Monopoly versus Competition in Setting Accounting Standards

Financial accounting standards are set by organizations granted a significant degree of monopoly power by various governments. While there has been considerable debate on the merits of national (e.g., US Financial Accounting Standards Board (FASB)) versus international (International Accounting Standards Board (IASB)) monopolies, little attention has been paid to the merits of using competing standard-setting organizations (SSOs) for setting accounting standards. We compare the standard-setting processes of the FASB/IASB to the processes of four technology-oriented SSOs to assess the role of competition. We also provide a case study of monopoly and competitive standards in telephony. Both telephony and accounting yield some gains from coordination, and similar arguments are used (under the labels of comparability and consistency of accounting) in debates about granting a monopoly to their respective SSOs. Our results show that a group of volunteers competing with the government-sanctioned monopoly of International Telecommunications Union transformed the telephone industry. Thanks to this standards competition, we enjoy free video internet calling and massive cost savings. Implications for accounting standard setting are discussed.

Key words: Coordination; Quality; Technology; Telephony; Network externalities; IETF; ITU-T; P2P networks; Skype; Google Talk.
questioned. Given the prevalence of monopolies in most countries, it is difficult to assess the validity and consequences of this assumption by confining one’s attention to accounting SSOs. We therefore examine evidence from standard-setting practices of SSOs involved in setting standards for internet telephony in an attempt to gain insights into the relative merits of introducing some standards competition into accounting.

Financial reporting standards can be justified by the presence of network effects defined as the marginal increase in the utility of a product for a user as the number of other users changes (Katz and Shapiro, 1985; Ferrell and Saloner, 1985). In financial reporting, when an additional firm conforms to a given financial reporting regime, all firms and investors within the regime benefit from its enlarged scope. Since economies with network externalities are susceptible to bandwagon, tipping, and lock-in effects, market competition alone cannot ensure optimality of outcomes. When network externalities are large enough, regulatory intervention in the form of standards chosen outside the market and imposed on the economy can yield Pareto superior results (see Benston et al., 2003, 2006 for arguments in favour of standardization of accounting which are often framed in alternative terms of the public good nature of costly-to-produce information).

A similar claim about network externalities can be made for many network-connected information services such as internet telephony. A telephone derives much of its value from the network it is connected to. The addition of every single user to a telephone network makes others who may wish to be connected to more people better off. Not surprisingly, both accounting and telecommunications are regulated in just about every jurisdiction in the world (and specifically by the Securities and Exchange Commission (SEC) and the Federal Communications Commission (FCC) respectively, in the US).

Arguments in support of a monopoly for SSOs include complexity (users would get confused by multiple standards), quality (competing SSOs would create a race to the bottom), and gains from coordination that come from having one consistent set of standards (see Dye and Sunder, 2001, for arguments on both sides). In addition, monopoly is thought by some to grant status and legitimacy to the accounting profession especially since such monopoly is motivated by a desire to promote a public interest (Cooper and Sherer, 1984). These considerations lead many accounting scholars to discount any benefits that may come from competition such as learning through experience and comparison to produce better standards. Regulators in some countries permit limited accounting standards choice (e.g., since 2008, the US has allowed foreign registrants to use IFRS or US GAAP, and Canada currently permits all companies cross-listed on US stock exchanges to use IFRS or US GAAP, and private companies are allowed to use IFRS or separate Canadian accounting standards for private enterprises (ASPE)). Relatively little research attention has been devoted to understanding how standards competition works in various parts of the economy, and how it might work in accounting.

This study provides some evidence on the standard-setting processes of one accounting and three non-accounting (all telephony-related) standard setters. While accounting and telephony both have network externalities and federal regulators,
they have different regulatory histories. Accounting has had a ‘fire alarm’ history where the regulators remain relatively quiescent until a scandal triggers a burst of new regulations and enforcement (Kinney, 2005; Waymire and Basu, 2011), sometimes over-reacting (Benston et al., 2003; Madsen, 2011). For internet telephony, the FCC adopted a ‘hands off’ approach because Congress did not want the internet to be fettered by regulation. This approach has allowed private SSOs to compete in setting standards for internet telephony in a way that has not been allowed in accounting since the Securities Acts of 1933 and 1934. Despite frequent claims that competition will lead to a race to the bottom (Barth et al., 1999; Merino and Coe, 1978; Previts and Merino, 1998), previous studies of regulatory competition in e-commerce (Jamal et al., 2003, 2005) and a baseball card-grading market (Jamal and Sunder, 2011a) failed to find any race to the bottom under pressure of competition. To address the potential for better standards in a setting thought to benefit from coordination standards, we present a case study of internet telephony. This example shows that competition in standard setting can yield large gains even when there is an incumbent SSO monopoly that produces high-quality standards. Even if a monopoly performs well, competition can do better.

The broad survey of standard-setting practices in the US economy presented in this paper raises several important issues regarding accounting standard setting. First, standard-setting bodies in other jurisdictions have elaborate consultation processes, are able to engage their constituents, and develop high-quality standards (as evidenced by their voluntary adoptions in countries around the world) without the use of government sanctions, audits, or threats of punishment. While the US government is required by the US Constitution1 to adopt due process, this requirement has been emulated by private standard setters; ‘due process’ mechanisms are not unique to SSOs operating under government’s regulatory mandate.2 Private standard setters find it in their interest to intensively and effectively consult and engage with their constituents. Standards development, review, field testing, voting, and adoption practices vary considerably. Unlike accounting, SSOs in other domains often use norms and competition extensively to identify and develop good standards, and to improve existing ones (Sunder, 2002, 2005; Waymire and Basu, 2007).

Even if the incumbent SSO monopoly (the FASB/IASB in this case) performs well, a better set of standards could arise from a competitive regime. By most accounts the international SSO, which is the subject of the case study in this paper

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1 The fifth amendment to the US Constitution, which was enacted on 15 December 1791 as part of the Bill of Rights, requires the government to follow ‘due process of law’ in order to protect citizen rights vis-à-vis the federal government. This requirement has been interpreted by the US Supreme Court to require a formal consultation process for all federal government agencies.

2 The idea of due process has been popular in the English-speaking world since the signing of the Magna Carta in 1215. Even early private standard-setting organizations in the US (e.g., US Pharmacopeia—founded in 1820) had a bottom-up standard-setting process, and sought to elicit participation from state medical societies, and later medical schools, in its standard-setting process.
(the International Telecommunications Union or ITU), has long been a highly successful standard setter. With 191 fee-paying countries as its members (global participation), a long history since 1863, and a proven track record, the ITU’s standards had enabled a reliable global telephone system to be developed, and was a success by almost any measure. One could get a good voice phone reception anywhere in the world through a reliable technology that responded to rapid technological changes by developing a circuit switched network. Yet it turned out that a revolutionary alternative—packet-switched—architecture with lower cost and easier integration with the internet made instant messaging and peer-to-peer communities and models possible. The telecom industry’s shift from circuit- to packet-switched network was facilitated by the activities of a competing standard setter (the Internet Engineering Task Force or IETF) that had no official government support, no threat of sanctions, and no ability to compel anyone to use its standards. The IETF was successful, not because it was trying to harmonize with the ITU’s model of communication services, but because it had conceived of a better ‘mousetrap’. The simpler decentralized protocol for network communications allowed proliferation of new internet devices and services which were not even conceived of by those who developed the system and transformed communications. It seems unwise to foreclose such possibilities in accounting.

FRAMEWORK: PROPERTIES OF STANDARDS AND THEIR DEVELOPMENT PROCESSES

Quality Standards
Standards have both economic rationales as well as limits. The same basic arguments apply to accounting as well as other industries. Quality and coordination are two salient functions of standards. Quality standards usually take the form of specified minima for each attribute of each product category. Quality standards can be generally identified as those which classify or rank order output by quality. Percent of foreign material or impurities, strength, probability of failure, chances of defect, fat content, and smoothness, are examples of characteristics that are used to define quality standards in various contexts. These are the sorts of standards on which the seller could save money by lowering the quality, and the definition of transaction would be incomplete if the relevant quality standard were not included in commercial contracts.

With all other things being equal, higher quality is always desirable for consumers, and usually results in higher cost for the seller. Selection of quality standards is a matter of trading off the costs and benefits of higher quality. Consequently, such standards can take the form of minimum quality (as in accounting disclosures); leaving producers free to choose a higher level if they so wish. They can also take the form of grading standards, which define two or more classes ranked by grade, each with a minimum standard of its own (see Jamal and Sunder, 2011a, b for a discussion.

of grading standards in the private and public sector). The conceptual framework can be considered to be a tool devised to help accounting standard setters to construct and assess quality standards (Barth, 2014).

**Coordination Standards**

Even when the preferences of the transacting parties are not monotonic in the relevant attributes of the product and service, they may still need to coordinate on these attributes to obtain satisfactory results. The diameter, pitch, and shape of threads on the base of an electric bulb must match the design of the bulb sockets for either component to be of any use. Here the key issue is coordination, not quality. A small change in diameter, for example, is no more or less desirable to the buyer or the seller, as long as the two parts fit together. These standards, too, reduce the cost of communication and transactions by making it easier for all parties to find satisfactory counterparties.

The relevant attributes are not necessarily more or less desirable (in contrast to the example of quality standards given earlier where the attributes are directional). Coordination standards, which are intended to obtain a mutual fit among various actions or components for the sake of enhanced efficiency (between threads on screws and bolts in our example—see Jamal and Tan (2010)⁴ for an accounting example of the need for correspondence between accounting rule type and auditor type). There is no obvious way of ranking alternative coordination standards. Driving on the left- or right-hand side of the road, the distance between rails of a railroad track, the shape and pitch of the threads on a bolt or nut, and the size and shape of shipping container boxes (Levinson, 2006) are all examples of coordination standards. The argument for consistency and comparability, as well as the attempt to create a uniform definition of assets and liabilities, are coordination arguments for accounting standards.

**COMPETITION AMONG STANDARD SETTERS**

A monopoly standards regime is thought to have an obvious advantage of better coordination; it is also more efficient in the short run. Standardizing all driving on the right (or the left) side of the road in an entire country or continent is an obvious example of gains that can be obtained from coordination. Since there are no differences in efficiency, once chosen, the fixed investments in learning how to drive ensure that the monopoly regime of driving on a given side of the road will be stable for a long time. Likewise, an airline that uses only one model of aircraft saves on parts inventory, maintenance, fleet size, shipping containers, scheduling, and staff training (Stevenson, 2012). A university that requires all applicants to take the

⁴ Jamal and Tan (2010) conduct an experiment where they vary accounting standard type (principles-based, rules-based) and auditor type (principles-based, rules-based, client-friendly). Their results show that the best accounting occurs when standards type and auditor type are consistent (either both are principles-based, or both are rules-based), and poor accounting results when the standards type and auditor type are mismatched.
Scholastic Aptitude Test (SAT) saves much effort in evaluating the applications of students coming from diverse school systems. Further, many universities asking for SAT scores yield economies of scale in devising and administering the test, and each student can take just one test to support applications to multiple schools. Giving preference, if not monopoly, to some systems and designs over others is the essential feature of all schemes of standardization (Sunder, 1988, 1997).

However, there are also some costs associated with standardization (Krislov, 1997). Penalties associated with deviation from a standard discourage innovation. Discovery of better designs and practices is not only discouraged, it is also made difficult because there are fewer alternatives to compare. If standards are made a public good, their developers cannot capture any gains from standardization and do not have incentives to develop better standards except as a government body or an industry collective. These features of standards point towards the room for competing standards (Sunder, 2002).

Most airlines fly multiple models and makes of aircraft, many IT departments support alternative equipment and software, most universities accept SAT as well as some alternative (e.g., ACT) scores, and some industries (e.g., cotton and diamonds) have their own commercial codes. In corporate law, competition among the 50 states of the US prevails. Likewise, there is competition among university (and individual faculties such as business schools) accreditation bodies, state and federal bank regulators, and stock exchanges. There are multiple competing standards for cellular phones, data networks, computer operating systems, and how characters are represented by 0-1 bits in computers. Some regulators (in the US and Canada) even permit limited competition among accounting standards. All these allowances for variation sacrifice certain efficiencies provided by a monopoly for the sake of innovation and development of better standards.

Comparison of Standard-setting Processes of SSOs

It is quite common to have competing SSOs whose jurisdictions overlap (see Jamal et al., 2003). We examine the processes used by four SSOs whose standard-setting domains overlap partially, especially in relation to internet telephony (the subject of the case study in this paper). The four SSOs are the IETF, the ITU, the Institute of Electrical and Electronics Engineers (IEEE), and the Alliance for Telecommunications Industry Solutions (ATIS). Details of the standard-setting processes of these organizations are obtained from their websites, as well as from Bradner (2006) and Nickerson and Muehlen (2005). Table 1 presents a comparison of the standard-setting process of these four SSOs and the FASB. All these SSOs have elaborate processes for initiating standards, engaging a diverse set of participants, and various quality control and editorial processes. We make the following comparative observations from Table 1.

This is an abridged version of the table. The complete table accompanies this paper on the Abacus website.
<table>
<thead>
<tr>
<th>Standard-setting organization (SSO)</th>
<th>Financial Accounting Standards Board (FASB)</th>
<th>Internet Engineering Task Force (IETF)</th>
<th>Institute of Electrical and Electronics Engineers (IEEE)</th>
<th>Alliance for Telecommunications Industry Solutions (ATIS)</th>
<th>International Telecommunications Union (ITU)</th>
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</thead>
<tbody>
<tr>
<td><strong>Scope of standards</strong></td>
<td>Financial reporting (GAAP)</td>
<td>Internet: above the wire and below the application (e.g., IP, TCP, e-mail)</td>
<td>Aerospace, telecom, especially networking, electric power, consumer electronics, and internet</td>
<td>IT in telecom industry such as plant infrastructure, wireless, multimedia</td>
<td>Global telecom network standards</td>
</tr>
<tr>
<td><strong>Year formed</strong></td>
<td>1973</td>
<td>1986</td>
<td>1963</td>
<td>1993</td>
<td>1865</td>
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<tr>
<td><strong>Working groups</strong></td>
<td>12</td>
<td>124</td>
<td>102</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td><strong>No. of standards</strong></td>
<td>168</td>
<td>7,136</td>
<td>1,534</td>
<td>1,224+</td>
<td>4,000+</td>
</tr>
<tr>
<td><strong>Government involvement</strong></td>
<td>Yes—Private SSO, but standards required by law</td>
<td>No</td>
<td>Partial—sets private and government-backed (ANSI) standards and works with ITU</td>
<td>Partial—sets private and government-backed (ANSI) standards and works with ITU</td>
<td>Yes—UN body of national (government) standard setters</td>
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<tr>
<td><strong>Sanctions for non-compliance</strong></td>
<td>Yes from SEC</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td><strong>Membership</strong></td>
<td>No direct members</td>
<td>65,000 individuals and 150 organizations</td>
<td>425,000 members in 160 countries</td>
<td>300 corporate representatives</td>
<td>193 states who can vote, over 700 private sector members with no vote</td>
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<tr>
<td><strong>Funding</strong></td>
<td>FAF collects a tax from companies (as per SOX) based on their equity market capitalization (67% of budget)</td>
<td>Individuals and organizations pay membership fee to Internet Society</td>
<td>Individuals and organizations pay membership fee</td>
<td>Companies pay membership fee (from $1,000–$259,000 per year) based on sales, and a standard committee fee</td>
<td>Each country pays membership fee of 63,600 Swiss francs per year</td>
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<td><strong>Standards initiated by</strong></td>
<td>FAF and reviewed by FASAC (Advisory Council)</td>
<td>Grassroots members or area director (AD)</td>
<td>An IEEE-approved organization must sponsor a standard by filling out a PAR (Project Authorization Request form)</td>
<td>An issue Champion—an ATIS member or a forum or committee participant must fill out an issue identification form</td>
<td>Member states and other duly authorized entities (national SSOs or individual companies)</td>
</tr>
<tr>
<td><strong>Working groups</strong></td>
<td>Full-time FASB staff workers Resource group of external participants set up to provide advice, Agenda and minutes online</td>
<td>Create public mailing list—member and diversity of participants monitored by AD Agenda and minutes online</td>
<td>Prepare a draft of the proposed standard</td>
<td>Post the issue's initial closure resolution on the ATIS website and send to e-mail list Resource group of external participants (CIO Council) set up to provide advice</td>
<td>Review the text of the draft recommendation Assess the summary statement in terms of its completeness and intention Debate to approve the recommendations</td>
</tr>
<tr>
<td>Standard-setting organization (SSO)</td>
<td>Financial Accounting Standards Board (FASB)</td>
<td>Internet Engineering Task Force (IETF)</td>
<td>Institute of Electrical and Electronics Engineers (IEEE)</td>
<td>Alliance for Telecommunications Industry Solutions (ATIS)</td>
<td>International Telecommunications Union (ITU)</td>
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<td><strong>Exposure draft</strong></td>
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<td>Written exposure draft. Public given minimum of 30 days to respond</td>
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<tr>
<td>Last call issued by IESG with four weeks for outside input</td>
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<tr>
<td>Each member of the IEEE-SA Standards Board places a final vote on the submitted standard document</td>
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<tr>
<td>An issue is automatically placed into final closure provided 21 calendar days have passed since the issue’s initial closure resolution and no new information surfaces</td>
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<td>The text of the draft new or revised recommendation must be available to TSB in a final edited form in at least one of the official and working languages</td>
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<td><strong>Standard adoption threshold</strong></td>
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<td>&gt;50% votes of FASB Board members</td>
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<td>No voting—rough consensus as determined by AD</td>
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<td>75% of votes cast, and at least 75% of working group must vote</td>
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<td>Each company has one vote. Need &gt;50% votes</td>
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<td>70% of votes cast (only government reps can vote—one vote per country)</td>
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<td><strong>Can issue more than one standard for same issue?</strong></td>
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<td>No</td>
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<td>Yes, though rare in practice</td>
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<td>Yes</td>
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<td>Yes</td>
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<td><strong>Standard duration</strong></td>
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<td>Indefinite</td>
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<td>Indefinite</td>
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<td>Five years—automatic review or withdraw</td>
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<td>Indefinite</td>
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<td>Indefinite</td>
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<td><strong>Standards competition</strong></td>
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<td>No</td>
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<td>Done ex-post in the market</td>
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<tr>
<td>Done ex-post in the market, but also sponsors some ex-ante Olympic competition (experiment)</td>
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<tr>
<td>Done ex-post in the market but also sponsors some ex-ante Olympic competition (experiment)</td>
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<tr>
<td>Done ex-post in the market</td>
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</table>

FASB = Financial Accounting Standards Board (www.fasb.org)
IETF = Internet Engineering Task Force (www.ietf.org)
IEEE = Institute of Electrical and Electronics Engineers (www.ieee.org)
ATIS = Alliance for Telecommunications Industry Solutions (www.atis.org)
ITU = International Telecommunications Union (www.itu.int/ITU-T/index.phml)

A more detailed (and earlier) version of this table can be accessed at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1075705
Number of standards  As of 18 February 2014, the FASB has the fewest number of standards (168) of the five SSOs, whereas the IETF has the largest (7,136 standards).6 We note the number of standards cannot be taken as a proxy for their importance, quality, or effectiveness. There is a complaint voiced in accounting about ‘standards overload’ but that may be related to their complexity (Palmrose, 2009), not the number of standards.

Government participation and sanctions  This runs the gamut from only government bodies participating in standard setting (e.g., the ITU) to no government involvement (e.g., the IETF). The IEEE and the ATIS exhibit a mix of government and private involvement in standard setting, as does the FASB. The FASB is the only body in this group whose standards have the privilege of being enforced by a statutory audit and formal government sanctions for noncompliance. The IEEE has a provision for obtaining voluntary certification of standards compliance, whereas there is no formal certification or sanctions process for the other three SSOs.7 In accounting, mandatory audit requirement and enforcement are considered to be necessary for proper functioning of accounting standards (e.g., Ball et al., 2003; Bushman and Piotroski, 2006). It is not the norm in the economy for privately set standards to be enforced by government sanctions. Given the vast number of SEC (accounting) and PCAOB (auditing) findings of deficiencies, there is little evidence that the degree of compliance with accounting standards is any better than compliance with standards set in other parts of the economy not enforced by law (see also Jamal et al., 2005 for a comparison of compliance with standards in jurisdictions where privacy practices are (are not) governed by law and threat of legal sanctions).

The behaviour of the four technology-oriented SSOs is similar to that of the International Accounting Standards Committee (IASC) which was also a volunteer-led international effort to create new alternatives to the available standards. In its initial phase, the IASC operated without any formal legal powers or enforcement capability as it set norms for accounting practice (see also Sunder, 2005; Basu et al., 2013 on the historical development of accounting based on voluntary norms developed in the private sector). The distinctive part-time volunteer engagement and choice features of the IASC were removed when the SEC and the EU formally

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6 As of June 2009, the FASB had developed 168 Statements of Financial Accounting Standards (SFAS). The FASB also develops other ‘standards’ which it considers to be authoritative such as Concepts (of which there are eight. The first three have been superseded so there are now five in effect), Interpretations (48), and Staff Positions (70). After June 2009, the FASB started issuing modifications called Accounting Standards Updates (ASUs) and does not issue any more SFAs. Likewise the IETF and other SSOs also issue many different types of standards. Regardless of how the count is done, the IETF, IEEE, ATIS, and ITU have issued substantially more standards than the FASB as of June 2009, and also as of 18 February 2014.

7 The Federal Communications Commission (FCC) regulates interstate and international communication by radio, television, wire, satellite, and cable, though Congress has mandated that the internet shall remain unfettered by regulation. A Federal District Court decision in Vonage v. Minnesota Public Utilities Commission (2003) declared internet telephony to be an information service that is exempt from State and Federal telecommunications regulation. The FCC thus does not enforce compliance with ITU standards in the US.
engaged with the IASC and transformed it into the IASB armed with some elements of authority. While we observe this transformation from the IASC to the IASB occurring in accounting, it is not necessary that this type of transformation should occur. The technology SSOs we use as a comparison in this study have not gone through such a transformation, but continue to operate and innovate successfully.

**Financing**  The FASB is financed primarily from a tax levied on publicly traded companies under the authority of the Sarbanes Oxley Act (2002, hereafter SOX). All the other SSOs (including the IASB and the pre-SOX FASB) rely primarily on fees levied on entities (individuals, companies, or governments) who are direct participants in the standard-setting process. The FASB also relies on publication sales to institutions (though standards are provided free to academics and students) for a significant part of its budget (33%). The ATIS and the IEEE also sell standards publications in their internet store. The IETF and the ITU provide all their standards publicly on the internet without any fees and have no publication-related revenue; they are financed primarily by membership dues and volunteers. While some accountants fret over financing and ‘independence’ of the accounting SSOs, it is common in the economy to have private SSOs financed by their members who have a direct financial interest in the standards being developed.

**Standards adoption threshold**  The FASB and the ATIS use a simple majority vote for adopting their standards,8 while the ITU and the IEEE use 70% and 75% thresholds, respectively; the IETF has no formal voting, just a process to ascertain ‘rough consensus’. The IEEE has two distinctive elements as compared to the other SSOs, namely, potential for a company to capture a standard-setting committee by stacking its membership, and a five-year sunset clause that causes all standards to face an automatic review or lapse. Adopting a higher (5-2) threshold would put pressure on accounting standard setters to develop standards that have more general acceptance.

**Standards competition**  The FASB is the only SSO that has no provision for standards competition and does not allow more than one standard for a particular issue to be in effect at the same time. All the other four technology-related SSOs allow the possibility of more than one competing standard to be in effect at the same time. In addition, some standards of these four SSOs also compete with each other (see the next section for a case study of such competition across SSOs). The IEEE and ATIS sponsor periodic Olympics-type competitions where sponsors bring their products and take part in a competition where the winner becomes the standard. The IETF requires two independent practical operationalizations to be developed for each proposed standard before it can be adopted. The FASB is the only SSO that has no

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8 The FASB used a super majority (5-2 or 71.4%) threshold until 2002. Then the FASB switched to a 4-3 requirement which is effectively a 57% threshold.
routine (and required) field testing of standards prior to their adoption, though it has recently conducted some field tests (Madsen, 2013).

Since its inception in 1973, the FASB has sought to engage the financial reporting community by holding public hearings (first held in 1974 at a New York hotel), opening its board meetings to public observation (in 1978), seeking comments on its exposure drafts, and even periodically engaging companies to field test proposed accounting standards. Many observers feel that the FASB has not been successful in engaging ‘users’ of accounting (Palmore, 2009; Young, 2003, 2006), and usual reports of participation at FASB events (of about 200 participants at conferences), and responses to exposure drafts, are many orders of magnitude lower than what we observe in SSOs like the IETF, which routinely has 1,200 to 2,500 participants at its conferences. In 2010, the Financial Accounting Foundation (FAF) also began to conduct post-implementation reviews to assess the efficacy of the FASB’s new standards (Madsen, 2013).

A CASE STUDY OF INTERNET TELEPHONY

_The internet is the service._

Jon Peterson (area director of IETF)

The arguments for a monopoly SSO to write accounting standards include higher quality as well as better coordination, that is, comparability and consistency (Barth, 2006). According to these arguments, a competitive standards regime would do worse on both counts: lower the quality of standards through a ‘race to the bottom’ and lose the gains from coordination through non-comparability and inconsistency of competing standards. While counterarguments are available elsewhere (e.g., Sunder, 2010, 2011), it is worthwhile to look for examples outside the accounting domain to assess if damage from competition to the quality and coordination features of accounting will dominate the gains.

In a communications network, the gains from coordination are clear and undisputed. Except in the very earliest phones, when each pair was connected by a separate line, coordination is the very essence of a network. This is how the conventional telephone connects users across the globe. Anyone with a phone can dial a number and reach anyone else on the planet that has a phone, and increasingly, any internet device. This demand for connectivity suggests that much of the main value of a telephone comes from the network to which it is attached. The demand for interconnectivity also makes telephone systems very complex. The conventional phone works on a Public Switched Telephone Network (PSTN), a remarkable engineering achievement of the past half century.

**Background: Circuit-switched Network Telephone Model**

The PSTN features a circuit-switched architecture. To complete a call, a circuit-switched network uses the communication links to assemble a continuous connection between the two phones, and maintains it for the duration of the call (Goralski and Kolon, 2000). The design and operation of such a network includes: (1) central control over paths in a network; (2) telecom standards focused on
interfaces such as user-to-network and network-to-network interfaces; (3) no user control over the choice of services—decided by the service provider; (4) memory and information processing in all network components to maintain the connection; and (5) susceptibility to single points of failure, requiring carrier-grade standby equipment.

The ITU-T H.323 Standard
To operate a PSTN, the telecommunications unit of the ITU (ITU-T) developed the H.323 standard. The ITU is a specialized agency of the United Nations with 193 sovereign states and about 700 private sector entities as its members. First issued in 1996 (V1), the standard was revised to V6 in 2006. It specified protocols for multimedia communications (audio, video, data, and conferencing) among network equipment and terminals. Only a subset of H.323 is needed for IP telephony.

Packet-Switched Network: The Competing Session Initiation Protocol (SIP) Model
SIP was developed by the Internet Engineering Task Force (IETF), an informal group of people and organizations who worked by rough consensus on Requests for Comments (RFCs). Using a radically different approach, the first SIP ‘standard’ was issued in 1998 (RFC 2543) followed by a revision in 2002 (RFC 3261). Instead of sending a whole message down a line which has to be kept ‘on’ for the duration of the transaction, SIP splits the message into small packets of information, each routed separately through the system and reconsolidated at the end point.

Key features of this decentralized SIP model are: (1) no central control over the network—SIP works in a decentralized (web) environment; (2) intelligence is embedded at the end points with a dumb network that connects them together—the internet standards are focused only on protocols specifying how devices communicate over the net and not on interfaces; (3) connects well with the web and e-mail, so it is easy for people to program new features and tailor services to individual clients; (4) a SIP network server is not required to be ‘on’ even for the duration of a transaction, reducing need for memory and processing in the network components; (5) no single point of failure; and (6) transparency of applications and complete control by users over applications and selection of services.

The earlier circuit-switched network made a high-quality telephone system with global connectivity possible. However, SIP seems to be a robust packet-switched challenger which is not wedded to a circuit-switched environment. The web orientation of SIP enables a much broader range of functions including multi-player games, bank transactions, and mobility, in a simple, scalable, and extensible form that is easy to program and debug.

The SIP architecture defines two main devices: clients and servers. A client is described in RFC 3261 as a network element (e.g., a SIP phone) that sends SIP messages to other SIP devices or to an SIP server for processing. The role of a server is to mediate between clients and other servers or to function as a gateway to legacy networks.

Owing to the wide usage by legacy systems of H.323 protocol, SIP Gateways connect to PSTN or other H.323 networks as well.
requests and receives SIP responses. Similarly, the server is a network element that receives requests in order to service them, and then responds to those requests. Thus, the foundation of well-known and extensively implemented internet protocols, such as the Hypertext Transfer Protocol (HTTP), plus the client/server architecture, provides SIP with a degree of simplicity, lower cost, less need for memory, and more scalability, extensibility, and modularity that many feel is superior to the complexities of H.323 (Schulzrinne and Rosenberg, 1998a, b).

SIP is based on a different (web-based) architecture; it is not just an extension of a circuit-switched network, and it has helped move the entire telephony industry towards the web. As the legacy of PSTN networks weakens with time, it is a fairly safe prediction that in the future all telephony will run on the web (or its future evolution) and not on circuit-switched networks. The dominance of SIP for telephony has led the ITU and IETF to work together to design the latest SIP-six standard released on 1 April 2011.

The Benefit of Competing Standard-setting Bodies
As a global standard setter for communications, the ITU-T has built a good track record of setting international standards using a framework where a new standard is defined for each feature, and then a set of features is integrated into a meta-standard like H.323. This creates a complex framework where the addition of each new feature requires adjusting the definition and operation of all existing features (like for current accounting standards). Despite these complexities, the ITU-T standardization body has been an effective global standard setter who responded on a timely basis to changes in technology over many decades. The PSTN developed and assisted by ITU-T standards is widely regarded (even by its critics) as being reliable, providing good voice quality, minimal delay, and worldwide coverage.

Yet it turns out that the decentralized creativity of a loosely organized group of engineers in the IETF conceived of and designed an even better alternative. Given its formal decision-making structure, historical legacy, and billions of dollars invested in the existing system by telecom companies, it is highly doubtful that the ITU-T and the telecom industry would have ever made the leap to an internet infrastructure without the presence, competitive pressure, and insight of the IETF (Schulzrinne and Rosenberg, 1998b). Even if this new technology were to somehow prevail, the absence of the IETF would have certainly slowed the transition to the internet. The shift of telephony to the internet is not an isolated process. It builds on an internet standards infrastructure developed over many years by the IETF. In the absence of this standards infrastructure, it would have been much more difficult to move the telecommunications industry to the internet. While we may be inclined to believe that a better technology will ultimately prevail over an inferior one, such dominance is not guaranteed in a network economy where powerful companies and government regulators have a vested interest in maintaining the existing technology and standards (Katz and Shapiro, 1985).

The IETF pursued internet telephony as a matter of ideology with a commitment to using the internet and its emphasis on having the control reside at the end points instead of at a central server. SIP defines primitives that a system can support instead
of features (as in H.323). This focus on primitives (and being content-neutral) makes it easy for SIP to add new features and new devices (not just phones). This philosophy of no central control appears to be very powerful as telephony increasingly is being driven by peer-to-peer or P2P networks (e.g., Skype, Google Talk). The use of the internet helps with simplicity and scalability, and is better able to use intelligent devices and deal with presence, mobility, P2P, and instant messaging. Many of these new services were not even envisioned when a small number of researchers involved with IETF began to develop protocols for routing telephone calls over the internet. There is also the added advantage of low cost. Under a traditional intelligent phone network, only the phone company could add new features, and upgrading the (intelligent) network was slow and costly. In a distributed internet environment, it is much easier to add new services without needing to upgrade the entire network.

The attitude and success of the IETF is the exact opposite of the accounting SSOs like the FASB and the IASB. Like the ITU-T, the latter are wedded to a centralized control-and-command type of standard-setting model. Even if they end up doing a good job, granting them a monopoly amounts to giving up the potential benefit of doing even better under a decentralized system.

DISCUSSION AND IMPLICATIONS FOR ACCOUNTING STANDARD SETTING

In the US and the EU, a monopoly process for the development of financial reporting standards has been chosen almost by default, and with little debate on the merits of monopoly and competition in this domain. Since the Norwalk Agreement of 2002, the FASB and the IASB have pursued a convergence project in order to eliminate what little diversity and competition survives in accounting standard setting, though the US has not yet formally adopted IFRS. At the present time, the convergence process is stalled as disagreements arise and the FASB and the IASB seem to be pursuing independent paths in standard setting. The oft-repeated argument for monopoly and convergence is uniformity and comparability of financial statements across companies (and countries). This is a coordination argument.

A government-backed monopoly is required by the US Constitution to adopt ‘due process’; it may also find it useful to at least appear to be responsive to demands of various constituencies and thus adopt an elaborate due process method that slows down standard setting (Cheit, 1990). The FASB and the IASB use elaborate due process, and the appearance of engaging diverse constituencies but with little actual participation from preparers, auditors, and users of financial statements (Palmrose, 2009; Young, 2003, 2006). Private SSOs who do not have government backing also create elaborate due process mechanisms where they engage their community in an effective manner. The level of engagement of the engineering community in standard setting (documented in the voluntary participation in IETF standard-setting groups) is inconceivable in accounting today. The engineering community also requires extensive field testing of standards before they are adopted. Perhaps the accounting boards can improve their standards by pre-implementation field testing (Palmrose, 2009; Madsen, 2013).
Competing private standard setters have incentives to be innovative and to carve out a clientele rather than trying to please all constituencies (see Jamal et al., 2003, for an example in e-commerce privacy). Monopolies are not known for their innovation. Especially when backed by government they are slow in responding to changes in the environment due to extensive due process requirements. The data on number of standards set suggest that the FASB is too reticent, rather than too prolific in setting standards. This lack of responsiveness and timeliness is especially troubling in accounting where a financial engineering industry creates transactions and structures to evade the substance of accounting standards (e.g., the structuring of leases, preferred shares, and special purpose entities). For example, in the case of lease accounting, a G4+1 country 10 group study issued a report (Nailor and Lennard, 2000) in response to concerns about abuse of the lease accounting standard (FAS 13). The G4+1 report recommended a change in the leasing standard whereby all leases should be reported on the balance sheet with no tests or bright lines (Jamal and Tan, 2010). Yet 14 years later in 2014 there has still been no new lease standard and the FASB and IASB seem to be diverging in their opinions of how to implement the recommendations of the G4+1 report. A competing set of accounting standard setters is likely to be more responsive to changes in financial engineering and to respond more quickly to abuses in implementation of the standards set. Despite intense regulatory pressure after the Enron scandal (and legal reforms such as SOX), a large amount of corporate debt continues to be reported off balance sheet due to difficult-to-close loopholes in the lease accounting rules.

The IETF did not try to harmonize its standards with those of the ITU. The simpler decentralized protocol for network communications developed by the IETF has enabled the proliferation of new internet devices and services which were not even conceived of by those who developed the new system. This begs the question of why must there be only one model (or only one conceptual framework) for the development of accounting standards? While some regulatory oversight over accounting standard setting might be desirable, the current approach of relying on a monopoly and pursuing harmonization of accounting standards needs to be re-considered.

The US, India, Japan, and several other countries have considered adopting IFRS in recent years, and appear reluctant to do so. Other countries such as Canada have already moved to a multi-GAAP regime. Perhaps standard setters in these countries should consider allowing companies the choice of using either their local GAAP, US GAAP, or IFRS. We may be better off having more sources of GAAP and competition among these GAAP developers rather than reducing all competition by harmonizing GAAP internationally.

REFERENCES


The G4+1 Group comprise the accounting standard-setting bodies of five countries—Australia, Canada, the UK, New Zealand, and the US The IASC was an observer in this process.


384

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