Comment by Christian Leuz: In his paper, Ray Ball outlines infrastructure requirements for an efficient accounting and disclosure regime. He emphasizes that the accounting and disclosure system is embedded in the country’s institutional infrastructure. That is, the existing infrastructure determines the demand for accounting and disclosure, which in turn determines the properties of the optimal accounting and disclosure system. In this sense, accounting and disclosure are endogenous and complementary elements of the country’s economic, legal, and political infrastructure.

The complementarities among the different components of a country’s infrastructure imply that isolated changes in the accounting and disclosure system (for example, adopting international accounting standards) are unlikely to be effective. Concurrent modifications of the complementary elements are necessary to change the accounting and disclosure practices of firms. Therefore, the suggested infrastructure requirements for an efficient accounting and disclosure system are necessarily extensive. They comprise essentially the entire economic, legal, and political framework and pertain, in particular, to corporate governance, ownership and financing structures, legal enforcement, litigation rights, and shareholder and bondholder rights. The paper discusses several empirical studies presenting evidence from European and Asian countries that supports these arguments.

With respect to accounting and disclosure, Ball highlights two characteristics of an efficient financial reporting system: verifiability and asymmetry. Verifiability implies that financial reporting is based on transactions and events that are post observably by independent third parties (for example, auditors and courts) and not based on managers’ expectations or beliefs. Ball argues that disclosure of ex post financial information holds managers accountable and generates ex ante positive externalities for their decisions and voluntary disclosures.

Asymmetry implies that economic losses (but not gains) are reported in a timely fashion. Ball argues that asymmetry improves corporate governance and debt contracting. The timely recognition of economic losses requires adverse information about future cash flows, which typically resides with managers and is based on expectations. Thus asymmetry in financial reporting relies on nonverifiable information, which is a significant modification of the verifiability requirement. Ball points out that exposure to litigation (for not disclosing material information) is a way to enforce the timely recognition of economic losses and to make disclosures of nonverifiable information credible. He therefore argues that litigation is an essential requirement for an efficient disclosure system.

In summary, the paper is most insightful. It has several important messages for standard setters, regulators, and politicians contemplating changing their country’s accounting and disclosure system. In highlighting the links between various elements of the infrastructure, Ball warns us about the difficulty and complexity of changing firms’ accounting and disclosure practices. He also points out that the policy debate may have focused too narrowly on accounting standards, thereby overlooking the importance of supporting institutions in other parts of a country’s infrastructure.

The remainder of this discussion reinforces some of the arguments that I find particularly important. It highlights the underlying premises of these arguments and draws attention to some unresolved questions and areas for future research.

**Verifiability and the Trade-off between Relevance and Reliability**

The first criterion heavily emphasizes the need for audited financial information to be independent of managers’ expectations and hence manipulation. Although I agree with Ball’s assessment in general, there are only very few instances where we can record a transaction without any implicit assumptions about the future. When recognizing sales on account as revenue, we assume that customers eventually will pay the firm. And when recording the purchase of an asset at its acquisition costs, we implicitly presume that the investment will generate future cash flows sufficient to justify those costs—otherwise we would have to recognize a loss at the
acquisition. Thus even in areas, like revenue recognition, where the transactions themselves seem easily verifiable, accounting measurement relies on expectations about the future and hence requires information that these assumptions are warranted. As this information generally resides with managers, accounting measurement is always based to some degree on managers’ expectations. This affords discretion to managers and hence some room for manipulation, which is evidenced by the fact that earnings management frequently occurs in the area of revenue recognition.

Accounting generally involves trading off the relevance and verifiability of information. The precise nature of this trade-off depends on the use of accounting information. But going too far in either direction generally results in accounting numbers that are not useful. Managers have valuable information, and putting too much emphasis on verifiability is likely to forgo much of this valuable information. Conversely, putting too much emphasis on relevance is likely to result in accounting numbers that are easily manipulated.

The main question is, therefore, “How can we incorporate valuable information that resides with managers in financial reporting?” Here, we need to think not only about monitoring and enforcement but also about providing incentives to managers to disclose their information truthfully. The asymmetry criterion essentially concedes this point—at least with respect to economic losses. It states that we have to find ways to incorporate into financial reporting adverse changes in managers’ expectations about the future. This brings me to the following question.

Is There a Fundamental Asymmetry between Economic Gains and Losses?

Ball argues that asymmetry follows from debt contracting and managerial horizon problems. But even considering these settings, it is not obvious why accounting should recognize only economic losses in a timely fashion.

Why should debtholders want information primarily about economic losses and not also about (potentially offsetting) economic gains? As Ball points out, an asymmetric accounting treatment of losses and gains results in tighter debt covenants and in earlier transfers of decision rights to debtholders due to covenant violations. But tight debt covenants are costly if they unnecessarily restrict the firm’s investment and financing policy or trigger unnecessary renegotiations between the firm and its lenders, in particular for public debt agreements typically involving a large number of debtholders. Furthermore, transferring decision rights too early is likely to be dysfunctional if debtholders may act opportunistically as well.

Can managerial incentive problems explain an asymmetry between gains and losses? Ball argues that the timely incorporation of losses reduces over-investment problems. That is, accounting standards that charge economic losses against income in a timely fashion make it harder to pass on poor investments to the next manager. This is likely to reduce horizon problems associated with negative net present value projects. However, the timely incorporation of economic gains should have a similar effect on horizon problems that lead to under-investment. That is, recognizing gains in a timely fashion should reduce the likelihood that managers will forgo positive net present value projects simply because of a spillover to the next manager.

Thus neither the debt contracting nor the corporate governance perspective provides an obvious rationale for asymmetry in accounting and disclosure. Are there any other reasons? Maybe economic losses are easier to audit than gains? Fundamentally, however, I do not see a difference. Gains and losses arise from changes in the expectations about future cash flows, and both are inherently difficult to verify. There would be a difference if managers’ incentives were asymmetric. For instance, gains would be more difficult to audit than losses only if managers were more likely to overstate than to understated earnings. But in a multiple-period setting, this is not obvious. Managers’ incentives typically depend on the firm’s financial situation. That is, in bad times, managers have incentive to hide losses. But in good times, they are inclined to “bank” some gains, as this facilitates hiding losses in future years. Therefore, allowing managers to recognize economic losses may afford them discretion to charge excessive losses in good years.

Moreover, if managers had an obvious tendency in either direction, the contracting parties and market participants could back out the bias—at least on average. Undoing the bias, however, is not possible when there is
uncertainty about managers' incentives. That is, earnings management is a problem precisely when it is not clear whether managers are likely to overstate or understate earnings.

Finally, there is the argument that it is easier in court to claim damages due to hidden losses versus hidden gains. Although this may be true empirically, the argument is not compelling—at least not conceptually. There are two sides to every transaction. Why is buying a share at 30, which would have been at 25 had the loss been disclosed, different from selling a share at 25, which would have been at 30 had the gain been disclosed? And why would it not be beneficial for the legal system and courts to enforce the timely recognition of both gains and losses? These are largely unresolved questions.

To be sure, conservatism in accounting is pervasive around the world. Thus there probably are economic reasons for the proposed asymmetry. However, more research is necessary to fully understand these reasons.

**On the Informational Efficiency of the Accounting System**

Ball's paper sketches infrastructure requirements for an efficient accounting and disclosure system. However, it is important to bear in mind that these infrastructure requirements are geared toward systems where information asymmetries are resolved via public disclosure and contracts. Ball points to the code-law countries in Europe and stresses that there are other means of resolving information asymmetries. This implies, however, that the infrastructure requirements presented are not universal. They are appropriate if the goal is a financial system with deep public debt and equity markets. In such a system, for instance, exposure to shareholder litigation is a key ingredient in enforcing truthful disclosures.

In an insider system, however, this may not be important, as the key parties are likely to have other means of ensuring the veracity of the information. Moreover, a system that provides relevant parties with private access to information does not rely on public disclosure, but it may be informationally efficient. For example, in Germany, auditors produce a so-called “audit report.” This report is not published but generally is furnished to the firm's board members as well as key lenders. It is very comprehensive and contains (audited) information that is generally not publicly available in disclosure-based systems.

Thus, in principle, the relevant parties can be just as informed in a well-functioning “insider system” as they are in an “arm’s-length system.” So, in evaluating the efficiency of the country’s accounting system, standard setters and regulators should ask how well the relevant (financing) parties are informed. Focusing on this question is likely to reveal the weaknesses of the existing system. It also should help to identify necessary changes in the infrastructure if the goal is to transition to a different system with a different set of relevant parties (for example, to bolster arm’s-length investors in the economy).

Finally, even though the global as well the financial system of many countries seems to be evolving toward an arm’s-length system, it is worth asking whether deep public debt and equity markets and their infrastructure requirements are the right starting place for emerging-market economies. This question is particularly important in light of the complexity of the requirements and the difficulty of change that Ball warns us about. For emerging-market economies, more basic issues may have to be addressed first. Here, Ball’s comments on the role of accounting in limiting bribery, fraud, and asset expropriation are particularly noteworthy, and his empirical work on the four East Asian countries and China provides important and very powerful lessons.

**Code versus Common Law: On the Importance of Legal Origin**

This comment more generally addresses the recent emphasis on the legal origin of country in the finance literature. What makes the legal origin so special? Does it determine the financial system including accounting and disclosure?

The distinction between code law and common law is convenient and works well in many empirical studies. The reason is that the variable captures combinations of important institutional features. As Ball notes, it separates countries into two groups with different approaches to resolving information asymmetries. However, the focus on the legal origin as a

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68. See Fischer and Verrecchia (2000).
69. The application (or enforcement) of conservatism varies greatly around the world. See Ball, Kothari, and Robin (2000); Ball, Robin, and Wu (2000).
70. See Leuz and Wüstemann (2001).
71. Recent work by Rajan and Zingales (2000) tracking measures of financial development over time casts doubts on the legal origin as a major determinant.
72. See, for example, Ball, Kothari, and Robin (2000).
determinant can be misleading. Rather, we should identify the underlying factors and focus on those in the analysis. The following two examples illustrate this point.

Recently, Germany has exhibited a strong movement toward a "shareholder value" or arm's-length system. There are changes in the legal rules pertaining to bankruptcy, capital markets, corporate governance, auditor liability, and accounting. The legal origin, however, has not changed. It is more likely that financing needs of the German economy are responsible for the recent changes. That is, the legal infrastructure appears to respond to recent changes in financial patterns. Moreover, complementarities in the infrastructure imply that once sufficient changes have been made, there are strong economic forces to make the remaining changes. Understanding these forces and the necessary changes is the challenge.

As Ball points out, an important difference between the so-called common-law and code-law countries is that the latter treat violations of the code as a criminal matter. This is not a problem per se; in fact, it may even be an advantage, as criminal punishment is not subject to monetary constraints imposed by the limited liability of managers or the firms. But treating violations as a criminal matter implies that government agencies have to enforce the law, which raises the question whether they have an incentive to do so.

Again, Germany provides an interesting example. German firms prepare separate financial statements for tax and capital market purposes. In the past, however, the links between financial and tax accounting were fairly strong, which meant that the tax authorities essentially enforced financial accounting (and, due to the fiscal interest of the government, presumably prevented extreme forms of conservatism). More recently, these links have weakened, which has resulted in a lack of enforcement of (consolidated) financial statements, that is, those presented to the capital markets.

73. See for example, La Porta and others (1997, 1998).
74. Starting at the time of reunification in 1990 (until recently), Germany's net capital imports exceeded net capital exports, whereas before, Germany had been exporting capital for a long time and on a fairly large scale. See Bundesbank Statistics, www.bundesbank.de.
75. The link between consolidated financial statements (or group accounts) and tax statements is more implicit than explicit. Consolidated statements are legally the basis neither of taxes nor of dividends. The frequently cited explicit link between German financial reporting and tax accounting pertains primarily to the parent-only statements (or individual accounts), which are separate from the consolidated statements.

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In contrast, in the so-called common-law countries, litigation provides explicit monitoring incentives to investors because damages may be awarded if investors can prove a violation of the law. But, again, the legal origin is not the key factor: rather, it is the possibility of litigation. So the debate should focus on the enforcement problem and on litigation as a mechanism for enforcement.

Additional Areas for Future Research

Ball's paper points to several important areas for future research. I share his assessment that "in many ways the economic analysis of accounting is still in its infancy." I therefore propose some additional areas for future research:

—Conservatism and the fundamental asymmetry between gains and losses. Conservatism is one of the oldest accounting principles, and it can be found in most accounting systems. Given that it is so pervasive, it is likely to serve a purpose. But so far, it has been difficult to provide compelling reasons for the asymmetric treatment of gains and losses.

—Managerial incentives to disclose. Most of the research has focused on the incentives of firms (but not of managers) to disclose. For instance, there is very little empirical research on the link between disclosure and managerial compensation.

—Enforcement. Enforcement is another area where more research is needed. To my knowledge, it is not yet well understood in which circumstances we need enforcement of accounting and disclosure by government agencies (like the U.S. Securities and Exchange Commission), under which conditions exposure to litigation is sufficient, and when we can rely on reputation-based mechanisms.

General Discussion: Participants pressed the author to identify the steps he recommends for reforming disclosure policies. Ray Ball responded that common-law countries achieved functional disclosure systems through gradual institutional evolution and encouraged policymakers to push forward on all dimensions, including passing bankruptcy laws, improving the court system, increasing the independence of audit firms, and improving and increasing the training of auditors. He also recommended class action and stockholder litigation rights as an optimal point of departure but suggested that reform not begin with accounting standards because many
countries have little demand for or ability to implement international accounting standards. The most important question, however, is whether government or the markets run the disclosure system. Government systems can end up serving objectives other than efficient disclosure, whereas firms must disclose losses in a timely fashion if the market is the driving force. Class action litigation is one way, in Ball's view, that markets work to enforce disclosure.

Other participants disagreed, pointing to the unfavorable view that other countries have of the U.S. litigation system. Indeed, one participant asked Ball whether countries moving toward a market-based system of disclosure should adopt different standards for fraud to avoid excessive exposure to lawsuits. Ball responded by disagreeing with the view that the United States has too much litigation and noted that the Securities and Exchange Commission (SEC) has no system of its own for monitoring disclosure, relying instead on the market.

This view, too, was contested during the discussion. Several participants noted that the SEC does not just rely on the plaintiffs' bar to detect fraud and instead has its own investigative staff. One participant proposed that foreign governments would be best served if they recognized the limitations of litigation as an enforcement tool and developed enforcement capability within their securities agencies. Ball countered that the SEC piggy-backs on a particular type of private sector market system and would not function the same way in another economic or political system.

Ed Kane requested Ball's opinion on the importance of the effort of the International Monetary Fund to evaluate data standards for banks and asked whether this would lower the cost of borrowing. Ball responded that the problem with poor financial information is the impossibility of enforcing agreements allowing for the transfer of corporate governance rights from managers appointed by shareholders to agents appointed by lenders.