

**GLOBALIZED SECURITIES MARKETS AND ACCOUNTING:  
HOW MANY STANDARDS?\***

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Comments welcomed

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**SYNOPSIS**

This paper examines the relationship between globalized securities markets and accounting systems. After describing that globalization, I discuss the reasons for the increase in globalization over the past few decades: changes in government policies and rapid improvements in the technologies -- telecommunications and data processing -- that underlie finance. I then develop the idea of a financial reporting system as a "network", with the accounting system providing the standards that determine the compatibility between the components of the network.

Using this framework, I show the pluses and minuses of a single accounting system versus multiple accounting systems and illustrate the current "systems competition" among national securities markets and their accounting systems. Though a single accounting system decreases comparability costs and thereby encourages globalization, while multiple accounting systems increase comparability costs and thereby impede globalization, those multiple accounting systems also permit national adaptation to national circumstances and permit greater opportunities for experimentation and innovation.

On balance, a competitive framework is preferable. The current limited and muted competition between accounting systems could be enhanced by the introduction of the IASB's International Accounting Standards as a second allowable system in the U.S. alongside U.S. GAAP.

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**INTRODUCTION**

Information is at the heart of finance. In a less-than-certain world, lenders and investors want to know who are the good prospects for their loans and investments; who is more likely to repay their loans and reward their investments. Even after a loan/investment has been made, the lender/investor wants to be able to monitor the borrower/funds-user, so as to gain assurance that the funds are being used in ways that maintain or enhance the prospects for repayment and reward. Finance is all about information.

For loans to and equity investments in enterprises, an enterprise's statement of its financial accounts -- its accounting -- is a crucial part of the information set on which lenders and investors rely. This is true regardless of whether the finance is provided by insiders or by external parties with no close connection to the enterprise. In the latter case, however, publicly available and certified (audited) financial statements are key. It is no accident that the rise and flourishing of national financial markets has been associated with a rise in the importance of accounting, as well as the importance of legal systems that specify lenders' rights, shareholders' rights, etc.<sup>1</sup>

In the late twentieth and early twenty-first centuries, the increased globalization of financial markets -- especially securities markets -- has raised important questions concerning accounting systems.<sup>2</sup> Should the existing nationally-oriented accounting systems continue to be the norm? Should there be an effort instead to harmonize national accounting systems into a single global accounting system? If the latter is desirable, what harmonized system should prevail? Should it be the generally accepted accounting principles (GAAP) system that is used in the United States, the

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<sup>1</sup> See, for example, La Porta et al. (1997, 1998), Levine (1997), Black (2001), and Ball (2001).

<sup>2</sup> By an accounting "system", I mean the set of rules that describe how a firm should present its financial statements. This set of rules is often described as a set of accounting "standards".

country with the world's largest capital markets? Or should some other standard -- e.g., the international accounting standards (IAS) that have been developed by the International Accounting Standards Board (IASB)<sup>3</sup> -- be the norm? Should a hybrid arrangement -- whereby enterprises have a choice of standard -- be permitted? What is likely to happen if no deliberate policy choices are made?

This paper will be about the relationship between globalized securities markets and accounting systems.<sup>4</sup> In the next section we will briefly document the increasing globalization of securities markets and discuss the reasons for this globalization. In third section we will lay out the framework for thinking about a financial reporting system as a "network", with the accounting system providing the standards that yield compatibility among the components of the financial reporting system. The fourth section will sketch out the arguments for and against the adoption of a single global accounting system and for and against the maintenance of multiple accounting systems. The paper ends with a brief conclusion.

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<sup>3</sup> Until 2001, the IASB was known as the International Accounting Standards Committee (IASC).

<sup>4</sup> For earlier discussions, see, for, example, Ball (1995), White (1996), Hegarty (1997), and Gebhardt (2000).

## **THE GLOBALIZATION OF SECURITIES MARKETS: HOW MUCH? HOW COME?**

There is little question that securities markets have become more globalized in the past few decades. This section will describe current levels and recent trends, and then discuss the reasons for them.

### **The extent and expansion of globalized securities markets**

There are a number of indicia of securities markets' expanded geographic reach: the numbers and trading volumes of companies that list on exchanges that are outside the country where those companies are headquartered; the cross-border transactions in securities; and the holdings of foreign securities by a country's residents. We will address each in turn.

#### ***Company listings***

Table 1 focuses on companies that list their equity shares on stock exchanges outside their home country. The table shows the numbers and annual value of shares traded in 2000 for "foreign" companies that have listed on the major stock exchanges around the world, as well their relative importance on those exchanges. The relative importance varies substantially across exchanges. Generally, the foreign companies' relative trading importance is smaller than their relative listing importance, although London and Stockholm are major exceptions.<sup>5</sup> Also, Asian exchanges have largely remained apart from the trading of foreign companies' shares.

Table 2 provides a time series for the non-U.S. companies that are listed on the New York Stock Exchange (NYSE). The number of listed non-U.S. companies has grown in absolute terms and also relative to the NYSE's total number of listings. The annual value of shares traded and the aggregate market value of these companies have also grown in absolute and relative terms. Table 3 shows similar data for the NASDAQ, though the growth in relative value of trading has been more sporadic for the NASDAQ. Nevertheless, both tables show that these two major U.S. exchanges

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<sup>5</sup> Similar data, though less complete, are available for companies' bond listings.

are becoming more involved in the listing and trading of non-U.S. companies' shares.

### ***Cross-border trading***

Table 4 provides a time series on the annual aggregate cross-border trading (purchases plus sales) of securities, relative to GDP, for six major industrial countries. The upward trend since 1975 is clear, and even through the 1990s all but Japan tended toward higher relative rates of trading. Table 5 provides more recent data for the U.S. that may indicate some leveling at the very end of the 1990s.

### ***Securities holdings***

Table 6 provides a long time series -- 1945-2000 -- on foreigners' holdings of U.S. equity and debt securities, and U.S. holdings of the equity and debt securities of other countries. The absolute value of these cross-country holdings has, of course, risen dramatically during these decades. Foreigners' relative holdings of U.S. securities -- relative to the total values of outstanding U.S. equity and debt securities -- has also increased, and continued to do so during the 1990s. For the relative importance of U.S. holdings of foreign securities, I have used as the denominator the relative aggregate U.S. holdings of all securities (domestic and foreign, since good time-series estimates of the total value of outstanding foreign equity and debt securities are not available. This series also shows a rise in relative importance.

In sum, these data show that cross-border securities listings, trading, and holdings are substantial and have been growing.

### **The reasons for the rise of globalization**

There are two main reasons for the rise of globalization: increased government tolerance; and improvements in the technologies of telecommunications and data processing.

### ***Greater government tolerance***

Governments have generally become more tolerant -- and sometimes encouraging -- of international capital flows. They are more willing to permit their citizens to invest abroad and hold the securities of companies that are headquartered abroad; they are more willing to permit outbound foreign investment by companies that are headquartered within their country; they are more willing to permit inbound foreign investment from abroad; and they are more willing to permit companies that are headquartered abroad to list their securities on national exchanges. All of these relaxations encourage the greater globalization of securities markets.<sup>6</sup>

### ***Improved technologies***

The two core technologies of finance are data processing and telecommunications. To see this fundamental point, recall the basic information paradigm that was sketched in the Introduction: Lenders and investors need to inform themselves about who are the better prospects before making a financial commitment and then need to monitor their counter-party after the commitment has been made. The technologies of telecommunications and data processing -- for gathering and assessing the information -- are central to this process.

Figures 1 and 2 provide a stylized way of understanding the centrality of information -- and its technologies -- to finance: who gets finance, from where do they get it, and in what form.<sup>7</sup> Figure 1 portrays potential borrowers as they are arrayed along a spectrum of informational transparency or opaqueness. At the left are highly opaque potential borrowers; at the right are highly transparent potential borrowers.

The sources of lending are similarly arrayed along this spectrum: The informationally opaque borrowers (at the left) will have to rely on self-finance and on friends and family (who may have special sources of information, or special means of assuring repayment, or who may be willing

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<sup>6</sup> For further discussions, see, for example, Barfield (1996) and Hertig (2001).

<sup>7</sup> For reasons of simplicity and brevity, we present this analysis in terms of borrowers and lenders, but it applies with equal force to the processes by which equity investments are made.

to convert a loan into a grant).<sup>8</sup> The highly transparent borrowers (at the right) will be able to access securities markets, where the buyers of their securities (bonds) are only moderately expert at credit assessment but can rely on the transparency of the borrowers as well as other information providers (underwriters; bond rating firms; securities analysts) to help them make their judgments. For potential borrowers in the middle of the spectrum, lenders who are specialized in information gathering and assessment -- such as banks and other depositories, insurance companies, finance companies -- will be the source of finance.<sup>9</sup>

Figure 1 shows two wavy lines as separating the three borrower (and lender) categories. The waviness of the lines is meant to convey a sense of lack of precision: The boundaries of these categories are surely fuzzy; and they can be affected by the financial and legal infrastructure of an economy. Further, the arrows show the boundaries moving to the left. The past three decades have seen breathtaking improvements in data processing and telecommunications. For the right-hand-side boundary, these improvements have permitted securities markets to "invade" the types of lending that were previously the domain of banks and other specialized lenders. This invasion has been embodied in the revolution of "securitized" assets -- residential mortgages, commercial mortgages, automobile loans, credit card loans, etc. -- of the past three decades.<sup>10</sup> For the left-hand-side boundary, these improvements have permitted banks and other intermediaries to extend credit-card lending and other personal and small business lending farther into the previously too-opaque group.

Figure 2 expands on these ideas by portraying two major components of transparency or opaqueness for enterprises: age and size. Greater age offers a track record that lenders can assess; and greater size of enterprise is usually associated with a larger loan, which spreads the fixed costs

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<sup>8</sup> For the past two decades, a limited amount of credit-card finance may also be available.

<sup>9</sup> For equity investments, venture capital firms would be in this category.

<sup>10</sup> For equity investments, this has meant an increase in the number and the "youthfulness" of the initial public offerings (IPOs) of enterprises that are raising equity capital.



of investment in data gathering and assessment over a larger amount. Accordingly, enterprises that are small and young will be relatively opaque and will have to rely largely on self-finance and friends and family; enterprises that are large and old will be able to access the securities markets; and enterprises that are in the middle will rely on specialized lenders. Again, the boundaries are fuzzy and are affected by financial and legal infrastructures. And, again, the improved technologies of data processing and telecommunications are surely pushing the boundaries down and to the left: Younger and smaller enterprises today are more able to enter the securities markets than was true two decades ago; and younger and smaller enterprises today are more able to secure bank loans.

The processes that have just been described apply equally forcefully in a geographic dimension. With poor and expensive telecommunications<sup>11</sup> (and limited data processing), finance is often a local phenomenon: Lenders want to be able physically to observe the premises of the potential borrower, look the entrepreneur in the eye, etc. Enterprises that are too far away are too informationally opaque. As telecommunications (and data processing) improve and become less expensive, lenders can learn more about more prospective borrowers that are physically located farther away. Equivalently, prospective borrowers can "tell their story" to prospective lenders who are farther away. Geographic distance becomes less of a barrier to increased informational transparency.

This geographic widening of informational transparency that comes with improved telecommunications and data processing does not stop at national boundaries. However, national boundaries do add discontinuities -- differences in legal systems, tax systems, accounting systems, corporate governance, language, culture, as well as exchange rate fluctuations -- that add to informational barriers and thus delay the expansion of finance across those boundaries. Thus, it is not surprising that advances in these core technologies could create a large national securities market in the U.S., covering a geographic area 3,000 miles by 1,500 miles, well before comparable trans-national securities markets could develop in Europe across approximately similar geographic

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<sup>11</sup> And poor and expensive (and time-consuming) physical transportation technologies.

expanses that encompassed multiple countries. But sufficient improvements in these technologies (accompanied by accommodating changes in government policies) have allowed the progress in globalization described above.

## **A FINANCIAL REPORTING SYSTEM AS A "NETWORK"**

The past two decades has seen the development of an economics literature on "networks".<sup>12</sup> In this section we will argue that a financial reporting system has the properties of a network.<sup>13</sup> The implications of this characterization, and the role that accounting plays in this network, will be important for the discussion that follows in Section IV.

### **Attributes of networks**

Technically, a network is simply a group of nodes connected by links; the nodes and links are complementary. Because this definition offers little intuitive clarity, consider some specific examples of networks:<sup>14</sup> First, there are "two-way networks": e.g., a telephone system; a railroad system; an airline system; a trucking freight delivery network. In these examples, all of the external nodes (users or locations) are capable of both sending and receiving; and all of the transactions must pass through one or more central nodes for sorting and routing. Figure 3 provides a schematic example of a generic network that would describe two local telephone systems (the A nodes and the B nodes) connected by a long-distance trunk line, two local rail gathering and delivery systems connected by a trunk line, etc.

Second, there are "one-way networks": e.g., an electricity system; a cable television distribution system; a credit-card network. Though Figure 3 can also generically describe these networks, they are different. In these examples, the flow of transactions goes in only one direction: e.g., from electricity generators to electricity users, or from program originators to viewers. Different external nodes do different things. Central nodes are still present, however. Also included in the one-way network category should be "virtual networks", which involve

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<sup>12</sup> See, for example, Katz and Shapiro (1994), Besen and Farrell (1994), Liebowitz and Margolis (1994), and Economides and White(1994).

<sup>13</sup> See Ball (2001).

<sup>14</sup> See Economides and White (1994); see also White (1999) for further elaboration and applications.

complementary combinations of "hardware" and "software" -- e.g., computers and their software, or computer operating systems and applications software, or VCRs and videotapes -- that have many of the same properties as physical one-way networks.

For two-way networks, an inherent characteristic is a *direct* positive spillover or "externality" effect that accompanies extra users or extra locations on a network. If there are more subscribers to a telephone network, there are more people who can call and be called, and the value of the network is greater for all users; similarly, if there are more locations on a railroad system, there are more destinations a freight shipper can send its freight to and more origins a freight recipient can receive from, and again the value of the network is greater.<sup>15</sup> Equivalently, when an extra user (extra location) joins the network, that user joins because of the direct value to the user; but the extra user adds extra value to the existing users as well. This direct positive externality continues as the size of the network increases, so long as congestion or other interference problems do not delay or degrade others' uses of the network.

For one-way networks, however, there are no direct spillover effects. One electricity user does not receive any direct benefits from another user's joining the network; neither does an extra cable television subscriber or an extra credit card user, or for virtual networks, an extra buyer of a VCR. However, there can be an *indirect* spillover effect that operates through economies of scale: If additional users and higher output volumes mean lower unit costs (e.g., because of the presence of fixed costs that can be spread over ever-larger volumes and constant marginal costs) and or greater variety of offerings (which ultimately is due to economies of scale), then additional users still provide an indirect spillover effect through lower unit costs or greater variety for the other users. Thus, extra electricity customers may cause rates for all users to be lower; extra cable television subscribers may cause additional channels to be offered; extra credit-card users may cause additional merchants to join the network. And, for virtual networks, more purchasers of a specific VCR system may cause a greater variety of videotapes to be produced for that system.

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<sup>15</sup> See Rohlfs (1974, 2001).

Economies of scale may also bring additional (indirect) benefits to users of two-way networks.

For all types of networks, *compatibility* is crucial. The components (nodes and links) must be usable with each other. The creation of compatibility occurs through a *standard*. For railroad systems, for example, the track gauge (the distance between the rails), tunnel dimensions, bridge heights, track curvatures, and freight-car couplings are important standards that determine the compatibility of a rail system; similarly, for electrical systems, voltage, cycles, and even outlet and plug designs are important standards that determine compatibility; for VCRs, the electronic coding, as well as physical tape characteristics, constitute the standards.

If two systems meet the same standards, then they are compatible, and they thereby form a larger system, with greater direct and/or indirect benefits for users. If the standards are different, then the systems may be wholly separate and incompatible, and users fail to receive the potential benefits that they could enjoy from being part of a larger system; or various "translating" devices that link the systems -- but that involve extra costs or diminished effectiveness -- may be possible.

Because greater direct and indirect benefits accrue to the users of a system with larger numbers of users, when two or more incompatible systems are in (explicit or implicit) competition for new users, the system that already has the larger number of existing users may well have an advantage in attracting new users; in terms of "market share", there may be a "band wagon" effect and a "tipping" point beyond which the larger system rapidly gains most or all new users and also gains existing users from the other system(s). The users of the "losing" system are likely to experience losses themselves, as they abandon their investments in the declining system and make new investments in the dominant system.

Where the direct and/or indirect network benefits are large and the differences between systems are small (in terms of user satisfaction), the system pressures (bandwagon and tipping) toward convergence toward a single system and set of standards will be great; on the other hand, where the network benefits are modest and the differences between systems are large (and heterogeneity among users is large, so that different users care strongly about different attributes of a system), convergence may not occur and may not be especially important.

Further, the large fixed (and sunk) costs that are usually involved in creating and adhering to a system with a specific set of standards often make switching among systems with different standards costly and can make major changes in a system's standards costly and difficult.<sup>16</sup> Thus there can be a "lock in" to an existing system and its standards. The combination of the "tipping point" and "lock in" phenomena means that systems can experience "path dependence": The standards of a specific system may be the product of a particular set of idiosyncratic decisions that need not imply that the standards are optimal for current circumstances; equally important, changes in standards in response to a change in the current economic environment may be difficult to achieve, again yielding a non-optimality of a system's standards.

#### **A financial reporting system as a "network"<sup>17</sup>**

A financial reporting system clearly has the attributes of a one-way network.<sup>18</sup> Figure 4 provides a stylized portrayal of a financial reporting system as a "network": The nodes on the left represent the companies that issue audited financial statements; the five nodes in the middle are the Big Five accounting firms that provide the accounting and auditing services for those companies; and the node on the right represents the mass of users of these statements. The links between them are the companies' financial statements, and the accounting system provides a specific set of standards that create compatibility. If all of the companies, auditors, and users are using and are familiar with that set of standards, then all of the nodes and links are compatible with each other. If a company chooses to use an accounting system with which one or more auditors and/or users are not familiar, then those nodes are incompatible with each other. Translations between accounting

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<sup>16</sup> Imagine the difficulties and costs that would be involved in changing the current track gauge standard of U.S. railroads or of changing the current voltage standard of the U.S. electrical system.

<sup>17</sup> A somewhat similar discussion of corporate law as a network can be found in Kahan and Klausner (1996, 1997).

<sup>18</sup> Whether the network is considered physical or virtual is not especially important for the analysis that follows.

systems are possible, but at additional (transactions) costs.

A financial reporting system has the indirect benefits that accompany a "one-way" network: If an additional enterprise adopts a specific accounting system (and thus "joins" that financial network), this action by itself does not convey a direct benefit to other enterprises that are using that accounting system. But there are indirect benefits: A greater number of adopting enterprises will encourage a larger number of accountants and users of financial statements to become familiar with the system, allowing the enterprises to have a wider choice of accountants and greater receptivity in the capital markets for their financial statements. The greater numbers of users may also attract greater attention to incremental improvements in the standards that can be handled by the system.

If two or more accounting standards are "competing", there may be bandwagon and tipping effects that push the outcome to a single standard. If so, then the issue of path dependence -- how did we get here? is this the right set of accounting standards for the current environment? -- is a relevant one. Alternatively, it may be the case that the inherent differences among enterprises are substantial enough so that different accounting systems for different types of enterprises can persist, despite the incompatibilities and translation costs.

### **The asymmetric information-awareness model of an accounting system**

We can now combine the asymmetric information model, which was mentioned briefly in the Introduction and discussed in Section II, with the "network" discussion above.

In the asymmetric information model, potential lenders and investors are *aware* of their informational limitations: They realize that potential borrowers<sup>19</sup> have more information about themselves and their likelihoods of loan repayments than do the lenders and that actual borrowers may know more about their actions and the effects on repayment than do the lenders. Lenders therefore recognize that they need to acquire information about prospective borrowers, so as better

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<sup>19</sup> Here as elsewhere, in the interests of brevity, I will describe the issues in terms of lenders and borrowers; but the same issues arise with equal force with respect to investors and seekers of equity finance.

to assess the riskiness of the prospective borrowers and to decide who to whom to make loans (and to whom to say "no") and on what terms; and to monitor their actions after advancing a loan, so as to be able intervene if circumstances warrant.

Let us describe the lenders/investors in this paradigm a bit more. They are *aware* of their informational limitations. Loosely, we might describe them as "*knowing* that they don't know what they don't know." They may occasionally be fooled by deliberately misleading information; but they will learn from this experience and move on. They will rarely be fooled by vague or inadequate information. Because they are *risk-averse* as well as *aware*, the presence of less (or inadequate) information about a prospective borrower will cause the lenders to fear the worst and to add a large risk premium in their consideration of whether to lend and on what terms.

In this context, an accounting system provides an important source of information about enterprises that want to borrow, which will help the *aware* lenders to pierce the fog of asymmetric information in assessing prospective enterprise borrowers beforehand and in subsequently monitoring enterprise borrowers. Equivalently, an accounting system allows an enterprise to emerge from the fog of asymmetric information and better show its true prospects.

However, accounting is not free; resources are required to gather, process, certify, and disseminate an enterprise's financial statements. Greater details and specificity of the accounting revelation -- though providing greater assurance to lenders -- are generally more costly. Also, enterprises are reluctant to reveal proprietary information that they fear may be used by competitors to the latter's advantage and the former's disadvantage. Further, with respect to an enterprise's managers vis-a-vis its investor-shareholder-owners, the managers would generally prefer to reveal less to the shareholders, since less information revelation give the managers greater flexibility of actions. But revelation of more (useful) information helps dispel the asymmetric information fog vis-a-vis investors and reduces the costs of equity capital to the enterprise.

Consequently, the enterprise will try to find the cost-minimizing point in the tradeoff between the higher direct costs of greater accounting revelation and the lower costs of capital from



greater revelation.<sup>20</sup> This cost-minimizing point should yield the most efficient accounting system for that enterprise.

With a multiplicity of enterprises in an economy, this quest for efficient accounting would appear to yield a multiplicity of accounting systems -- perhaps one for each enterprise. But the network aspects of financial reporting and the role of accounting indicate that such a multitude of systems would itself be costly for adopters and users, because of the incompatibility (comparison) costs. Accordingly, a further set of tradeoffs -- between the lower costs of adhering to a more widely used accounting system, versus adhering to a less widely used system that is better at portraying a specific enterprise's information -- is likely to yield an outcome where only one or a few<sup>21</sup> accounting systems prevail (as a "template"<sup>22</sup>) among the enterprises that will be subject to the comparisons of the capital markets of an economy. This survival of only one or a few systems might be achieved through purely market-driven "drift", or through a formal agreement among adopters and users, or through the actions of government. Regardless of the route, however, the issue of path dependence ought to remain as a cautionary concern about the optimality of any system that prevails.

### **In contrast: the "investor protection" paradigm**

This *awareness* paradigm is not the same as the "investor protection" paradigm that appears

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<sup>20</sup> See Elliott and Jacobson (1994).

<sup>21</sup> As the number of accounting systems increase, the number of comparisons between systems increase more rapidly: If there are  $n$  systems (and one of them is considered to be the "base" system for comparisons), then there are  $(n^2 - n)/2$  potential comparisons; hence, an extra system -- i.e.,  $(n + 1)$  systems -- yields  $(n^2 + n)/2$  comparisons. The difference between them is  $n$ . Thus, each additional system adds ever-more comparisons and greater complexity and costs. For example, if we start with four systems, there are six comparisons; an additional system raises the number of comparisons to ten; an additional system after that (bringing the total to six) raises the number of comparisons to fifteen. In White (1996) I raised the specter of each of the 50 states in the U.S. having its own GAAP. This would entail a potential for 1,225 comparisons between systems!

<sup>22</sup> See Sunder (2001) and Dye and Sunder (2001).

to drive the accounting standards policy of the U.S. Securities and Exchange Commission (SEC)<sup>23</sup> and (generally) the Congress. Though that paradigm is not completely spelled out, it appears that "investor protection" entails more than just protecting U.S. investors from deliberately misleading information (i.e., fraud). Instead, the SEC's insistence on a "high quality" accounting standard appears to indicate that the lenders/investors in their model are not fully aware of their informational limitations. They can be fooled by vague or inadequate information; they don't realize that they need to pierce the asymmetric information fog (or impose a large risk premium for remaining in the fog).

Note that the lenders/investors are not assumed to be complete dupes; instead, they just can't deal appropriately with vagueness: "We [the SEC] pursue this mandate [to protect investors] not through merit regulation -- allowing only 'healthy' companies to trade their securities -- but by market regulation.... The goals of this approach are to prevent misleading *or incomplete* financial reporting and to facilitate informed decisions by investors."<sup>24</sup>

In the absence of an appropriately high accounting (and other disclosure) standard, opportunistic corporate managers will take advantage of this gullibility by remaining vague; some lenders/investors will experience losses as a consequence; and, rather than learning from their experience and moving on, the lenders/investors instead will subsequently stay away from the securities markets (and tell their friends to do likewise), thereby reducing the liquidity and depth of the markets and raising the costs of capital.

In this model there are the politically charged distributional aspects: Lenders (bond buyers) and especially investors are "little guys" (or, perhaps, "widows and orphans") who are fooled by the vague claims of "corporations". But there is also the negative spill-over effect: The "burned" lenders and investors (and their friends) exit from the capital markets, thereby raising the cost of

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<sup>23</sup> See, for example, Sutton (1997) and Levitt (1998).

<sup>24</sup> Levitt (1998, p. 79; emphasis added).

capital in these markets.<sup>25</sup>

There are some immediate implications for accounting that follow from this model. First, the SEC would believe that it must impose and enforce the accounting system; any market-driven process would be too prone to a "race to the bottom" of vagueness. Second, only a single accounting system should be permitted; more than one is likely to allow for too much confusion and for the possibility of a standard that is too vague. Third, the accounting system that is appropriate (cost-minimizing) to this paradigm will be more stringent than the one that is appropriate (if only a single standard is appropriate) to the *awareness* model. This paradigm could still recognize the nature of the tradeoffs that appear in the *awareness* model; after all, the SEC does not insist on complete disclosure of all of an enterprise's detailed financial information, thereby implicitly (if not explicitly) recognizing that too much disclosure can be too costly. But it will be higher, because of lenders'/investors' inability to handle vagueness and their subsequent "exit" behavior.

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<sup>25</sup> The erstwhile lenders/investors may simply save less and consume more; or they may place their funds in a less volatile and safer vehicle, such as a bank, which can thereby lend more, which in turn causes the interest rates for bank lending to decrease. But the securities markets, and this channel for raising funds, are clearly the poorer for the experience.

## **HOW MANY ACCOUNTING STANDARDS ARE THE RIGHT NUMBER?**

Consider the current set of arrangements that describe the current relationships between financial markets and accounting systems. Unlike, say, the 1950s, when securities markets were almost entirely national entities and separate national accounting systems had developed that were (arguably) appropriate locally for each national security market, today we have the substantially more globalized securities market described in Section II. But we still have separate accounting systems that apply to separate countries. We also have the IASB's IAS, which has not yet become the norm for any country with a major securities exchange but has become a second accounting system for some.

### **The arguments for and against a single global accounting system<sup>26</sup>**

#### ***For***

The arguments for a single global accounting system are straightforward: The differing accounting systems of the industrial countries of the world are an impediment to further/faster integration of the world's securities markets and the greater efficiency in capital allocation that would follow from greater globalization of those markets.<sup>27</sup> The differing systems reduce comparability among companies and their securities and thereby increase the asymmetric information fog for lenders and investors who are not familiar with that accounting system. Equivalently, different accounting systems increase the transactions costs of achieving comparability. Different accounting systems increase the "economic distance" between securities markets and thereby encourage lenders and investors to "stay home" and devote their capital largely

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<sup>26</sup> See also the discussion in Dye and Sunder (2001).

<sup>27</sup> Another potential argument for a single accounting system would be that it would reduce the barriers to international trade. However, multiple accounting systems are not a substantial barrier to trade in accounting system; the other current national regulatory barriers are far more substantial. See White (2001).

or solely to their local securities markets.<sup>28</sup> Allocational efficiency suffers.

Further, any single accounting system that would realistically be adopted is likely to embody higher standards than are found in much of the developing world's economies. The single standard would thus be the vehicle for raising accounting standards in economies where improvements in standards would yield large benefits.

### *Against*

A single accounting system must be a compromise among existing national systems. If (arguably) the specific features of the existing national systems represent efficient adaptations to local circumstances, then the one-size-fits-all nature of a single global accounting system necessarily means that this system will represent a less efficient fit in almost every country. Further, there is no assurance that any single system that would be adopted would even be the best - i.e., the one that minimizes the extent of these departures from local efficient adaptations. Also, even when evaluated on their own terms, both of the two leading candidates for adoption as the single system -- U.S. GAAP and the IAS -- have substantial shortcomings.<sup>29</sup> Finally, a single system means that there are no local arenas for experimentation and innovation in accounting concepts.

An analogy with another compatibility issue -- rail gauge for railroads -- may be useful. In principle, having a uniform rail gauge for all of the railroads within a country and for all contiguous countries has great value, since trains can thereby reach all points on the system and the off-loading of freight from one set of trains (on one rail gauge) to another set of trains (on a different rail gauge) -- translation costs -- are avoided. This is especially true if alternative gauges have no productive value but are simply the outcome of chance decisions of the past (path dependence). But if different rail gauges are appropriate for different terrains or different types of freight, then

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<sup>28</sup> See, for example, Choi and Levich (1990, 1991).

<sup>29</sup> See, for example, Litan and Wallison (2000) and Bloomer (1999).

uniformity in gauge comes at the cost of losing the local adaptativeness of the local gauges. Further, if the process of achieving a uniform gauge somehow yields a gauge that, though uniform, is badly adapted to almost any kind of freight (e.g., because the uniform gauge is far too narrow or far too wide), then there is a further loss that accompanies the adoption of the uniform gauge.

An additional argument against a single system relates to its enforcement. An accounting system requires enforcement: by auditors and ultimately by the users' ability to obtain redress in the event that they are harmed by the dissemination of false information. In the absence of uniform enforcement, an apparently uniform global single system is actually a multiple-system environment that is masquerading as a single system; the apparent gains from uniformity may prove to be chimerical.

### **The arguments for and against multiple accounting systems**

#### ***For***

The arguments for multiple accounting systems are essentially those of opposition to a single system. With multiple systems there can be adaptations to national circumstances,<sup>30</sup> and the straightjacket of a single system is avoided. Also, multiple systems permit experimentation and innovation far more readily than does a single system. Further, with multiple accounting systems, a process of "systems competition" can proceed: If enterprises find one accounting system to offer lower costs of raising capital, they will tend to gravitate toward that system. Though one must always be mindful of the potential lock-in and path-dependence problems that attach to any evolution of such network systems, this process has the potential for encouraging greater overall efficiency.<sup>31</sup>

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<sup>30</sup> See, for example, the summary in Saudagaran and Meek (1997) and Ball (2001).

<sup>31</sup> Similar arguments for encouraging competition have been advanced for securities regulation (Romano 1988) and for securities exchange regulation (Macey 2001).

## *Against*

The arguments against multiple accounting systems are essentially those in support of a single system: Multiple accounting systems increase the translation costs of comparing companies and impede the further globalization of securities markets.

### **A further discussion of competition in accounting systems**

The current environment is one of competing national accounting systems, with the IAS providing a second system that is available in some countries for some companies.<sup>32</sup> The U.S., however, has refused thus far to permit the IAS to become a second system in the U.S.

This competition can occur because the imposition of an accounting standard applies only to the firms that choose to list its securities on an exchange within a particular country; that listing requirement does not restrict the residents of that country to buying only the securities of the companies listed in that country. The competition between accounting standards is limited and muted, however, because distance and foreign nationality of a securities trading locus generally add to the direct costs and to the asymmetric information fog confronting lenders and investors and thus discourage trans-national lending and investing decisions.

The logic of competition between accounting systems need not be restricted just to competition between countries; it can be extended to competition between systems within a country. This is happening currently in those countries where the IAS are accepted alongside the domestic accounting system.<sup>33</sup> It could happen in the U.S. if the SEC were to permit the IAS to be a second allowed accounting system. We would then see -- at the expense of greater costs of comparability -- more direct competition between the two accounting systems. And if the *awareness* model is a correct characterization of the lender/investor population of the U.S., we

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<sup>32</sup> See, for example, the discussions in Ball (1995), White (1996), Hegarty (1997), and Hertig (2001).

<sup>33</sup> And, as Leuz (2001) describes, the German Neue Markt requires its listed firms to use either the IAS or U.S. GAAP.

would then see which accounting system was more attractive to which firms, offering them (presumably) lower costs of capital.<sup>34</sup>

### **A dose of political realism**

Though the prospect of allowing the IAS to compete with U.S. GAAP as an acceptable accounting system for companies that choose to list in the U.S. is appealing, the likelihood of the U.S. SEC permitting this to happen seems remote, especially in the wake of the Enron debacle of late 2001. The Enron experience has already raised political questions as to the adequacy of U.S. GAAP for protecting investors. Recall that the "investor protection" model that appears to characterize the SEC's beliefs and actions has little tolerance for any accounting system that would appear to offer weaker standards than the current U.S. GAAP.

If the SEC were to permit the use the IAS as an alternative to GAAP and a major investor-losses scandal were to engulf a company that adopted the IAS system, the political heat on the leadership of the SEC could be ferocious. In most respects, a decision to permit the IAS would carry little upside benefit for the SEC and substantial risks of downside costs.

Further, a decision to permit the use of the IAS would place the control over the development of this accounting system -- unlike U.S. GAAP -- out of the immediate regulatory reach of the SEC. Many members of Congress have shown a willingness to use legislative measures, if necessary, to influence specific features of U.S. GAAP. Though the opportunity for accounting system choice by companies might reduce the occasional political pressures on Congress to take legislative actions with respect to accounting, nevertheless it is unlikely that the relevant Congressional committees would react favorably to SEC actions that restricted Congress's available actions with respect to an accounting system.

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<sup>34</sup> See Dye and Sunder (2001) and Sunder (2001). The results of Leuz for the German Neue Markt indicate that neither the trading spreads nor the trading volumes are significantly different for the companies that choose the IAS or U.S. GAAP. Apparently, for a company that chooses one accounting system, that system delivers about the same level of capital market efficiency as is delivered to companies that choose the other system.



Also, the SEC might well feel that allowing even one additional accounting system to be used by U.S. companies would open the floodgates. There are an array of arguments for limiting the choice of accounting system to the single incumbent system, U.S. GAAP; but the presence of a second alternative system might then raise the question of why not more?

Finally, a SEC refusal to allow the use of the IAS could have a strategic basis. The U.S. securities markets account for almost half of the market capitalization of traded companies in the world and over half of the trading volume of all exchanges. The SEC could believe that these large market shares will generate a bandwagon or tipping effect (based on the network effects discussed above) that will cause non-U.S. companies inevitably to drift toward the adoption of U.S. GAAP, thereby reducing or eliminating comparability problems on the SEC's own terms.

## CONCLUSION

Securities markets have achieved a substantial degree of globalization in spite of differing accounting systems that make comparisons among companies on different countries' exchanges more difficult and costly. The "network" approach to understanding financial reporting and the role of accounting systems shows that a single global accounting system could reduce those costs of comparison -- increase "compatibility" among companies' financial statements -- and thereby further the process of globalization.

But a single global standard has its drawbacks as well. It would necessarily be a one-size-fits-all compromise that would eliminate national adaptations to national circumstances; it would reduce the possibilities of local experimentation and innovation; and the adoption of a single system runs the risk of an overall bad fit -- or of arriving at a bad fit within a short period of time as economic circumstances change but the accounting system doesn't change.

In sum, despite the appeals of a single accounting system, a diversity of systems and the implicit competition among systems that accompanies this diversity is more appealing. This competition could be made more explicit in the U.S. if the SEC were to permit the use of the IAS as an alternative to U.S. GAAP. Though the political prospects of such a move currently appear to be remote, it is nevertheless an idea worth keeping alive.

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Table 1: “Foreign” Companies with Shares Listed on Major Securities Exchanges, 2000

Exchange	Number of foreign companies	Foreign companies as a % of all companies	Annual value of shares traded of foreign companies (US\$B)	Foreign companies’ trading as a % of all trading value
<b>North America:</b>				
NYSE	433	15.1%	\$1,142	10.3%
NASDAQ	488	10.3	844	4.3
Toronto	42	3.0	1	0.2
<b>Europe:</b>				
Deutsche Borse	245	32.9	321	15.1
Euronext Amsterdam	158	40.3	2	0.4
Euronext Brussels	104	39.2	29	12.4
Euronext Paris	158	16.4	26	0.7
Italy	6	2.0	38	1.9
London	448	18.9	2,669	58.5
Luxembourg	216	80.0	0.01	0.7
Madrid	17	1.6	2	0.2
Stockholm	19	6.1	96	19.7
Switzerland	164	39.4	28	4.4
<b>Asia, Pacific</b>				
Australia	76	5.4	4	1.6
Osaka	0	0.0	0.0	0.0
Singapore	63	13.1	0.0	0.0
Taiwan	0	0.0	0.0	0.0
Tokyo	41	2.0	1	0.03

Source: Federation Internationale des Bourses de Valeurs (International Federation of Stock Exchanges).

Table 2: Non-U.S. Companies Listed on the New York Stock Exchange, 1985-2001

	Number of listed non-U.S. companies	Listed non-U.S. companies as a % of all listed companies	Annual value of shares traded of listed non-U.S. companies (\$B)	Listed non-U.S. companies as a % of trading value of all listed companies	Market value of listed non-U.S. companies (\$B)	Listed non-U.S. companies as a % of market value of all listed companies
1985	54	3.5%	n.a.	n.a.	\$68	3.5%
1990	96	5.4	n.a.	n.a.	128	4.5
1991	105	5.6	\$89	5.9%	165	4.4
1992	120	5.7	117	6.7	157	3.9
1993	153	6.5	184	8.0	226	5.0
1994	204	7.9	238	9.7	208	4.7
1995	234	8.7	262	8.5	257	4.3
1996	291	10.0	335	8.2	353	4.8
1997	343	11.3	485	8.4	424	4.5
1998	379	12.2	564	7.7	468	4.3
1999	394	13.0	687	7.7	758	6.2
2000	420	14.5	1,141	10.3	739	6.0
2001	448	16.0	789	7.5	587	5.3

Source: NYSE

Table 3: Non-U.S. Issues Listed on the NASDAQ, 1985-2001

	Number of listed non-U.S. issues	Listed non-U.S. issues as a % of all listed issues	Annual value of shares traded of all listed non-U.S. traded companies	Listed non-U.S. companies as a % of trading value of all listed companies
1985	282	5.9%	\$13	5.6%
1990	271	5.8	9	2.0
1991	268	5.7	27	3.9
1992	275	5.8	30	3.4
1993	322	6.0	73	5.4
1994	350	6.1	81	5.6
1995	395	6.6	100	4.2
1996	460	7.2	125	3.8
1997	499	8.0	186	4.1
1998	484	8.7	206	3.4
1999	462	8.9	385	3.5
2000	509	10.1	754	3.7
2001	422	9.7	442	4.0

Source: NASDAQ



Table 4: Cross-Border Transactions in Securities, 1975-1998

Gross sales and purchases of securities between residents and non-residents (as a percentage of GDP)

	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
U.S.	4%	9%	35%	89%	96%	107%	129%	131%	135%	159%	213%	230%
Japan	2	8	62	119	92	72	78	60	65	79	96	91
Germany	5	7	33	57	55	85	170	158	172	200	257	334
France	n.a.	5	21	54	79	122	187	197	187	258	314	415
Italy	1	1	4	27	60	92	192	207	253	470	677	640
Canada	3	9	27	65	83	114	153	206	187	251	355	331

Source: Bank for International Settlements, 69<sup>th</sup> Annual Report, April 1, 1998 – March 31, 1999 (June 7, 1999).



Table 5: Cross-Border Transactions in Securities between U.S. and Non-U.S. Investors, 1980-2000

Gross sales and purchases of securities between residents and non-residents of the U.S.  
(as a percentage of U.S. GDP)

1980	9.0%
1985	34.8
1990	88.1
1991	94.5
1992	105.3
1993	127.1
1994	128.8
1995	132.6
1996	156.2
1997	207.6
1998	222.2
1999	200.2
2000	227.8

Source: U.S. Treasury, Treasury Bulletin. Quarterly.

Table 6: Foreign Holdings of U.S. Equity and Debt Securities, and U.S. Holdings of Foreign Equity and Debt Securities, 1945-2000

	Foreign holdings of U.S. securities				U.S. holdings of foreign securities			
	Equity		Debt		Equity		Debt	
	Amount (US\$B)	As a % of all U.S. equity securities	Amount (US\$B)	As a % of all U.S. debt securities	Amount (US\$B)	As a % of all U.S. holdings of equity securities	Amount (US\$B)	As a % of all U.S. holdings of debt securities
1945	\$3	2.5%	\$3	1.1%	\$1	0.9%	\$3	1.1%
1950	3	2.1	4	1.4	1	0.7	3	1.0
1955	7	2.5	6	1.7	2	0.7	3	0.9
1960	9	2.1	13	3.2	4	1.0	6	1.5
1965	15	2.0	17	3.3	5	0.7	9	1.8
1970	27	3.2	30	4.1	7	0.9	14	2.0
1975	33	3.9	80	6.8	10	1.2	27	2.4
1980	75	5.0	182	8.8	19	1.3	56	2.9
1985	137	6.0	375	8.7	44	2.0	106	2.6
1990	244	6.9	716	9.7	198	5.7	190	2.8
1991	299	6.1	779	9.7	279	5.8	212	2.8
1992	329	6.1	860	9.8	314	5.8	225	2.8
1993	374	5.9	994	10.4	544	8.4	299	3.4
1994	398	6.3	1,094	10.8	628	9.6	285	3.1
1995	528	6.2	1,409	13.0	777	8.9	355	3.6
1996	657	6.4	1,801	15.4	1,003	9.4	434	4.2
1997	920	6.9	2,114	16.8	1,208	8.9	493	4.5
1998	1,175	7.5	2,397	17.3	1,476	9.3	536	4.5
1999	1,538	7.9	2,557	16.9	2,027	10.1	568	4.3
2000	1,748	10.0	2,887	18.1	1,787	10.2	626	4.6

Source: Federal Reserve, Flow of Funds

Figure 1: The Spectrum of Informational Opaqueness/Transparency

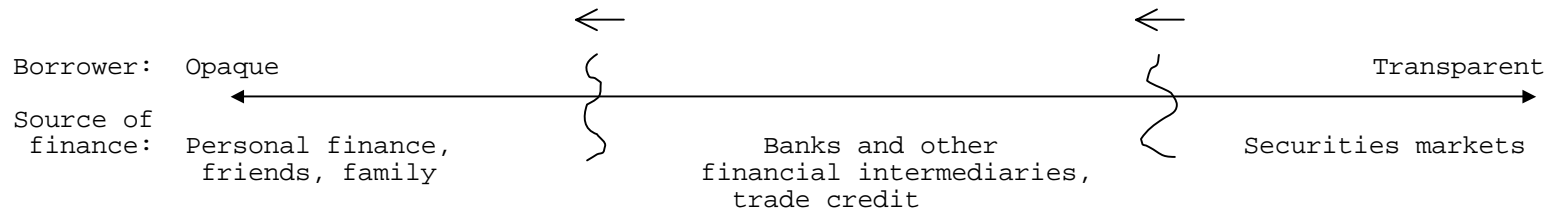


Figure 2: Two Determinants of Opaqueness/Transparency

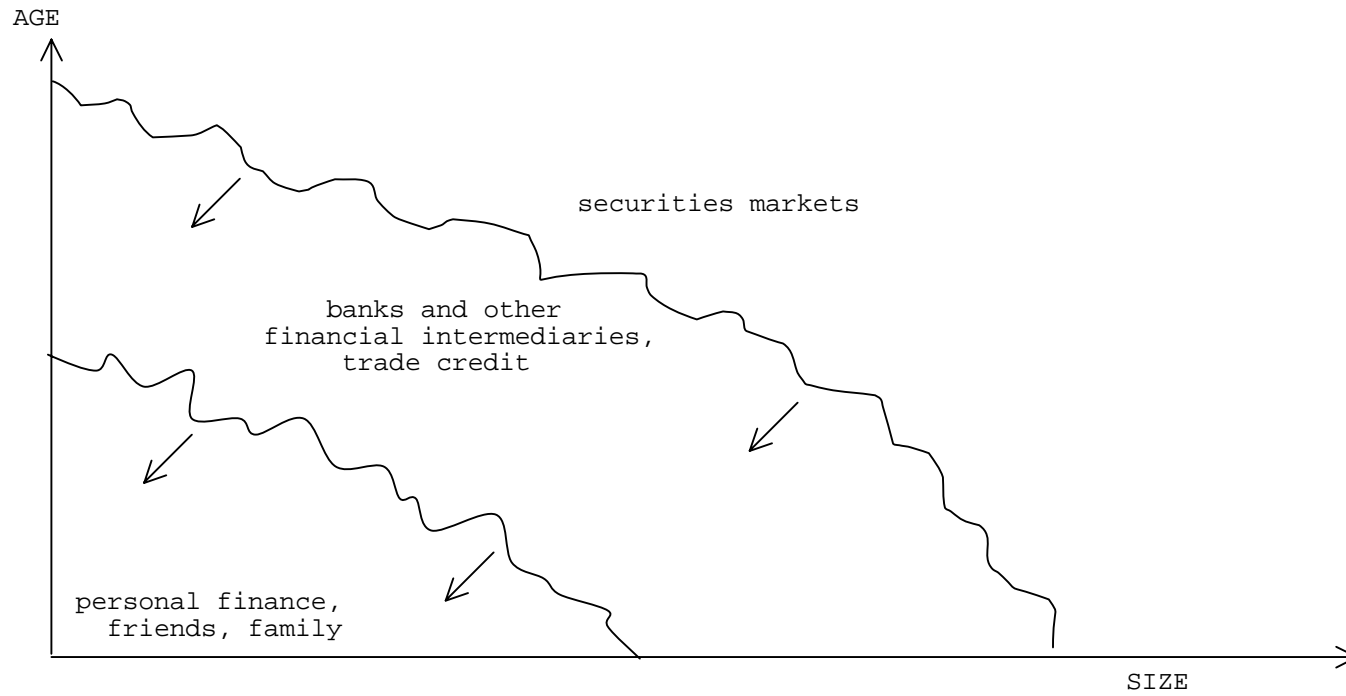


Figure 3: Two Local Networks Connected by a Trunk Line

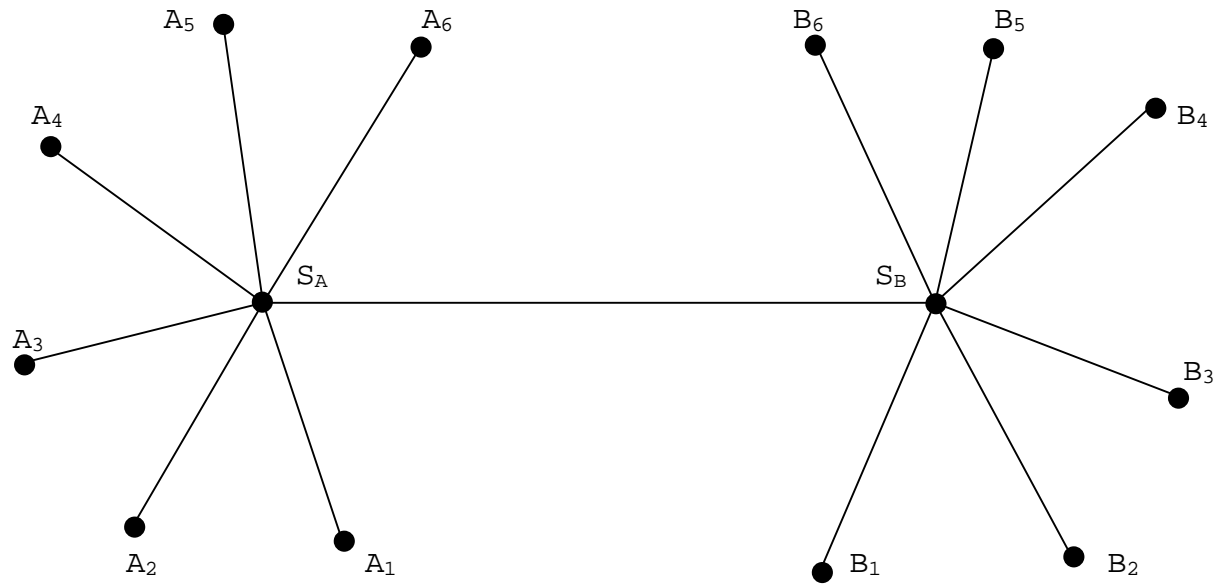


Figure 4: A Financial Reporting System as a Network

