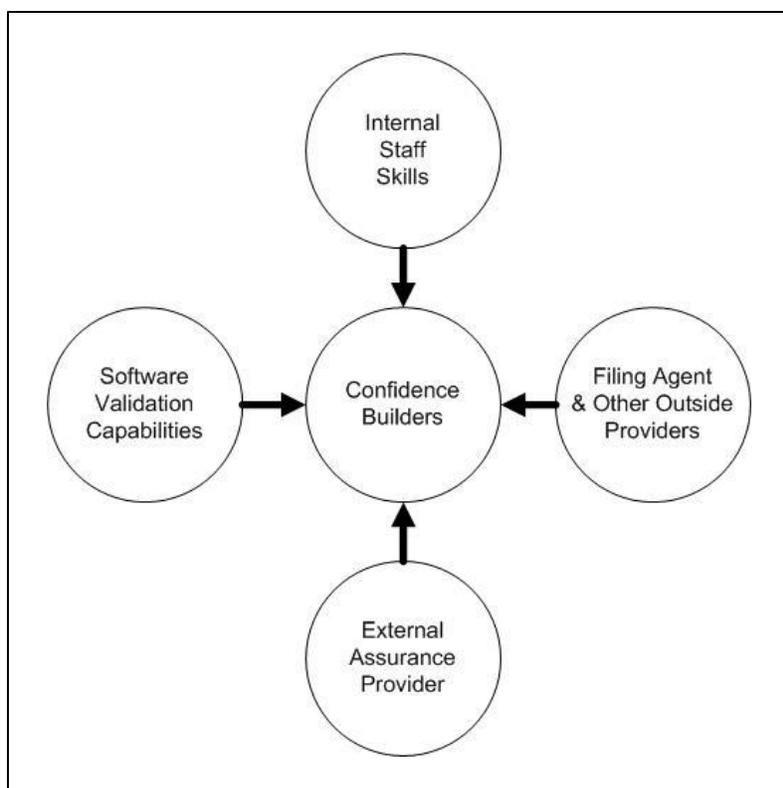


Figure 1: Confidence Providers for XBRL Filings

The first meeting of the 13-member XBRL steering committee at the AICPA headquarters in October 1999 is considered the birth of XBRL.¹ In the early days of XBRL, the primary focus was developing specifications and standards for creating XBRL-related financial reports. Paralleling these activities were informal discussions regarding what types of assurance services were appropriate for XBRL-related financial reports. The assurance discussion became more formal with the establishment of assurance taskforces—both in the U.S. and internationally—and the publishing of several whitepapers discussing assurance of XBRL filings (AICPA 2002; Trites 2005, 2006). In 2005, the Audit Standards Board (ASB) of the AICPA published “*Attest Engagements on Financial Information Included in XBRL Instance Documents*” (AT 9101.47–.54) to provide guidance to accountants providing

¹ <http://www.xbrl.org/history-print.aspx>.

assurance services. In 2005, the Public Company Accounting Oversight Board (PCAOB) published guidance for assurance on filings under the SEC Voluntary Filing Program (VFP).

Although activities continue in the XBRL community regarding assurance, the SEC specifically noted that assurance was not needed for its VFP or its current mandatory XBRL filings (SEC, 2009).² If, or until the SEC mandates that the company's financial auditor must provide assurance regarding the XBRL filings, the decision whether to ask the auditor to provide XBRL-related assurance—and the scope of that assurance work—is essentially a cost/benefit decision based on the relative cost of the various providers of confidence illustrated in Figure 1. That cost/benefit decision is one focus of this paper.

The other focus is on what it costs an external auditor to provide assurance services regarding XBRL filings. Srivastava and Kogan (2010), Boritz and No (2011) and Boritz and No (2009) have recently put forward frameworks for the assurance of XBRL filings by an external assurance provider. What these papers fail to discuss is the cost of implementing their frameworks, which, considering their length and depth, may well be considerable. Plumlee and Plumlee (2008) also discuss assurance of XBRL filings and they at least do call for research into the cost and benefits of

² "...note that we are not requiring that filers involve third parties, such as auditors or consultants, in the creation of their interactive data filings. We are taking this approach after considering various factors, including:

- commenters' views;
- the availability of a comprehensive list of tags for U.S. financial statement reporting from which appropriate tags can be selected, thus reducing a filer's need to develop new elements;
- the availability of user-friendly software with which to create the interactive data file;
- the multi-year phase-in for each filer, the first year of which entails the relatively straightforward process of tagging face financial statements, as was done during the voluntary program, and block tagging footnotes and financial statement schedules;
- the availability of interactive data technology specifications, and of other XBRL U.S., XBRL International, and Commission resources for preparers of tagged data;
- the advances in rendering/presentation software and validation tools for use by preparers of tagged data that can identify the existence of certain tagging errors;
- the expectation that preparers of tagged data will take the initiative to develop practices to promote accurate and consistent tagging; and
- the filer's and preparer's liability for the accuracy of the traditional format version of the financial statements." SEC (2009, pp. 94-95).

that assurance, while warning that the specialized technical knowledge needed to verify XBRL filings may be very expensive to obtain.

In this paper we provide a framework for rethinking assurance of XBRL filings predicated on an aspect of the costs of that assurance that has yet to be raised in either the academic or practice literature: that the feasibility of an external auditor providing assurance of XBRL filings is a function not just of the absolute cost of auditing those XBRL filings, but also of two *relative* cost comparisons: 1. The cost of obtaining assurance on XBRL filings from an external auditor relative to the cost of doing so using internal providers of confidence; and 2. The cost of obtaining that externally provided XBRL assurance relative to the cost of preparing those filings. We call the former the **external relative to internal cost** consideration, and the latter the **external relative to preparation cost** consideration.

The external relative to internal cost consideration comes down whether it costs less to obtain assurance internally by improving the process by which the XBRL filings are prepared, as opposed to having to ex-post verify an XBRL filing that has already been prepared by the company or outsourced service provider, as the external auditor is tasked with doing.

The external relative to preparation cost consideration arises from extrapolating what happens if the cost of preparing XBRL filings keeps falling while the cost of assuring those statements keeps rising. Our contention is that managers will be very resistant to paying an external auditor more for obtaining assurance on an XBRL filing than they pay for preparing that filing in the first place, and that this fact will inevitably impact the role of the external auditor in the XBRL assurance process.

Discussions regarding relative cost have not significantly impacted auditing before. Obviously, with the auditing of financial statements mandated, the tradeoff with internally generated confidence is not an issue: as outlined in SAS No. 65, an external auditor can rely to some extent on the work performed by the internal auditor, but the external auditor is alone responsible for the audit opinion

that accompanies the financial statements and that responsibility cannot be shared. Hence, there is no equivalent to the decision facing management in the case of XBRL filings about the relative value of obtaining assurance from internal and external providers of confidence.

We make the case, however, that the two relative cost considerations examined in this paper will impact the demand for the provision of assurance of XBRL filings by an external auditor. In fact, we can go further and predict that the two relative cost forces will drive XBRL assurance to converge to a solution in which the XBRL filing preparation process will be the focus of the assurance rather than the XBRL filings themselves.

We begin by considering the external relative to preparation cost consideration in section 2 and then turn to the external relative to internal cost consideration in section 3. Section 4 discusses the consequence of the two relative cost considerations: the shift of assurance from XBRL filings to the XBRL filing preparer. Section 5 offers concluding comments.

2. The External Relative to Preparation Cost Consideration

When considering the cost of preparing XBRL filings relative to providing assurance on them, the evidence from practice is that despite the increasingly onerous requirements for XBRL filings (e.g. detailed footnote tagging), the cost of preparing XBRL filings falls precipitously after the first filing year, and moreover, even the startup cost is not particularly high to begin with. Microsoft, for example, spent 180 person-hours preparing its initial XBRL filings in 2008, which fell to only 24 person-hours 2009—a cost that its controller publicly described as “chickenfeed”. The cost to Microsoft in 2010 was under \$100,000.³ Phil Moyers of Edgar Online claims that, with his automated tagging approach, a typical company’s statements can be processed in no more than 8 to

³ All these figures are taken from statements made by Bob Laux, Senior Director, Technical Accounting & Reporting, Microsoft Corporation, at AAA panel discussions, 2008, 2009.

10 hours.⁴ These numbers are in line with those reported for the SEC’s earlier voluntary filing program, which are shown in Table 1 (Source: SEC document 33-9002, page 133).

	1 st submission/ block-text footnotes & schedules	Subsequent submission/ block- text footnotes & schedules	1 st submission/ detailed footnotes & schedules	Subsequent submission/ detailed footnotes & schedules
Preparation face financials	\$31,369	\$4,312	\$4,312	\$4,312
Preparation footnotes	\$1,750	\$1,750	\$25,000	\$12,500
Preparation schedules	\$250	\$250	\$2,500	\$1,250
Software and filing agent services	\$6,140	\$6,140	\$6,140	\$6,140
Web site posting	\$1,000	\$1,000	\$1,000	\$1,000
Total cost	\$40,509	\$13,452	\$38,952	\$25,202

Table 1: Preparation Costs of XBRL Voluntary Filing Program Filers

The SEC mandate for XBRL requires progressively more complete and complex XBRL filings during the second filing year, in particular, the tagging of the detailed contents of financial statement footnotes.⁵ Hence, one can make the argument that the cost of filings will rise somewhat from that of VFP filers. However, a countervailing force on these costs is the tendency of XBRL tagging to attain a “steady state” meaning that once the ramp up in the mandated requirements is complete, for a specific company, its tags (and associated labels) are going to be nearly 100% the same from year to year. Essentially the XBRL filing will become a template, with only its content (numbers, dates, etc.) being updated each year, not its tags or other structure.

⁴ Statement made at AAA panel, 2009.

⁵ *“Financial statement footnotes and financial statement schedules initially will be tagged individually as a block of text. After a year of such tagging, a filer also will be required to tag the detailed quantitative disclosures within the footnotes and schedules and will be permitted, but not required, to the extent they choose, to tag each narrative disclosure.”* <http://www.sec.gov/rules/final/2009/33-9002.pdf>

That is indeed, a feature of such XBRL software as Rivet Software's Crossfire Compliance™, which allows users to simply drop new content into the correct "buckets" on a template drawn from the prior year's filing.⁶ As such, the numbers of hours needed to prepare the filing should fall significantly after the second year of the mandate, as Table 1 seems to indicate is the case. Moreover, despite the initial safe harbor for XBRL filings, it is likely that a company's counsel would advise that the tags and structure of a XBRL filing be held constant as much as possible in order to retain comparability across the years. It is precisely this fear of litigation, after all, that resulted in companies using taxonomy extensions to tag their filings even when the official taxonomy provided a near-equivalent tag: the safest course of action was to make sure that the XBRL filing used the same terminology as the previous paper filings to the SEC, just as the structure of those paper filings are also kept largely invariant from year to year.⁷

By contrast to the decreasing cost of preparing the XBRL filings, the frameworks put forward for assuring XBRL filings becomes, depending on one's point of view, either more complete or more complex, but undoubtedly very time consuming and costly to implement. Srivastava and Kogan (2010) develop a set of client assertions that they argue can serve as the basis for providing assurance on XBRL instance documents. They claim that violations of any of these assertions "*will constitute errors in the XBRL instance documents*". Even the summary diagram as shown in Figure 2 (Source, Srivastava and Kogan, 2010, page 267) for their framework, let alone the lengthy written explanation of each element in the diagram, indicates the complexity of their approach towards assurance.

⁶ <http://www.rivetsoftware.com/solutions/default.aspx>

⁷ In a speech at the AAA Annual Meeting (2003), Colleen Cunningham, then the Chief Accountant at AT&T, said the legal department would never let her change anything on the financial statements (other than numbers, etc.). The labels and level of details/aggregation were cast in concrete.

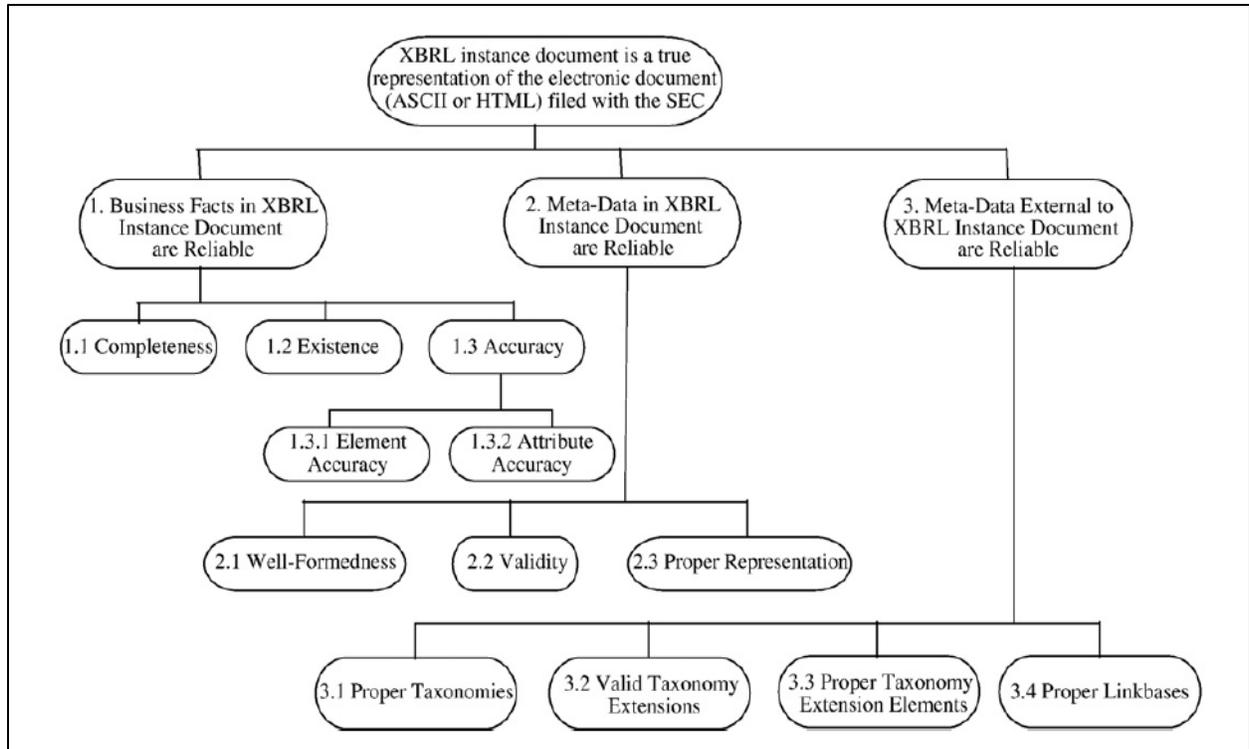


Figure 2: Srivastava and Kogan (2010) assertions framework for XBRL filings

Boritz and No (2011) develop their own framework, as shown in Figure 3 (Boritz and No , 2011, page 31) for assurance of XBRL-related documents, but claim that theirs is more thorough than that of Srivastava and Kogan (2010): *“Our framework differs from the framework developed by Srivastava and Kogan in two ways. First, our framework includes several additional components (e.g., internal control and consistency) that were not addressed in their framework. Second, our framework identifies the audit tasks that an auditor needs to perform to achieve the related audit objectives.”*

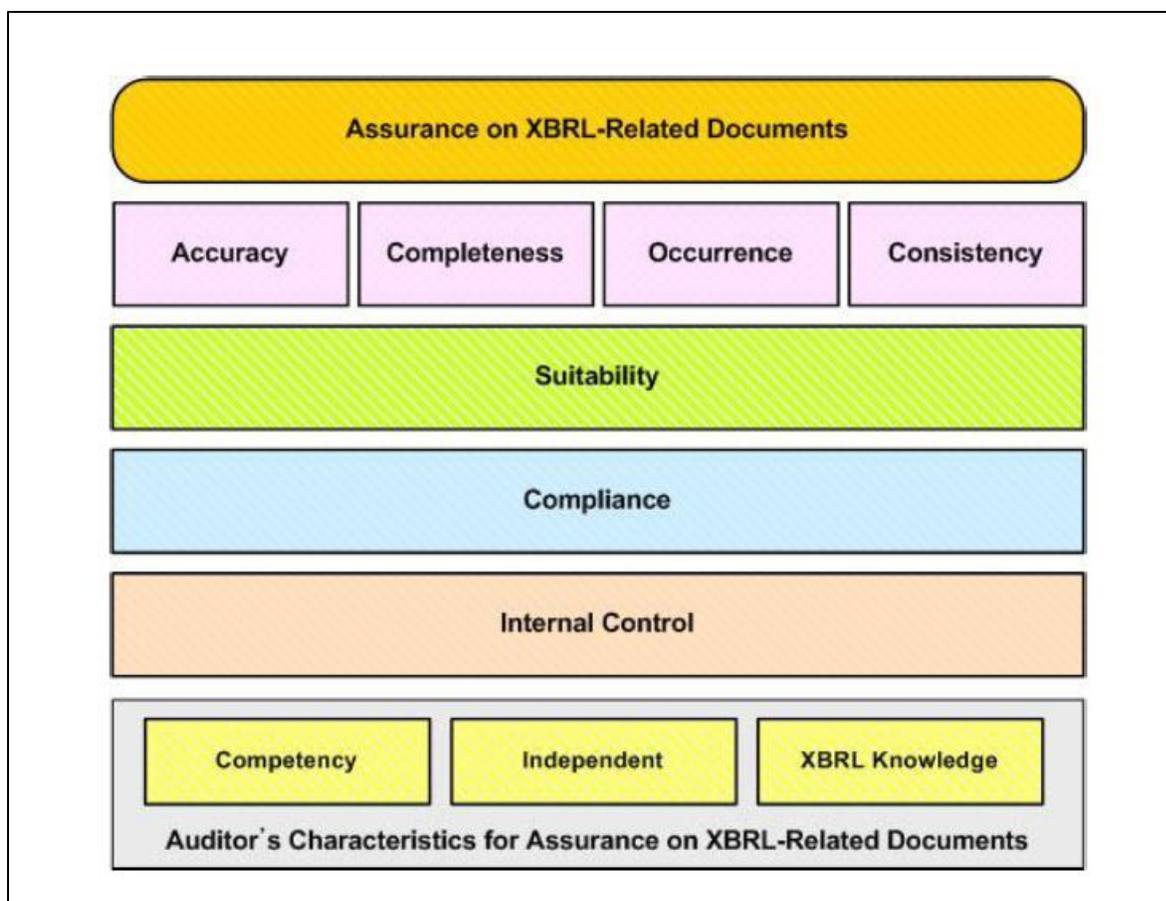


Figure 3: Boritz and No (2011) assurance framework for XBRL filings

Neither Boritz and No (2011) nor Srivastava and Kogan (2010) discuss the effort required to implement their frameworks. But some indication of the time needed can be assessed by the earlier study of Boritz and No (2009) in which the authors actually audited the XBRL filings of United Technologies Corporation to determine whether their “*XBRL-Related Documents were a complete and accurate reflection of its paper paradigm government filing*”. Completeness and Accuracy are only one portion of the Boritz and No (2011) framework, but even that task took Boritz and No (2009) some 63 hours to complete (in other words, nearly eight full working-days). Even then, the authors warned that the assurance provided was very limited: “*At the end of the process, we had high assurance that the 10-Q XBRL Related Documents were a **complete** and **accurate** reflection of UTC’s 10-Q. However, if we had to form a conclusion on the **fairness** of the presentation in accordance with GAAP of the XBRL-Related Documents,*

we would be unable to do so because there are no assurance standards or guidelines for making such an assessment for various sections such as the MD&A, regulatory information, and the company's taxonomy extensions" (page 65, emphasis in original). Imagine then, implementing the complete Boritz and No (2011) framework, which extends far beyond the completeness, accuracy and fairness of the XBRL filings.

We are not arguing in this paper that these frameworks are not appropriate or useful, and we are more than willing to accept the arguments of these authors that a comprehensive approach is needed if assurance of XBRL filings is to meet the same high standards expected of financial statement audits. Rather, what we draw attention to is the mismatch between the potential costs of ever more elaborate audit frameworks for XBRL assurance and the ever decreasing cost of preparing XBRL filings.

In theory, the decision on whether to utilize an external auditor for assuring a company's XBRL filing is a function of the costs of that assurance compared against benefits from that assurance, such as decreased risks of litigation or reputational damage arising from a faulty filing. As such, the costs of preparing the XBRL filings should be irrelevant in this decision framework.

So why do we consider preparation costs central in our relative cost argument? Because we believe that whatever theory may say, in practice managers will, in most cases, only be willing to spend a fraction of the original preparation cost on assurance, especially as the dollar value of avoided litigation or reputation damage is difficult to quantify. This is particularly the case when, as yet, there is no indication of the cost of not getting assurance on XBRL filings.

While that cost—the same as the benefit of XBRL assurance—need not have any relation to the cost of preparation, it is commonplace that when there is uncertainty as to benefits, they are judged as being proportional to costs, which results in a relative cost decision framework: if assurance costs too much, it becomes hard to justify such an additional expense; on the other hand, if assurance is inexpensive, its benefits may be perceived as correspondingly low. Indeed, many people judge the

quality of a product that they are unfamiliar with (wine, items on a restaurant menu, electronics) by their purchase price (“Good things are not cheap; Cheap things are not good”). There is a considerable research literature in economics and marketing documenting this phenomenon (summarized by Rao and Monroe, 1988. See also the seminal paper by Scitovszky, 1945).⁸

There is a need to reconcile these two seemingly diametrically opposed forces, of decreasing XBRL preparation costs accompanied by ever-stringent demands for XBRL assurance to be “done right”. The solution is that either the cost of assurance has to fall in line with the cost of preparing XBRL filings, or else the level or scope of assurance has to fall instead.

In the latter case, assurance will be much less stringent than the literature proposes, something akin to an agreed upon procedure, performed under SOP No. 09-1 (*“Performing Agreed-Upon Procedures Engagements That Address the Completeness, Accuracy, or Consistency of XBRL-Tagged Data”*), as well as under SAS No. 75.⁹ Under SAS No. 75, the auditor and the specified users agree on procedures to be performed under the agreed-upon-procedure and the users take responsibility for the sufficiency of the agreed-upon procedures for their purposes.¹⁰ In performing agreed-upon procedures, the auditor provides no opinion, certification, or assurance that the assertions being made in the XBRL filing are free from material misstatement. The users of reports based on agreed-upon procedures must draw their own conclusions on the results of the tests reported. Audit firms have offered such

⁸ The declining relative cost of XBRL preparation will also impact the decision on XBRL assurance through the way in which decisions are made within all but the smallest companies in practice: by having thresholds for authorization, with only those expenses over a certain (large) limit being referred to the most senior management. With the cost of XBRL preparation already measured in the tens of thousands of dollars (rather than millions), once the filing itself reaches steady state with the novelty and risks of the first few years filing behind them, will C-level management of Fortune 500 companies really pay attention to an activity with such a relatively small cost? And if they do not, will the lower-level managers then placed in charge of the process be willing to spend a relatively large amount of money on obtaining XBRL assurance on their own authority?

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http://www.cpa2biz.com/AST/Main/CPA2BIZ_Primary/Accounting/Standards/AICPASOPsAccounting/PRDOVR~PC-014947/PC-014947.jsp

¹⁰ <http://www.nysscpa.org/cpajournal/1996/JAN96/f160196.htm>

services for XBRL filings for some years now, but it would appear that there has been thus far little demand for them.

According to private communications with Big-4 auditors, the average cost of such agreed-upon-procedures that have been conducted is about \$25,000. That might be the appropriate level relative to the cost of preparing the XBRL filing, but the lack of demand for the service is perhaps an indication of the value that managers and financial markets place upon an assurance product that costs so little to produce. After all, while the title of SOP No. 09-1 mentions Completeness, Accuracy, and Consistency, which are also categories in the assurance frameworks of Srivastava and Kogan (2010) and Boritz and No (2011), those papers were written precisely to point out that achieving confidence on those dimensions requires a more comprehensive—and hence, inevitably more costly—approach than has been adopted thus far by practice.

Note, too, that currently auditors face no liability for XBRL filings made by their clients and those clients themselves enjoy a safe harbor for those filings, both facts presumably lowering the cost for audit firms to assure XBRL filings.¹¹ Will they really charge only \$25,000 in the future if they and their deep pockets one day will have to pay for litigation arising from XBRL filings? Of course, by the same token, the more explicit threat of litigation might drive up client demand for XBRL assurance regardless of the cost of preparing XBRL filings, but the fact remains that auditors will then have to price their assurance product to fully reflect its insurance aspect, once again leading to a divergence in relative costs between preparation and assurance.

More generally, there are numerous instances where businesses face liability but do not respond by seeking external assurance—product liability being the most obvious example. In the absence of a mandate, external auditors are just one provider of confidence out of many, including internal

¹¹ “There is no additional basis for auditor liability based on data tagging. Also, an auditor will not be required to apply AU Sections 550, 711 or 722 to interactive data provided in an exhibit or to the related viewable interactive data.” SEC (2009, page 94).

sources, such as investments in product quality, as we discuss below. Thus, even if the elimination of the safe harbor provision increases the concerns of management about their XBRL filings that does not guarantee a role for external assurance, for demand for the latter will still depend on the two relative cost considerations.

If reducing the level or scope of assurance is not a desirable alternative, then what remains is reducing the cost of providing XBRL assurance while not compromising on the attention to detail and comprehensive coverage demanded by the research literature. Is such a combination feasible? We argue that it is, but before describing that possibility, we turn to a discussion of the external relative to internal cost consideration in XBRL assurance.

3. The External Relative to Internal Cost Consideration

As shown in Figure 1, setting the scope of XBRL filing assurance and deciding who should provide the different assurance components is a multi-dimensional problem, with both internal and external providers of confidence. Figure 4 converts Figure 1 into a decision model. The “Economically Feasible Space” is the area where the external accounting firm can function from an economic perspective. The numbers and thresholds are shown for illustrative purposes and will obviously vary across XBRL filers and audit firms.

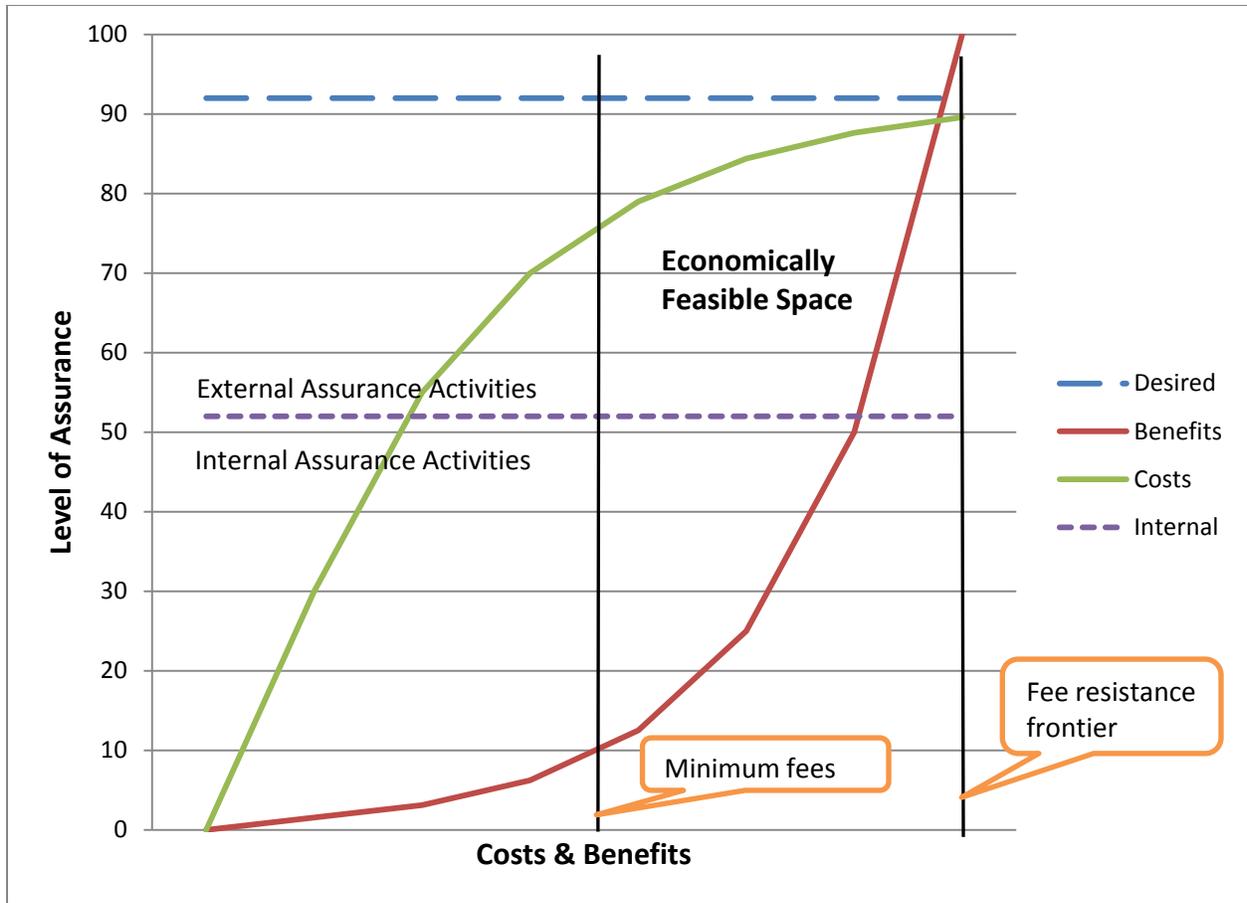


Figure 4: The economically feasible space for XBRL assurance services at beginning of mandate

The key points illustrated in Figure 4 are:

1. The relationship between the cost of providing assurance and the level of assurance obtained exhibits diminishing marginal returns, meaning, for example, that the incremental cost of going from the 80% to the 90% level of assurance is greater than to go from 70% to 80%.
2. The relationship between level of assurance and the benefit to the company exhibits decreasing returns, meaning, for example, that the incremental benefit of going from 80% to 90% level of assurance is less than going from 70% to 80%.
3. At some level of assurance, the cost and benefit curves would intersect beyond which the incremental assurance costs would be greater than the incremental benefits received by the

company and it would not make economic sense to continue to spend money to increase confidence.

4. Crucially, there is some *internal* level of confidence or assurance threshold that the company obtains without the additional assurance provided by external auditors.
5. There is some minimum project size (in terms of fees) threshold that the accounting firm is willing to take on.
6. On the other hand, there is a fee resistance frontier threshold that is the upper limit the company would be willing pay for assurance services. In particular, for the reasons discussed already, there is going to be considerable resistance to paying assurance fees that exceed the cost to prepare the XBRL filings.

No matter what the exact numbers, shape of curves, thresholds, and the economically feasible space are for a specific XBRL filer, all of these parameters would be expected to change over time such that the economically feasible space would continue to shrink in size (see Figure 5). For example, as the company personnel and the filing agents move along the learning curve and reduce the errors and mistakes identified in prior filings, the internal assurance threshold will rise reflecting the increase in confidence by the CEO, CFO, and board in the company's XBRL filing even without assurance provided by an external auditor. In addition, the fee resistance frontier threshold is going to make a major shift to the left in the third and subsequent SEC filing years when the company achieves a steady-state condition. Using the Microsoft numbers presented earlier, that fee resistance frontier would move from \$100,000 to "chickenfeed".

In short, the external relative to internal cost consideration will increasingly reduce the space within which the purchase of assurance for XBRL filings becomes feasible. This is similar to the way in which external relative to preparation cost consideration works against the use of an external source of confidence in XBRL filings as the cost of preparation and the cost of external assurance of XBRL

filings diverge. Both forces are two sides of the same coin, that external assurance is too costly when it is done on a filing by filing basis. Overcoming that issue is what we turn to next.

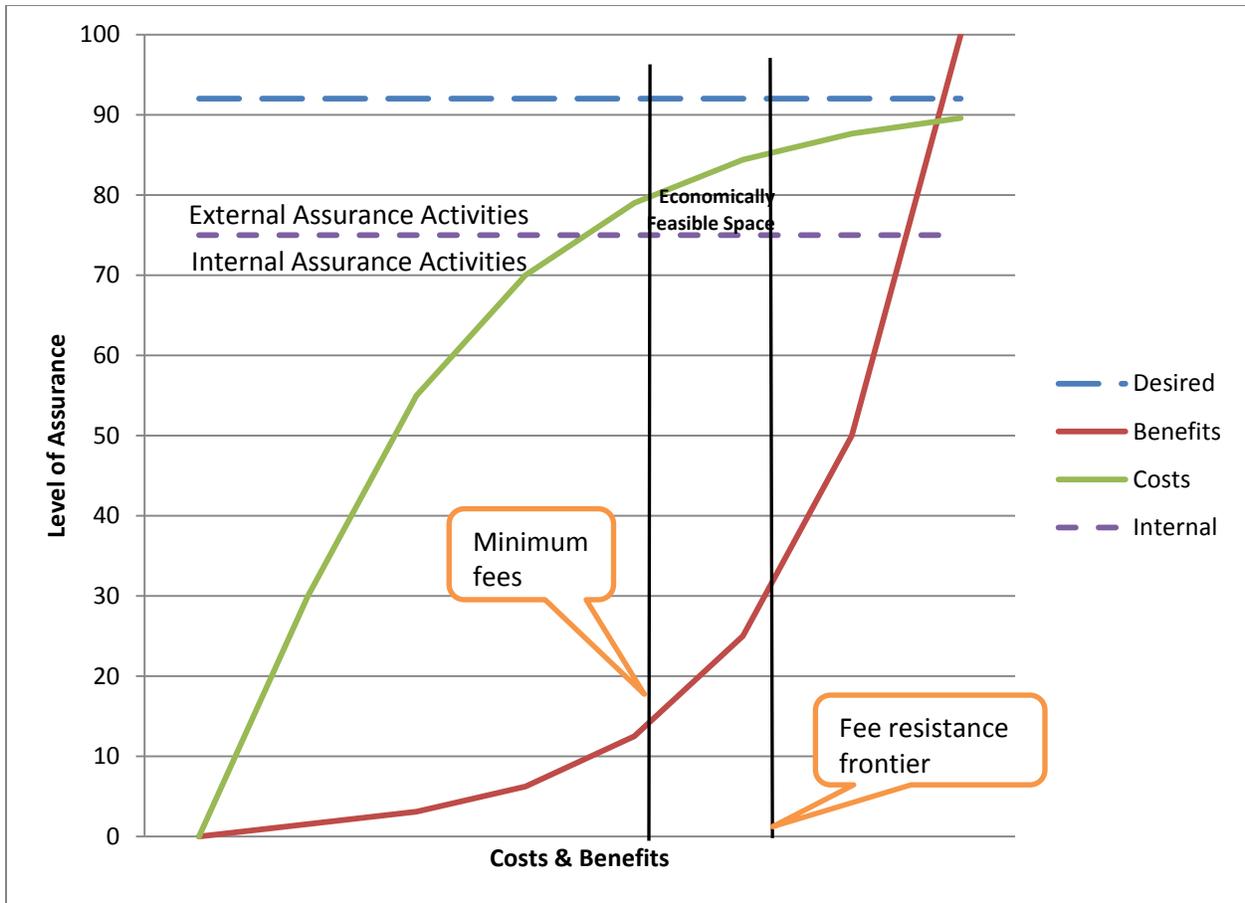


Figure 5: The economically feasible space for XBRL assurance services once steady state is attained

4. Resolving the Relative Cost Conundrum

Both relative cost considerations imply that the kind of comprehensive XBRL assurance proposed in the research and practitioner literature will be difficult to make a market reality. Reducing the extent of assurance is one alternative, but it is hardly a very attractive one, especially since, as the cost of preparation continues to fall and the capabilities of internal assurance rises, the cost of providing even that limited external XBRL assurance will have to continue to spiral downwards. The

best outcome is obviously to attain full XBRL assurance but in a way that respects both relative cost considerations.

Is such an outcome possible? We argue that it is, and begin by making the comparison between XBRL and pdf conversion. Like XBRL, that is a conversion of data from one format to another. Many financial statements are also distributed in pdf format, for example, from a company's own website. But no party demands or supplies assurance about the pdf conversion. Why is that? Because that conversion is carried out by software made by a reputable company and it is taken for granted by both preparers and users that the conversion works 100% perfectly at all times, with no distortion or loss of the underlying data.

Obviously this is not meant to be an exact analogy since there is no human intervention in the conversion of a text document to a pdf file, unlike in the creation of a XBRL filing. Nonetheless, to the extent possible, XBRL assurance has to adopt a similar system where each act of creating the XBRL filing is no longer a source of concern for users. Hence, if XBRL assurance is demanded by managers, then that assurance has to shift from being provided on each statement, and instead, to focus on the mechanism that converts the paper financial statement into an XBRL filing. Currently, that is either the company's own staff utilizing XBRL preparation software (such as Edgar Online's I-Metrix Xcelerate, or Rivet Software's Crossfire Compliance), or a financial printer or other filing agent.

Based on market forces, we predict that the way in which the relative cost problem will be resolved will be by the shift of XBRL filing preparation from inside the company to a preparer outside it which is certified as following appropriate guidelines for the XBRL conversion. These guidelines may well be based on the frameworks proposed in the research literature. But the key is that by providing assurance on the conversion process followed by a preparer rather than on individual

filings the cost of assurance becomes a fixed cost that can be spread among many filers and their XBRL filings, thus satisfying the relative cost criteria.

Providing assurance on the process used by the filing agent is analogous to obtaining ISO certification, such as the ubiquitous ISO 9000 certificates that organizations obtained when Total Quality Control was driving business practices globally, or ISO 14000 for environmental management. For certification to work there has to be consistency in the way in which the XBRL conversion is undertaken—exactly like the way in which programs consistently convert word files into pdf. This means that the filing agents have to follow a standardized set of procedures, including, most critically, for selection of tags and extensions.

Frameworks such as those proposed by Srivastava and Kogan (2010) or Boritz and No (2011) can be modified to the extent possible to shift their focus from the XBRL filings to the process that gives rise to those filings. Specific research into this topic is also indicated. But whatever assurance framework that is utilized, there is already a regulatory system in place which allows an external auditor to providing assurance on the XBRL filing agent: the Service Organization Controls Reports issued under SSAE No. 16 (*“Reporting on Controls at a Service Organization”*) that on June 15th, 2011, will replace SAS No. 70 (*“Service Organizations”*).¹²

SAS No. 70 was promulgated in 1992 to deal with the problem that auditors faced with clients who had begun to outsource important business functions to service organizations, such as data centers or data processors. Clearly the way in which those service organizations conducted their outsourced activities impacted the client’s audited financial statements, which meant that the client’s auditor had to pay attention to the service organization. The problem is that service organizations typically have many different companies as clients, and the auditors of each of them would need to have assurance that the service organization was performing contracted services (as frequently described in the

¹² <http://www.aicpa.org/InterestAreas/AccountingAndAuditing/Resources/SOC/Pages/SORHome.aspx>

service level agreement (SLA)) with proper internal controls. That assurance can only be obtained by examining the processes and controls of the service organization in detail, but it is obviously impractical and too costly for the auditor of each and every client to audit the service organization separately. Hence, the intention of SAS No. 70, and now of SSAE No. 16, is to obtain returns to scale by having the service organization itself commission a report from an auditor as to the presence and effectiveness of controls on its processes, a report which can then be shared with the auditors of all its clients.

There is an obvious parallel between the context of SSAE No. 16/SAS No. 70 and the situation of a firm that outsources its XBRL filing preparation and submission to a filing agent. If the XBRL filer can obtain assurance as to its conversion process, then that will go a long way towards providing managers with the external confidence they need as to their company's XBRL filings. Of course, the level of confidence will in all likelihood not reach 100% of the level of assurance that can be obtained from assuring the filing itself, just as a test of controls is not a substitute for a test of detail. But as Figures 4 and 5 indicated, all a manager needs is to obtain enough confidence to attain the economically feasible space, and there is a clear tradeoff between the cost of assurance and its effectiveness.

When assuring XBRL filing agents, we have in mind obtaining a SOC 1 Report, which is a "*Report on Controls at a Service Organization Relevant to User Entities' Internal Control over Financial Reporting*". As stated by the AICPA, "*SOC 1 engagements are performed in accordance with Statement on Standards for Attestation Engagements (SSAE) 16, Reporting on Controls at a Service Organization. SOC 1 reports focus solely on controls at a service organization that are likely to be relevant to an audit of a user entity's financial statements. SOC 2 and SOC 3 engagements address controls at the service organization that relate to operations and*

*compliance.*¹³ Given the specific situation, in terms of the mix of players (company personnel, filing agents, etc.) and the assigned responsibilities, some aspects of SOC2 and SOC3 may be also applicable.

Apart from specifying SOC 1, 2 and 3 reports, SSAE No. 16 also introduces Type 1 and Type 2 engagement reports for each SOC report:¹⁴

- *Type 1 – report on the fairness of the presentation of management’s description of the service organization’s system and the suitability of the design of the controls to achieve the related control objectives included in the description as of a specified date.*
- *Type 2 – report on the fairness of the presentation of management’s description of the service organization’s system and the suitability of the design and operating effectiveness of the controls to achieve the related control objectives included in the description throughout a specified period.*

The difference between a Type 1 and a Type 2 report depends on whether the auditor simply verifies that the service organization has controls over its processes or whether the auditor also verifies that those controls are in fact working effectively. A Type 1 report is analogous to a company obtaining ISO 9000 certification, though the AICPA makes it clear that a service organization cannot claim to be “SAS 70 /SSAE 16 certified”. However, as far as XBRL assurance is concerned, a Type 2 report is more consistent with the frameworks of Srivastava and Kogan (2010) or Boritz and No (2011). As always, the imperatives of both absolute and relative assurance cost will determine the exact form of assurance that would be optimal for an XBRL filer to obtain. But the main point we make is that by shifting assurance from filing to filer prevents relative cost

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<http://www.aicpa.org/InterestAreas/InformationTechnology/Resources/TrustServices/DownloadableDocuments/10957-378%20SOC%20Whitepaper.pdf>

¹⁴ <http://www.aicpa.org/InterestAreas/AccountingAndAuditing/Resources/SOC/Pages/AICPASOC1Report.aspx>

considerations from making XBRL filing assurance from being economically infeasible in the first place.

5. Concluding Comments

As we analyze the relative cost considerations that impact the decision of management about the provider of assurance about their company's XBRL filings, the economic feasibility of using an external auditor who would provide assurance of the level proposed in the research literature is brought into question. But this is not an all or nothing situation; instead future research needs to focus on rank-ordering or prioritizing the assurance components contained in those frameworks in light of different characteristics of companies and the mix of the use of factors included in Figure 1. One question is how the ranking of those components would change if the company used a filing agent to prepare the XBRL filing versus preparing the XBRL filing completely in house? And, how might our analysis change if the SEC mandated independent assurance? Meanwhile, what will happen when safe harbor provisions expire will become evident in the near future.¹⁵

It appears to us that the longer the SEC waits to mandate XBRL assurance, the smaller the economically feasible space in Figure 5 will become. If the SEC's future rules mandate a scope of XBRL assurance similar to the comprehensive frameworks of Srivastava and Kogan (2010) and Boritz and No (2011) that may push the assurance cost well outside of the economically feasible space; the SEC will then receive a tremendous level of pushback from filers. As such, it is hard to imagine that the SEC will *mandate* a large scope of assurance component; instead the SEC rules will be probably more principles based, providing broad guidelines and leaving much discretion to the external auditors to design their assurance plans specific to each client.

¹⁵ Section 232.406T is a temporary section that applies to an Interactive Data File submitted to the SEC (see page 6816 of final rule 33-9002fr). This temporary section will expire no later than October 31, 2014.

What if the XBRL filing becomes the actual SEC filing as opposed to being a supplement to the “official” SEC filing? This has already happened in some jurisdictions and many in the XBRL community expect the same thing to eventually happen in the U.S. The exact impact of this change is hard to predict. On one hand, if the XBRL filing becomes the official filing, the filer’s and auditor’s self interest in ensuring and assuring that there are no material errors in the XBRL filing increases. On the other hand, many of the current assurance components in the Srivastava and Kogan (2010) and Boritz and No (2011) frameworks relate to comparing the official source document to the XBRL filing. These components essentially go away if the XBRL filing becomes the source document.

Regardless, though, of what happens as far as mandates and assurance frameworks are concerned, the bottom line is that any XBRL assurance regime cannot function if it does not take into account the relative costs of obtaining that confidence.

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