Economic Effects of Transparency in International Equity Markets: A Review and Suggestions for Future Research

Economic Effects of Transparency in International Equity Markets: A Review and Suggestions for Future Research

Mark Lang

University of North Carolina
Chapel Hill, NC 27599
USA
Mark_Lang@unc.edu

Mark Maffett

University of North Carolina
Chapel Hill, NC 27599
USA
maffett@unc.edu

the essence of knowledge

Boston – Delft

Foundations and Trends® in Accounting

Published, sold and distributed by:
now Publishers Inc.
PO Box 1024
Hanover, MA 02339
USA
Tel. +1-781-985-4510
www.nowpublishers.com
sales@nowpublishers.com

Outside North America:
now Publishers Inc.
PO Box 179
2600 AD Delft
The Netherlands
Tel. +31-6-51115274

The preferred citation for this publication is M. Lang and M. Maffett, Economic Effects of Transparency in International Equity Markets: A Review and Suggestions for Future Research, Foundation and Trends® in Accounting, vol 5, no 3, pp 175–241, 2010

ISBN: 978-1-60198-448-7

Foundations and Trends® in Accounting

Volume 5 Issue 3, 2010

Editorial Scope

Foundations and Trends® in Accounting will publish survey and tutorial articles in the following topics:

- Auditing
- Corporate Governance
- Cost Management
- Disclosure
- Event Studies/Market Efficiency Studies
- Executive Compensation
- Financial Reporting
- Financial Statement Analysis and Equity Valuation
- Management Control
- Performance Measurement
- Taxation

Information for Librarians

Foundations and Trends® in Accounting, 2010, Volume 5, 4 issues. ISSN paper version 1554-0642. ISSN online version 1554-0650. Also available as a combined paper and online subscription.

Foundations and Trends® in
Accounting
Vol. 5, No. 3 (2010) 175–241

DOI: 10.1561/1400000016

Economic Effects of Transparency in International Equity Markets: A Review and Suggestions for Future Research

Mark Lang[1] and Mark Maffett[2]

[1] *University of North Carolina, Chapel Hill, NC 27599, USA, Mark_Lang@unc.edu*
[2] *University of North Carolina, Chapel Hill, NC 27599, USA, maffett@unc.edu*

Abstract

In this monograph, we discuss the existing literature on the economic effects of transparency in international equity markets, present aspects of an international setting that make it a fruitful environment for investigating these effects and suggest directions for future research.

Contents

1

Introduction and Overview

In this monograph, we discuss the existing accounting, finance and economics literatures on the economic effects of transparency in international equity markets, consider aspects of an international setting that make it an interesting environment for investigating these effects and suggest directions for future research.[1] Although we present results from a variety of papers, we do not attempt to be exhaustive in our review of the literature, but rather include examples of recent studies that illustrate a particular perspective.[2]

Following Bushman et al. (2004) we define transparency as the availability of a publicly traded corporation's firm-specific information (e.g., annual reports, required disclosures, analyst reports and voluntary disclosures) to users not directly connected with the firm's operations (e.g., management and other firm insiders).[3] The broad nature

[1] We view the international literature primarily as research studies focusing on effects within or across multiple countries, but more broadly as any study not focusing exclusively on U.S. capital markets.

[2] Because they are the papers with which we are most familiar, these examples are often drawn from our own work in the field. We apologize in advance for this bias and the omission of other relevant papers.

[3] For parsimony, we refer to transparency to users outside the firm simply as 'transparency'.

of this definition implies that the availability of such information may be important to a wide range of constituents, including equity holders, debt holders, government agencies and labor unions. In this monograph, we focus on one particular aspect of this multifaceted notion of transparency — the availability of firm-specific *financial* information to equity stakeholders and the effects of the *quantity and quality* of that information on own-firm equity value. We draw from the FASB/IASB conceptual framework, and define high quality financial information as information that both faithfully represents the substance of an underlying phenomenon and can be understood by users of that information (FASB, 2008).

While there is a substantial literature focusing on determinants of transparency (e.g., auditor, accounting standards, analyst following and earnings management), there is significantly less research on consequences of transparency for firm equity value, particularly in an international setting. We argue that an international context is a fruitful setting to investigate the effects of transparency because overall levels of transparency tend to be low, there is substantial cross-country institutional and regulatory variation and managers and regulators in these environments face significant tradeoffs in determining optimal transparency levels. Although this variation can sometimes complicate the researcher's effort to make inferences across different institutional environments, we highlight how these differences can be exploited to identify potential disclosure and informational effects that may be too subtle to detect in more homogenous, single-country, settings and to understand the interactions between transparency and other aspects of the firm's economic environment.[4]

We organize our monograph around a standard valuation model where transparency affects share price and share price is represented as the present value of future cash flows. Present values are determined by discounting the expected cash flows at the firm's cost of equity capital.

[4] Our goal is not to imply that the non-U.S. setting is "better" than the U.S. setting for examining the economic effects of transparency but, rather, that both settings have advantages and can provide complimentary evidence. We discuss the inherent challenges in cross-country research later in the monograph.

As a consequence, transparency could affect share price by influencing expected future cash flows, the discount rate, or both.

In examining the potential cash flow effects of transparency, we focus on two primary streams of research.

1. *Efficient resource allocation.* For firms with greater transparency, investors are better able to monitor managers' decisions and, as a consequence, managers are more likely to pursue only value-enhancing (positive net present value) projects. In Section 3.1.1, we provide examples from prior research that show transparency is especially important for limiting poorly-performing projects because, absent oversight, managers can pursue negative net present value projects for private benefit with a low probability of detection.
2. *Asset expropriation and excessive perquisite consumption.* Here, the issue is not a manager's choice of projects but, rather, the notion that they may use their position of control to increase personal consumption or reward large blockholders and other privileged stakeholders at the expense of minority shareholders. Higher levels of transparency potentially make it more difficult for insiders to expropriate assets from the firm without detection by other stakeholders. We discuss research illustrating this point in Section 3.1.2.

In terms of the channels through which transparency could affect a firm's discount rate, we consider four streams of research.

1. *The average level of liquidity.* Prior research suggests that, to the extent firms are less transparent, the average level of liquidity is likely to be lower. These effects can operate through two related mechanisms. First, in terms of transactions costs, for a firm with an opaque information environment, market makers facing information asymmetry will increase the bid-ask spread to protect against informed trading. Second, for a firm with low transparency, trading frequency will decrease as investors become less willing to transact, making it more

difficult to enter and exit positions. As a result, demand for shares will drop as investors are discouraged by the high costs of trading and the likely difficulty of quickly entering and exiting positions. These effects ultimately drive down share price and increase cost of capital. In Section 3.2.2, we discuss research that suggests higher levels of transparency can reduce information asymmetry, increase trading frequency and thus increase liquidity and lower cost of equity capital.

2. *Liquidity Uncertainty and Risk.* Liquidity uncertainty encompasses a variety of dimensions of the riskiness of an asset's liquidity, including its volatility, skewness, and covariability with market liquidity and market returns. Liquidity uncertainty is important to investors because what ultimately matters most is not the average level of liquidity, but the liquidity of a firm's shares at the time they choose to transact. Transparency can ameliorate the effects of liquidity uncertainty by, for example, reducing uncertainty about an asset's fundamental value and thereby increasing the ease with which market speculators can obtain funding for trading in the asset. In Section 3.2.3, we discuss research that suggests that transparency can mitigate these aspects of liquidity uncertainty by increasing liquidity and capital providers' willingness to remain in the market, even when uncertainty is high.
3. *Investor attention.* If public information about a firm is not readily available at low cost, investors are less likely to follow the stock and, accordingly, will not invest in it. If transparency is higher, more information will be available to outsiders at low cost, increasing the likelihood the stock will enter their choice set, which ultimately increases their likelihood of investing. This increased demand will raise share price and lower cost of capital, all else equal. In Section 3.2.4, we discuss research which provides examples of several ways in which increased firm-level transparency could potentially increase investor awareness of a particular equity and thus lower the firm's cost of raising capital.

4. *Estimation risk*. Much of asset pricing theory assumes that investors know the underlying parameters of, for example, the variance/covariance matrix of expected cash flows. However, if investors do not know the parameters of the underlying cash flow process and are instead forced to estimate them, this can lead to incorrect assessments of, for example, the covariance of a firm's cash flows with market-wide cash flows (i.e., cash flow beta). Investors need information about an asset's covariance with other assets to form efficient portfolios and transparency enhances their ability to make these assessments. A firm's level of transparency determines, in part, the extent to which investors have the information to form efficient portfolios and if investors have more information they potentially take on less risk and will be willing to pay more for shares. We discuss these issues further in Section 3.2.5, and note the absence of prior research dealing specifically with this concept in an international context.

Overall, we view the existing international empirical literature as having documented a variety of economically significant channels that suggest mechanisms through which firm-level transparency can have substantial economic effects on firm value, as well as having identified extensive cross-sectional variation in the importance of firm-level transparency across economic environments. Our review highlights the potential firm-level benefits of maintaining a high quality information environment. Yet, it also suggests that, despite the importance of the topic, there is limited research evidence to date, leading us to conclude that significant opportunities remain in this area for productive future research.

1.1 Basic Framework

We focus exclusively on how transparency can affect own-firm equity value. In doing so, we intentionally ignore other stakeholders and groups who may be affected by firm-level transparency consequences not related to equity value. For example, increased disclosure might be useful for governmental planning purposes, but we do not focus on these types of effects except to the extent they affect firm equity value. While other stakeholders are clearly important, we view informing equity investors as a primary goal of financial reporting. Further, other stakeholders typically have more direct access to the firm's management and are not as reliant on publicly available information.

To begin, we organize our thinking about how transparency could potentially affect firm equity value using a standard discounted cash flow model:

$$P_t = \sum_{t=1}^{\infty} \frac{\mathrm{CF}_{t+1}}{(1+r)^t}$$

where P_t is the firm's stock price at time t, CF_{t+1} is expected cash flows to equity in period $t+1$ and r is the cost of capital (assumed to be constant). While this is a fairly crude starting point, it is useful in highlighting the fact that transparency can potentially affect firm value either through expected cash flows or cost of capital. Further, this structure has a useful disciplining role because it suggests that, unless the effects of transparency can be linked to either cash flows or cost of capital, it is difficult to envision why it would affect firm value in an efficient market. Of course, it is possible for transparency to affect both the numerator and denominator simultaneously (and studies that rely on measures of overall firm value, such as Tobin's Q, implicitly mix the two). However, for most purposes, it is useful to focus on the two sets of effects independently since different forces are typically at work and, therefore, different research approaches are appropriate.

1.2 Empirical Illustration of the Relation between Transparency and Firm Equity Value

The prior literature provides evidence that measures of firm value are positively correlated with transparency (although it is more difficult to definitively attribute causality). For example, Lang et al. (2011) documents a positive relation between transparency levels (as measured by auditor quality, accounting standard quality, earnings management, analyst following and analyst forecast accuracy), and cost of equity capital and Tobin's Q. To demonstrate this point, in this section, we provide an empirical illustration of the relation between transparency and firm value. For the purpose of this illustration, we follow the prior literature and use Tobin's Q as a summary statistic for firm value (e.g., Gompers et al., 2003; Doidge et al., 2004).

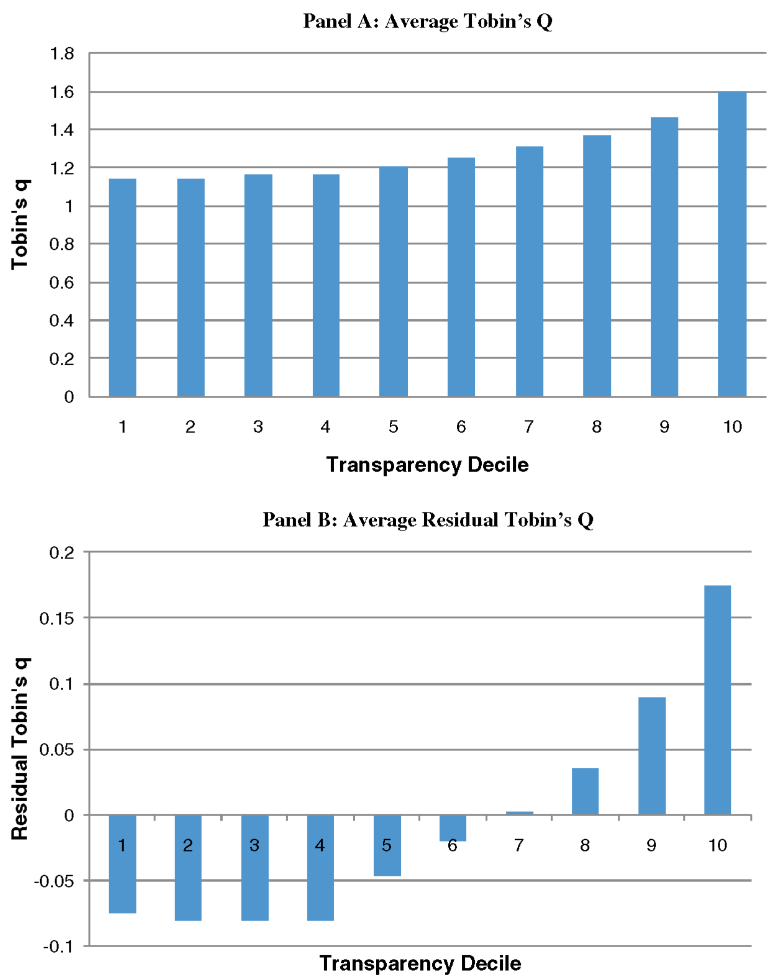

Fig. 1.1 Panel A depicts average Tobin's Q by deciles of transparency. Panel B depicts average residual Tobin's Q by deciles of transparency, where residual Tobin's Q is the residual value from a regression of Tobin's Q on size, cash flows to total assets, leverage, sales growth, net income to total assets, dividends, capital expenditures to total assets, exchange traded ADRs, non-exchange traded ADRs and country, industry and year fixed effects.

To provide a sense of the strength and consistency of the association between transparency and firm value, using a broad non-US sample that includes 13,466 firms in 44 countries over the period 1994–2007, we plot Tobin's Q across deciles of transparency.[5] As Figure 1.1 Panel A indicates, the relation is striking. In particular there is a monotonic relation across transparency deciles and average Tobin's Q, suggesting that firm transparency is highly correlated with firm value. To further illustrate this point, in Figure 1.1 Panel B, we estimate Tobin's Q across deciles of transparency after controlling for country, industry, year, size, cash flows to total assets, leverage, sales growth, net income to total assets, dividends, capital expenditures to total assets, exchange traded ADRs and non-exchange traded ADRs. These control variables help to ensure the relation in Panel A is not driven by a correlated omitted variable. Here the relation, although not monotonic, is even more pronounced, with the highest decile of transparency having a residual Tobin's Q value that is substantially larger than that of the lowest decile.

This result is striking because it suggests that, even controlling for a wide range of other factors that are thought to affect valuation, the relation between valuation and transparency remains strong. While this simple analysis, admittedly, does not take into account potential econometric issues such as endogeneity, it does clearly indicate that there is a strong positive relation between transparency and firm value. Throughout the remainder of the monograph, we explore, and attempt to provide further insight into, the mechanisms underlying this association.

[5] Tobin's Q is calculated as total assets less book value of equity plus market value of equity, scaled by total assets. Transparency is measured as a firm-year percentile ranking taking into account the firm's auditor, accounting standards followed, earnings management, analyst following and analyst forecast accuracy, following Lang et al. (2011).

References

Acharya, V. and L. Pedersen (2005), 'Asset pricing with liquidity risk'. *Journal of Financial Economics* **77**, 375–410.

Amihud, Y. (2002), 'Illiquidity and stock returns: Cross-section and time-series effects'. *Journal of Financial Markets* **5**, 31–56.

Amihud, Y. and H. Mendelson (1986), 'Asset pricing and the bid-ask spread'. *Journal of Financial Economics* **17**, 223–249.

Amihud, Y. and H. Mendelson (2008), 'Liquidity, the value of the firm, and corporate finance'. *Journal of Applied Corporate Finance* **20**, 32–45.

Amihud, Y., H. Mendelson, and L. Pedersen (2005), 'Liquidity and asset prices'. *Foundations and Trends in Finance* **1**, 269–364.

Amiram, D. and E. Owens (2011), 'Earnings smoothness and cost of debt'. Unpublished paper, University of North Carolina at Chapel Hill.

Ashbaugh, H. and M. Pincus (2001), 'Domestic accounting standards, international accounting standards, and the predictability of earnings'. *Journal of Accounting Research* **39**, 417–434.

Atanasov, V., B. Black, C. Ciccotello, and S. Gyoshev (2010), 'How does law affect finance? An examination of equity tunneling in Bulgaria'. *Journal of Financial Economics* **96**, 155–173.

Ball, R. (2001), 'Infrastructure requirements for an economically efficient system of public financial reporting and disclosure'. *Brookings-Wharton Papers on Financial Services* pp. 127–169.

Barry, C. and S. Brown (1986), 'Limited information as a source of risk'. *The Journal of Portfolio Management* **12**, 66–72.

Barth, M., W. Landsman, and M. Lang (2008), 'International accounting standards and accounting quality'. *Journal of Accounting Research* **46**, 467–498.

Basu, S. (1997), 'The conservatism principle and the asymmetric timeliness of earnings'. *Journal of Accounting and Economics* **24**, 3–37.

Bhaumik, S. and A. Gregoriou (2010), 'Family ownership, tunneling and earnings management: A review of the literature'. *Journal of Economic Surveys* **24**, 705–730.

Botosan, C. and M. Plumlee (2005), 'Assessing alternative proxies for the expected risk premium'. *The Accounting Review* **80**, 21–53.

Brunnermeier, M. and L. Pedersen (2009), 'Market liquidity and funding liquidity'. *Review of Financial Studies* **22**, 2201–2238.

Burgstahler, D. and I. Dichev (1997), 'Earnings management to avoid earnings decreases and losses'. *Journal of Accounting and Economics* **24**, 99–126.

Bushman, R. and W. Landsman (2011), 'The pros and cons of regulating corporate reporting: A critical review of the arguments'. Unpublished paper, University of North Carolina at Chapel Hill.

Bushman, R., J. Piotroski, and A. Smith (2004), 'What determines corporate transparency?'. *Journal of Accounting Research* **42**, 207–252.

Bushman, R., J. Piotroski, and A. Smith (2010), 'Capital allocation and timely accounting recognition of economic losses'. Unpublished paper, University of North Carolina at Chapel Hill.

Chen, F., O. Hope, Q. Li, and X. Wang (2010), 'Financial reporting quality and investment efficiency of private firms in emerging markets'. Unpublished paper, University of Toronto.

Chung, K., T. McInish, R. Wood, and D. Wyhowski (1995), 'Production of information, information asymmetry, and the bid-ask spread: Empirical evidence from analysts' forecasts'. *Journal of Banking and Finance* **19**, 1025–1046.

Clarkson, P. and R. Thompson (1990), 'Empirical estimates of beta when investors face estimation risk'. *Journal of Finance* **45**, 431–453.

Claus, J. and J. Thomas (2001), 'Equity premia as low as three percent? Evidence from analysts' earnings forecasts for domestic and international stock markets'. *Journal of Finance* **56**, 1629–1666.

Coffee, J. (2007), 'Law and the market: The impact of enforcement'. *University of Pennsylvania Law Review* **156**, 229–311.

Constantinides, G. (1986), 'Capital market equilibrium with transaction costs'. *The Journal of Political Economy* **94**, 842–862.

Covrig, V., M. Defond, and M. Hung (2007), 'Foreign mutual fund holdings, and the voluntary adoption of international accounting standards'. *Journal of Accounting Research* **45**, 41–70.

Daske, H., L. Hail, C. Leuz, and R. Verdi (2008), 'Mandatory IFRS reporting around the world: Early evidence on the economic consequences'. *Journal of Accounting Research* **46**, 1085–1142.

Daske, H., L. Hail, C. Leuz, and R. Verdi (2009), 'Adopting a label: Heterogeneity in the economic consequences of IFRS adoptions'. Unpublished paper, University of Chicago Booth School of Business.

Defond, M., J. Francis, and T. Wong (2000), 'Auditor industry specialization and market segmentation: Evidence from Hong Kong'. *Auditing* **19**, 49–67.

Defond, M. and J. Jiambalvo (1993), 'Factors related to auditor-client disagreements over income-increasing accounting methods'. *Contemporary Accounting Research* **9**, 415–431.

Djankov, S., R. La Porta, F. Lopez-De-Silanes, and A. Shleifer (2008), 'The law and economics of self-dealing'. *Journal of Financial Economics* **88**, 430–465.

Doidge, C., A. Karolyi, and R. Stulz (2004), 'Why are foreign firms listed in the U.S. worth more?'. *Journal of Financial Economics* **71**, 205–238.

Doidge, C., G. Karolyi, K. Lins, D. Miller, and R. Stulz (2009), 'Private benefits of control, ownership, and the cross-listing decision'. *Journal of Finance* **44**, 425–466.

Easton, P. (2004), 'PE ratios, PEG ratios, and estimating the implied expected rate of return on equity capital'. *The Accounting Review* **79**, 79–95.

Fan, J. and T. Wong (2002), 'Corporate ownership structure and the informativeness of accounting earnings in East Asia'. *Journal of Accounting and Economics* **33**, 401–425.

Fan, J. and T. Wong (2005), 'Do external auditors perform a corporate governance role in emerging markets?'. *Journal of Accounting Research* **43**, 35–72.

FASB (2008), 'Conceptual framework for financial reporting'. *Financial Accounting Standards Board Conceptual Framework*.

Ferreira, M. and P. Matos (2008), 'The colors of investors' money: The role of institutional investors around the world'. *Journal of Financial Economics* **88**, 499–533.

Florou, A. and P. Pope (2009), 'Mandatory IFRS adoption and investor asset allocation decisions'. Unpublished paper, University of Macedonia.

Forester, S. and A. Karolyi (1999), 'The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United States'. *Journal of Finance* **54**, 981–1013.

Francis, J., K. Khurana, and R. Pereira (2003), 'The role of accounting and auditing in corporate governance and the development of financial markets around the world'. *Asia-Pacific Journal of Accounting and Economics* **10**, 1–30.

Francis, J., K. Khurana, R. Pereira, and X. Martin (2010), 'The role of firm-specific incentives and country-level factors in the voluntary demand for independent audits'. Unpublished paper, University of Missouri-Columbia.

Francis, J., R. Lafond, P. Olsson, and K. Schipper (2004), 'Costs of equity and earnings attributes'. *The Accounting Review* **79**, 967–1010.

Gebhardt, W., C. Lee, and B. Swaminathan (2001), 'Toward an implied cost of capital'. *Journal of Accounting Research* **39**, 135–176.

Glosten, L. and P. Milgrom (1985), 'Bid, ask, and transaction prices in a specialist market with heterogeneously informed traders'. *Journal of Financial Economics* **14**, 71–100.

Gompers, P., J. Ishii, and A. Metrick (2003), 'Corporate governance and equity prices'. *The Quarterly Journal of Economics* **118**, 107–155.

Hail, L. and C. Leuz (2009a), 'Capital market effects of mandatory IFRS reporting in the EU: Empirical evidence'. Unpublished paper, University of Pennsylvania — The Wharton School.

Hail, L. and C. Leuz (2009b), 'Cost of capital effects and changes in growth expectations around U.S. cross-listings'. *Journal of Financial Economics* **93**, 428–454.

Healy, P. and J. Wahlen (1999), 'A review of the earnings management literature and its implications for standard setting'. *Accounting Horizons* **13**, 365–383.

Hope, O. K., T. Kang, W. Thomas, and Y. Yoo (2009), 'Impact of excess auditor remuneration on cost of equity capital around the world'. *Journal of Accounting, Auditing, and Finance* **24**, 177–210.

Hu, K., M. Van Dijk, and Y. Zhang (2010), 'The implied cost of capital: A new approach'. Unpublished paper, The Ohio State University.

Jensen, M. and H. Meckling (1976), 'Theory of the firm: Managerial behavior, agency costs and ownership structure'. *Journal of Financial Economics* **3**, 305–360.

Jian, M. and T. Wong (2006), 'Earnings management and tunneling through related party transactions: Evidence from chinese corporate groups'. Unpublished Paper, Nanyang Technological University.

Jin, C. and S. Myers (2006), 'R^2 around the world: New theory and new tests'. *Journal of Financial Economics* **79**, 257–292.

Jones, J. (1991), 'Earnings management during import relief investigations'. *Journal of Accounting Research* **29**, 193–228.

Juettner-Nauroth, B. and J. Ohlson (2005), 'Expected EPS and EPS growth as determinants of value'. *Review of Accounting Studies* **10**, 349–365.

Kyle, A. (1985), 'Continuous auction and insider trading'. *Econometrica* **53**, 1315–1335.

La Porta, R., F. Lopez-De-Silanes, and A. Shleifer (2006), 'What works in securities laws?'. *Journal of Finance* **61**, 1–32.

Lambert, R., C. Leuz, and R. Verrecchia (2007), 'Accounting information, disclosure, and the cost of capital'. *Journal of Accounting Research* **45**, 385–420.

Lang, M., K. Lins, and M. Maffett (2011), 'Transparency, liquidity and valuation: International evidence'. Unpublished paper, University of North Carolina at Chapel Hill.

Lang, M., K. Lins, and D. Miller (2003), 'ADRs, analysts, and accuracy: Does cross listing in the united states improve a firm's information environment and increase market value?'. *Journal of Accounting Research* **41**, 317–345.

Lang, M., K. Lins, and D. Miller (2004), 'Concentrated control, analyst following, and valuation: Do analysts matter most when investors are protected least?'. *Journal of Accounting Research* **42**, 581–623.

Lang, M. and R. Lundholm (1996), 'Corporate disclosure policy and analyst behavior'. *The Accounting Review* **71**, 467–493.

Lang, M. and M. Maffett (2011), 'Transparency and liquidity uncertainty in crisis periods'. Unpublished paper, University of North Carolina.

Lee, C., D. Ng, and B. Swaminathan (2009), 'Testing international asset pricing models using implied costs of capital'. *Journal of Financial and Quantitative Analysis* **44**, 207–335.

Lesmond, D. (2005), 'Liquidity of emerging markets'. *Journal of Financial Economics* **77**, 411–452.

Leuz, C., K. Lins, and F. Warnock (2009), 'Do foreigners invest less in poorly governed firms?'. *Review of Financial Studies* **22**, 3245–3285.

Leuz, C., D. Nanda, and P. Wysocki (2003), 'Earnings management and investor protection: An international comparison'. *Journal of Financial Economics* **69**, 505–527.

Leuz, C. and F. Oberholzer-Gee (2006), 'Political relationships, global financing, and corporate transparency: Evidence from Indonesia'. *Journal of Financial Economics* **81**, 411–439.

Leuz, C. and R. Verrecchia (2000), 'The economic consequences of increased disclosure'. *Journal of Accounting Research* **38**, 91–124.

Lins, K., D. Strickland, and M. Zenner (2005), 'Do non-U.S. firms issue equity on U.S. stock exchanges to relax capital constraints?'. *Journal of Financial and Quantitative Analysis* **40**, 109–133.

Maffett, M. (2011), 'Who benefits from corporate opacity? International evidence from informed trading by institutional investors'. Unpublished paper, University of North Carolina at Chapel Hill.

McConnell, J. and H. Servaes (1990), 'Additional evidence on equity ownership and corporate value'. *Journal of Financial Economics* **27**, 595–612.

Merton, R. (1987), 'A simple model of capital market equilibrium with incomplete information'. *The Journal of Finance* **42**, 483–510.

Miller, D. (1999), 'The market reaction to international cross listings: Evidence from depositary receipts'. *Journal of Financial Economics* **51**, 103–123.

Morris, S. and S. Shin (2004), 'Liquidity black holes'. *Review of Finance* **8**, 1–18.

Ng, J. (2010), 'The effect of information quality on liquidity risk'. Unpublished paper, Massachusetts Institute of Technology.

Nikolaev, V. and L. Van Lent (2005), 'The endogeneity bias in the relation between cost-of-debt capital and corporate disclosure policy'. *European Accounting Review* **14**, 677–724.

Roulstone, D. (2003), 'Analyst following and market liquidity'. *Contemporary Accounting Research* **20**, 552–578.

Stulz, R. (2009), 'Securities laws, disclosure, and national capital markets in the age of financial globalization'. *Journal of Accounting Research* **47**, 349–390.

Teho, S. and T. Wong (1993), 'Perceived auditor quality and the earnings response coefficient'. *The Accounting Review* **68**, 346–366.

Vayanos, D. (2004), 'Flight to quality, flight to liquidity, and the pricing of risk'. Unpublished paper, National Bureau of Economic Research.

Verrecchia, R. (1983), 'Discretionary disclosure'. *Journal of Accounting and Economics* **5**, 179–194.

Yu, G. (2010), 'Accounting standards and international portfolio holdings: Analysis of cross-border holdings following mandatory adoption of IFRS'. Unpublished paper, Harvard University.