

Research Study

Capital-Market Effects of Corporate
Disclosures and Disclosure Regulation

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1. Executive Summary

This article surveys the academic literature on the costs, benefits, and associated capital-market effects of disclosure requirements. It highlights the important interaction of disclosure requirements with other securities regulations and institutional factors within a country. Despite this focus on regulation, the article does not advocate the necessity of regulation or reforms to existing regulations in Canada. Instead, it emphasizes the tradeoffs that Canadian regulators, policy makers, and exchanges will face in evaluating potential reforms to Canadian disclosure requirements.

There are four main sections to this survey. The first section summarizes the key theoretical arguments on the costs and benefits of corporate disclosures, as well as the theory of disclosure regulation. The authors emphasize that the mere existence of benefits from corporate disclosures is not a sufficient economic justification for mandating these disclosures. The second section reviews empirical studies on firms' disclosure choices and highlights that many studies do not directly speak to the issues and tradeoffs faced by regulators and policy makers. Moreover, the important point is made that voluntary disclosure studies cannot directly provide evidence on aggregate outcomes or the overall economic efficiency of disclosure regulation. The third section examines the market-wide effects of past regulatory events as well as studies that compare cross-sectional differences in regulations and market outcomes across countries or exchanges. These studies are reviewed in some detail because they can speak more directly to the economic consequences of disclosure regulations. The final section brings together various policy insights that can be derived from the literature.

Overall this survey emphasizes that there are various mechanisms and forces (e.g., market forces, institutional arrangements in the country) that influence outcomes such as corporate transparency aside from disclosure regulation. Moreover, there are interactions between these different mechanisms and forces. The survey shows that corporate transparency likely is a joint outcome of market forces and the incentives provided by various institutions and regulations and the quality of their enforcement. As a result, particular disclosure regulations should not be viewed in isolation from other economic factors, institutional arrangements, and regulations. The survey also highlights that it is important to study firms' responses and avoidance strategies to regulatory events. For instance, stricter disclosure requirements for publicly-traded firms may trigger firms to go private or may change the type of firms that choose to go public. The possibility of avoidance strategies is further compounded by the growing integration of capital markets around the world. Cross-listings, raising capital from foreign investors, and related strategies provide firms with alternatives outside their home countries. The article concludes with a summary of key lessons and insights for the Task Force and policy makers in general.

2. Summary of Key Insights and Lessons

Insight #1: Caution must be exercised in interpreting academic research studies that document valuation and cost of capital benefits of disclosure activity. These studies do not quantify the overall net benefit to the economy and generally overlook the costs of regulation.

Insight #2: Potential disclosure regulations cannot be considered in isolation from other current or proposed legal, enforcement, governance, and regulatory elements in a country as well as other countries. These elements interact with, reinforce, and in some cases substitute for each other.

Insight #3: Research shows that stringent regulations are costly to firms, resulting in avoidance strategies (e.g., listing in other global markets, delisting into unregulated markets, going private). The globalization of financial markets limits what a regulator can do.

Insight #4: Costs and benefits of disclosure regulation differ widely across firms and it is unlikely that a regulation and enforcement system can be designed to meet the needs of all firms. Therefore, a “one-size fits all approach” would likely impose significant costs on certain groups of firms.

Insight #5: Given that firms face differential costs and benefits of disclosure regulations, policy makers may wish to consider “scaled regulations” that can meet the various needs of different types of firms.

Insight #6: Recent accounting research suggests that the role of accounting standards in determining reporting quality may be overstated. Accounting standards of any kind afford significant discretion to managers and controlling owners and therefore policy makers must be aware that other factors affect these insiders’ reporting incentives and largely determine the quality of financial statement information.

Insight #7: Given the role of incentives in determining reporting quality, policy makers may wish to consider the adequacy of disclosures that allow outsiders and arm’s length investors to evaluate the reporting incentives of insiders, e.g., managers and controlling owners.

3. Introduction

Our article provides a survey of the academic literature on the costs, benefits, and associated capital market effects of disclosure requirements as an integral part of securities regulation. We focus primarily on recent research studies and make an explicit attempt to integrate theoretical and empirical studies from various disciplines, such as accounting, economics, finance, and to a lesser extent law. However, while we review a broad range of literature, our survey is not meant to be exhaustive. Instead, we focus on the theoretical work and empirical evidence that has important messages for regulators and policy makers, giving special emphasis to capital market effects, such as changes in market liquidity and firms' cost of capital.¹ We also highlight issues of particular relevance to Canadian markets and policy makers.

We begin by summarizing the key theoretical arguments on the costs and benefits of corporate disclosures, as well as the theory of disclosure regulation. We emphasize that the mere existence of benefits from corporate disclosures is not a sufficient economic justification for mandating these disclosures. In general, economic arguments in favour of regulation have to be based on externalities², efficiency gains due to lower agency conflicts³, or economy-wide cost savings.

Next, we review empirical studies on firms' disclosure choices. Our survey shows that many studies do not directly speak to the issues and tradeoffs faced by regulators and policy makers. One example is the large body of research on firms' voluntary disclosures. While these studies can inform us about cross-sectional variation in the costs and benefits of corporate disclosure within a particular regulatory environment, the results are unlikely to be representative for the population of firms. Moreover, voluntary disclosure studies cannot directly provide evidence on aggregate outcomes or the overall economic efficiency of disclosure regulation.

Unfortunately, there is a general paucity of evidence on the economy-wide and overall social consequences of disclosure regulations. There are a few studies that examine the market-wide effects of

¹ Healy and Palepu (2001) and Core (2001) also survey the empirical disclosure literature. Our review complements these surveys by particularly highlighting recent research on the capital market implications of disclosure regulation. In addition, our review includes numerous new research studies that post-date prior surveys.

² *Externalities* are the side effects (positive or negative) faced by other parties resulting from the actions of another party or parties. The existence of externalities can lead to market failures and result in inefficiencies in the economy. For example, the production of electricity in a coal-fired power plant can benefit the seller of the electricity, but it may create negative externalities in the form air pollution that adversely affects people living near the power plant.

³ An *agency conflict* can arise when one party (the agent) is hired to carry out a task by another party (the principal), but the objectives of the agent are not aligned with those of the principal. Such principal-agent conflicts often arise between shareholders who own a public company and the managers who are hired to run it.

past regulatory events as well as studies that compare cross-sectional differences in regulations and market outcomes across countries or exchanges. We review these studies in some detail, as they provide useful evidence that speaks more directly to the economic consequences of disclosure regulations. In addition, we point to recent work on the link between countries' institutional features and outcomes such as accounting quality and corporate transparency, as this literature offers additional interesting and relevant insights.⁴

Despite our focus on regulation, this survey should not be understood as advocating the necessity of regulation or reforms to existing regulations. Instead, this report highlights the tradeoffs faced by regulators and exchanges in setting disclosure requirements. Our focus is on outcomes, such as corporate transparency, and on what research can say about how to achieve these outcomes. We emphasize that there are various mechanisms that influence outcomes - such as corporate transparency, market forces and a country's institutional arrangements⁵ - aside from disclosure regulation. Moreover, there are interactions between these different mechanisms and forces. For instance, we highlight that corporate transparency likely is a joint outcome of market forces and the incentives provided by various institutions and regulations and the quality of their enforcement. Moreover, we point to significant complementarities between the elements of the institutional infrastructure and markets.⁶ As a result of these complementarities, particular disclosure regulations should not be viewed in isolation from other economic factors, institutional arrangements, and regulations. To illustrate this issue, we discuss the extent to which unilateral changes in disclosure and accounting rules are unlikely to yield the desired outcomes.

Our survey also highlights that it is important to study firms' responses and avoidance strategies to regulatory events. For instance, stricter disclosure requirements for publicly traded firms may trigger firms to go private or may change the type of firms that choose to go public. Such responses must be carefully considered when empirically evaluating particular changes in disclosure regulations and also when designing disclosure requirements, as firms' avoidance strategies can seriously undermine the

⁴ In this paper, we use the term 'institutions' in a very broad sense. North (1981) defines institutions as "a set of rules, compliance procedures, and moral and ethical behavioural norms designed to constrain the behaviour of individuals in the interests of maximizing wealth or utility." (p. 201-202).

⁵ Examples of institutional arrangements that may act as complements or substitutes for disclosure regulations include an active analyst community, sophisticated debt rating agencies, a competitive and independent system of auditors, and active independent corporate boards.

⁶ For example, disclosure rules and associated enforcement mechanism reinforce each other and constitute important complementarities in the institutional infrastructure. Similarly, large public markets where investors provide capital to firms at arm's length are typically supported by disclosure rules that make it easy for outside investors to obtain information about firms.

effectiveness of regulation. The possibility of avoidance strategies is further compounded by the growing integration of capital markets around the world. Cross-listings, raising capital from foreign investors, and related strategies provide firms with alternatives outside their home countries. This issue is particularly relevant for Canada due to its proximity to and integration with U.S. capital markets. For instance, Canadian firms are the largest group of foreign firms listed on U.S. exchanges. We therefore also survey relevant empirical studies on firms' cross listings in the U.S.

Our survey concludes with a summary of key lessons and a set of policy recommendations for Canadian regulators and policy makers.

4. Theory of Corporate Disclosure and Disclosure Regulation

There are many theories about the potential costs and benefits of corporate disclosure. On the benefit side, disclosures are expected to improve market liquidity and to lower the cost of capital. In addition, increases in disclosures can potentially improve corporate governance and managers' investment decisions. Other indirect and possibly reinforcing capital market benefits include greater analyst following and the attraction of certain investor clientele, such as institutional investors. On the cost side, there are the direct costs of preparing, certifying, and disseminating corporate information. In addition, disclosures may have indirect costs, for instance, because the information could also be used by other parties, such as competitors, employees, politicians and regulators. The confluence of costs and benefits of particular disclosures ultimately determines whether they are beneficial to the firm; i.e., whether they increase firm value. In this section, we briefly review the main theories supporting these potential costs and benefits of corporate disclosures. We also review the theory of disclosure regulation, which gives special emphasis to the economic rationales for mandating disclosure.⁷

i. Benefits of Corporate Disclosures

The benefit of disclosure that is arguably best supported by theory is the link between disclosure and market liquidity (see also, Verrecchia, 2001). At the core of this link is the insight that information asymmetries among investors introduce adverse selection into share markets. With information asymmetry, uninformed or less-informed investors have to worry about trading with privately or better-informed investors. In essence, an uninformed investor fears that an informed investor is willing to sell (buy) at the market price only because the price is currently too high (too low) relative to the information possessed by the informed trader (e.g., Glosten and Milgrom, 1985). As a result, the uninformed investor lowers (increases) the price at which he is willing to buy (sell) to protect against the losses from trading with an informed counterparty. The price adjustment reflects the probability of trading with an informed investor and the potential information advantage of an informed trader.

⁷ Disclosure regulation can be provided privately, for instance, by a professional standard setter or an exchange in the form of a listing agreement, as well as publicly by a regulatory act. Our discussion considers the costs and benefits of mandating disclosures, but is silent on the issue of whether the requirements should be provided privately or publicly.

The described mechanism of price protection when buying or selling shares introduces a bid-ask spread into secondary share markets.⁸ Similarly, information asymmetry and adverse selection reduce the number of shares that uninformed investors are willing to trade. It is straightforward to see that both effects reduce the liquidity of share markets, i.e., the ability of investors to quickly buy or sell shares at low cost and with little price impact.

Corporate disclosure can mitigate the adverse selection problem and increase market liquidity by levelling the playing field among investors (Verrecchia, 2001). Its effect is twofold. First, more information in the public domain makes it harder and more costly for traders to become privately informed. As a result, fewer investors are likely to be privately informed, which reduces the probability of trading with a better-informed counter party. Second, more disclosure reduces the uncertainty about firm value, which in turn reduces the potential information advantage that an informed trader might have. Both effects reduce the extent to which uninformed investors need to price protect and hence increase market liquidity.

How do these effects map into firm value or the cost of capital? Illiquidity and bid-ask spreads essentially impose (out-of-pocket) trading costs on investors, for which investors need to be compensated in equilibrium. Thus, the required rate of return of a security increases by its per-period transaction costs (e.g., Constantinides, 1986; Amihud and Mendelson, 1986). In addition, adverse selection can distort investors' trading decisions and result in inefficient asset allocations. Garleanu and Pedersen (2004) show that, in equilibrium, investors also need to be compensated for the costs associated with the inefficient allocation of securities in the economy, which again increases the required rate of return or cost of capital.

Moreover, the price of a security is reduced by the present value of future trading or adverse selection costs. Adverse selection problems fold back to the point at which the firm issues shares. At that stage, investors anticipate that they will face an information asymmetry-induced price discount when selling the shares at a later point in time. In response, investors reduce the price at which they are willing to buy shares, which in turn lowers firm value (e.g., Diamond and Verrecchia, 1991; Baiman and Verrecchia, 1996).⁹ This effect implies that the firm must issue more shares to raise a fixed amount of capital. In this sense, information asymmetry translates into a higher cost of raising capital.

⁸ If the counter party is informed with probability one, the market breaks down analogous to the “market for lemons” in Akerlof (1971).

⁹ Information asymmetries can give rise to a number of additional problems at the security offering, which are likely to further reduce the offering price or lead to underpricing. For a survey, see Ljungqvist (2004).

Next, we review theories that provide a direct link between disclosure and the cost of capital (or firm value), without reference to market liquidity. Merton (1987) develops a model where (some) investors have incomplete information and are not aware of all firms in the economy. As a result, risk sharing is incomplete and inefficient. Disclosures by these lesser-known firms can make investors aware of their existence and enlarge the investor base, which in turn improves risk sharing and lowers the cost of capital. Although this effect is fairly straightforward and plausible for small firms (e.g., such as the small firms that trade in the U.S. over-the-counter (OTC) markets), it seems less relevant to large firms with a substantial analyst and investor following. Moreover, the investor base effect is susceptible to arbitrage if some investors know which of the stocks are not known by all investors (Merton, 1987; Easley and O'Hara, 2004). Thus, the extent to which the investor base effect is priced in equilibrium is an open (and empirical) question.

A second approach to motivate a link between disclosure and the cost of capital is based on the idea of estimation risk (e.g., Brown, 1979; Barry and Brown, 1984 and 1985; Coles and Loewenstein, 1988). This strand of literature starts from the premise that important parameters, like a firm's beta factor, have to be estimated, and then analyzes the role of information in the estimation. Information signals are typically modeled as arising from a historical time-series of returns. In particular, Barry and Brown (1985) and Coles et al. (1995) compare two information environments: an "equal" information case where the same historical time-series of returns is available for all firms in the economy and an "unequal" information case where some firms have longer time-series of returns than others. They find that the betas of the "high information" securities in the unequal information case are lower than they are in the equal information case. However, they cannot unambiguously sign the difference in betas for the "low information" securities in the unequal- versus equal-information cases. Moreover, these studies do not address the question of how firm-specific disclosures can influence the cost of capital in unequal information environments. Finally, there is much debate about the diversifiability of estimation risk given the way it is modeled in these studies (e.g., Clarkson et al., 1996).

More recently, Jorgenson and Kirschenheiter (2003), Hughes, Liu, and Liu (2005), Yee (2006), and Lambert, Leuz and Verrecchia (2006) re-examine the issue of estimation risk and firms' cost of capital. For instance, Lambert, Leuz and Verrecchia (2006) model estimation risk using a more conventional information-economics approach in which information signals are related to realized or future cash flows. This approach allows for more general changes in the information environment and can accommodate an analysis of firm-specific disclosures. Based on this information structure, Lambert et al. show that the assessed covariances of a firm's cash flows with the cash flows of other firms decrease as the quality (or

precision) of disclosures increases, and that this effect unambiguously moves a firm's cost of capital closer to the risk-free rate.

This information effect is not diversifiable because it is present for all covariance terms with other firms; only the effect on the firm-specific variance is likely to be diversified in "large economies" where investors can form portfolios of many stocks. It is important to note that the results in Lambert et al. (2006) are entirely consistent with the Capital Asset Pricing Model and do not suggest that information generates a separate risk factor (but the results do not preclude one either). The described information effect should manifest itself in firms' beta factors as well as the market risk premium for the economy.

In addition to its effects on the cost of capital, corporate disclosures have the potential to change firm value by affecting managers' decisions and hence altering the distribution of future cash flows. Many studies in agency theory suggest that more transparency and better corporate governance increases firm value by improving managers' decisions or by reducing the amount that managers appropriate for themselves (e.g., Lambert, 2001).¹⁰ While it is clear that altering managers' real decisions has a first-order effect on the expected future cash flows, it generally also has an indirect effect on the cost of capital (e.g., Lombardo and Pagano, 2002; Lambert et al., 2006). Lambert et al. (2006) demonstrate that, if more disclosure reduces the amount of managerial appropriation¹¹, this effect generally reduces firms' cost of capital. Moreover, they show that if better corporate disclosures improve managers' production or investment decisions, e.g., by improving the coordination between investors and firms with respect to capital allocation there are cost of capital effects, but the direction of the effects is ambiguous. The reason is that better disclosures and more outside monitoring may induce managers to take on projects that have larger covariances with the cash flows of other firms in the economy and hence are riskier.

ii. Costs of Corporate Disclosures

It is conceptually straightforward to understand the direct costs of corporate disclosures including the preparation and dissemination of accounting reports. Higher direct costs obviously make corporate disclosures less desirable and reduce firm value. As illustrated by the recent debate about the economic consequences of SOX (e.g., Wall Street Journal, 2/10/2004; Ribstein, 2005), these direct costs can be

¹⁰ There are also a number of legal studies that emphasize the role of disclosure in mitigating agency problems (see, for example, Mahoney, 1995 and Ferrell, 2004).

¹¹ Managerial appropriation of corporate resources can take many forms, such as outright stealing of cash, the use of excess cash for 'pet projects' from which the manager derives some private utility, lavish business trips, or simply excessive compensation.

substantial, especially if they come in the form of opportunity costs (e.g., managerial time). Moreover, fixed disclosure costs induce economies of scale and can make certain disclosures particularly burdensome for smaller firms.

In addition, disclosures can have indirect costs that stem from the fact that information provided to capital market participants can also be used by other parties (e.g., competitors, labour unions, tax authorities, etc.). These costs are often called proprietary costs, to capture the idea that these costs arise from the disclosure of proprietary information. For instance, detailed information about the profitability of particular business segments can be competitively sensitive because it may reveal the operating margins of, and investments in, different lines of business (e.g., Feltham et al., 1992; Hayes and Lundholm, 1996). The fact that other parties - such as competitors, employees, regulators and tax authorities - may use public information to their advantage can dampen firms' disclosure incentives (Verrecchia, 1983). However, a competitive threat may not always induce firms to withhold information. For example, an incumbent firm can have an incentive to disclose information that would deter entry by a competitor. Competitors can also infer information from the fact that a firm withholds information. Analytical models show that the relation between disclosures and proprietary costs is therefore complex and depends on the type of competition (e.g., Verrecchia, 1990; Wagenhofer, 1990; Feltham et al., 1992).

iii. Theory of Disclosure Regulation

Substantial benefits of corporate disclosures, such as greater market liquidity and a lower cost of capital, are not sufficient to justify mandatory disclosure requirements, even if regulators and policy makers are convinced that these benefits outweigh the costs of mandated disclosures. The reason is that firms have incentives to provide information voluntarily if the benefits exceed the costs. That is, precisely in a situation where the benefits of corporate disclosures far exceed the costs, it is not clear that regulation is necessary. In well-functioning markets, firms can trade off the costs and benefits of disclosure and, presumably, they are better informed about these tradeoffs than the regulators or policy makers.

The idea of private disclosure incentives is best illustrated with the unraveling argument (Grossman and Hart, 1980; Grossman, 1981). Assume that in an IPO setting without corporate disclosures investors are unable to distinguish between firms, and therefore offer a price that reflects the average value of all firms. Surely, firms with an above-average value have an incentive to disclose private information about their true value. Once these firms disclose, investors rationally infer that the average value of all non-disclosing firms is lower and adjust the price to reflect this expectation. This reaction in turn triggers the

remaining non-disclosing firms with values above the newly set market price to disclose information about their private value, and so on. In the end, all firms disclose their value, i.e., full disclosure prevails voluntarily.

Of course, the preceding argument implicitly makes a number of simplifying assumptions: disclosure of private information must be costless and truthful (or verifiable at low cost), and an investor must know that the firm possesses private information in the first place. Without these assumptions, the described full disclosure equilibrium may not prevail (e.g., Verrecchia, 1983; Kwon and Jung, 1988). However, even if these assumptions are violated, the general spirit of the unraveling argument still applies. Firms are expected to voluntarily provide information if disclosure is beneficial, because they ultimately bear the costs of withholding or not disclosing information. From this perspective, the merits of disclosure regulation are not obvious. An economic justification for disclosure regulation has to argue that mandatory disclosures result in economy-wide cost savings or that it improves the private cost-benefit tradeoff of firms. For example, the existence of externalities arising from firms' individual disclosure choices may lead to suboptimal overall disclosure levels. We subsequently review two such arguments that have been put forth in favour of disclosure regulation.

One potential role of mandatory disclosure is to serve as a commitment device. Capital markets should reward disclosures that are credible and not self-serving. Without commitment, however, firms may have incentives to withhold or manipulate information in certain situations, e.g., when performance is poor. In contrast, disclosure requirements force firms to reveal information in both good and bad times, i.e., they provide some form of commitment, which in turn should mitigate information asymmetries and uncertainty (e.g., Verrecchia, 2001).¹² But as before, this argument alone is not sufficient to justify mandatory disclosures. We need to look for reasons why firms might not privately seek disclosure commitments, even though they are beneficial, or we need to argue that disclosure requirements provide commitment at lower costs (see also Rock, 2002).

To illustrate these issues, consider a family-owned firm that is run by a manager and tries to raise additional capital from outside investors. The manager promises to periodically disclose certain information to outside investors. However, she can renege on this promise. Anticipating that the manager may have incentives to withhold information, e.g., after poor performance, outside investors

¹² Such requirements can be provided privately, for instance, by an exchange in the form of a listing agreement, or publicly by a regulatory act. Huddart et al. (1999) provide a model suggesting that exchanges competing for liquidity have incentives to set tough disclosure standards and generally do not engage in a 'race to the bottom'.

increase the rate of return at which they are willing to provide capital to the firm. Thus, the owners of the firm ultimately bear the cost of not providing a commitment to disclosure (as well as any residual agency problems). For this reason, managerial agency problems are *per se* not a sufficient reason for mandatory disclosures. But privately producing a sufficient level of disclosure commitment may be very expensive (or even impossible) for the owners. Private contracts are generally limited in terms of the penalties that they can impose on the manager. Thus, if dismissal or monetary penalties are not sufficient, a mandatory disclosure system with a public enforcer and criminal penalties can offer advantages.

Furthermore, large shareholders and corporate insiders (e.g., the family in the preceding example) may extract private benefits from controlling the firm (La Porta et al., 2000; Shleifer and Wolfenzon, 2002). Given these benefits, controlling insiders may be reluctant to commit to corporate disclosures that limit their ability to extract private benefits, even if such disclosures increase firm value and reduce the cost of capital. As before, outside investors are likely to price protect, so the controlling owners bear the costs of extracting private benefits, providing insufficient disclosures and foregoing profitable investment opportunities (e.g., Doidge et al., 2004). However, there can be costs to the economy as a whole if controlling insiders decide to forgo profitable investment opportunities for the sake of private benefits (e.g., Lombardo and Pagano, 2002). It is these effects that provide an economic rationale for mandatory disclosures (e.g., Ferrell, 2004).

Externalities provide a second rationale for a mandatory disclosure regime. They arise whenever the social and private values of information differ. In such a case, firms trading off the private (or firm-specific) costs and benefits do not provide the socially optimal level of disclosure. Hirshleifer (1971) argues that private information acquisition for speculative gains in securities markets is socially wasteful. On the other hand, private monitoring creates free-rider problems by conferring uncompensated benefits on other investors (e.g., Coffee, 1984). Thus, disclosure regulation can mitigate both the (private) over- and under-production of information and, hence, be socially desirable. Dye (1990) and Admati and Pfleiderer (2000) argue that firms' disclosures have positive externalities in the form of information transfers and liquidity spillovers. With correlated firm values or cash flows, information disclosed by one firm can be useful in valuing other firms and increase investors' willingness to hold positions in other firms. Lambert et al. (2006) provide a similar argument based on estimation risk. They show that each firm's disclosure has a (small) impact on the co-variances of other firms and hence lowers their estimation risk, resulting in an externality for the other firms' cost of capital. While this effect is small individually, it could be large collectively and hence provide a rationale in favour of disclosure regulation.

However, disclosures can also have negative externalities. Fishman and Hagerty (1989) argue that negative externalities can arise if investors (or analysts) follow only a limited number of firms, e.g., due to information processing costs, and if markets are not perfectly competitive. In this situation, an increase in disclosure by one firm attracts investors (or analysts) away from other firms. This effect can lower the price efficiency of other firms, creating a negative externality. Given the fact that there can be positive and negative externalities from corporate disclosures, it is an empirical question whether mandatory disclosures are in fact socially desirable.

Finally, regulators must also evaluate proposed domestic disclosure and reporting regulations in the context of integrated global markets and understand that regulations in other countries can affect domestic outcomes. This issue is of particular relevance for Canadian regulators and standards-setters who may wish to adopt standards *similar* to those in other countries. Illustrating these issues, Barth, Clinch and Shibano (1999) examine the potential impact of harmonized reporting standards on security market performance. They show harmonization creates countervailing effects that potentially can lead to *either* greater or less informative stock market prices, liquidity, and cost of capital. The key take-away is that the net outcomes of domestic regulations are, at least partially, driven by what other regulators are doing around the world.

iv. Key Lessons and Insights

Several insights arise from this survey of theoretical literature. In particular, this literature is used to motivate **Insight #1** (difficulty in quantifying the overall net benefits to regulations within a market), **Insight #2** (links between regulations and other institutional factors within a market and across markets), and **Insight #6** (importance of managers' reporting incentives beyond stated accounting rules). These insights are discussed in detail in Part 7.

5. Empirical Evidence on the Costs and Benefits of Disclosure

In this section, we review the empirical literature on the potential costs and benefits of firms' information disclosure policies. Our review complements prior disclosure research surveys by Healy and Palepu (2001) and Core (2001) and also includes numerous new research studies that post-date prior surveys.

Empirical disclosure studies are generally motivated by the firm-specific costs and benefits of corporate disclosures. Given this motivation, most empirical studies explore the association between firms' *voluntary* disclosure choices and various costs and benefits of these choices across firms in a given sample. While these empirical studies can inform us about across-firm variation in the costs and benefits of corporate disclosure within a given regulatory environment, they generally *cannot* provide insights into the overall desirability, economic efficiency, or aggregate outcomes of regulating these disclosures. Moreover, most cross-sectional disclosure studies take the regulatory environment as given, which makes it difficult to translate the results to other environments or to determine whether the results are representative for the overall population of firms.

Below we outline the types of disclosures examined in empirical studies and then summarize the empirical findings on the measurable benefits and costs of voluntary disclosures.

i. **Types of Voluntary Disclosures**

Information is often qualitative in nature, which makes objective measurement difficult for empiricists. Moreover, theoretical research provides little guidance on which types, quantity, frequency, and quality of disclosure are relevant for outside stakeholders. However, empirical researchers have developed innovative ways to measure disclosure quantity and quality.

A widely-used disclosure measure is based on the annual survey of financial analysts' rankings of U.S. firms' disclosure activities by the Association for Investment Management and Research (AIMR) (see, for example, Lang and Lundholm, 1993, 1996; Welker, 1995; Healy, Hutton and Palepu, 1999; and Nagar, Nanda and Wysocki, 2003).¹³ These survey rankings arguably capture the usefulness of firms' disclosures as perceived by expert *users* of this information. The disclosure rankings capture a broad range of disclosure activities including annual report information, voluntary disclosures in quarterly reports, and

¹³ The AIMR has changed its name to CFA Institute. The disclosure ratings were published under the old name (AIMR) and discontinued in the mid 1990's. Academic studies still refer to these ratings as AIMR ratings.

more diffuse disclosures arising from investor relations activities. The limitations of the AIMR rankings are that they are only applicable to a subset of large U.S. firms ranked in the survey during the 1980 and 1990's. Moreover, there are questions about potential bias in the rankings based on sell-side analysts' objectives in assigning disclosure ratings. It is also possible that analysts simply assign higher ratings to firms with better prospects and financial performance.¹⁴

Other studies use self-constructed measures of disclosure activities (see, for example, Botosan, 1997, and Francis, Nanda and Olsson, 2005, for samples of U.S. firms, and Hail, 2003, for a sample of foreign firms). These self-constructed measures generally use a check-list of information disclosures in firms' annual reports. Annual report information is also used to construct the international CIFAR index of average accounting disclosure activity of large firms across a range of countries (see, for example, La Porta et al, 1998; and Leuz, Nanda, and Wysocki, 2003) and the Standard and Poor's scores of international firms' disclosures (see, for example, Khanna, Palepu, and Srinivasan, 2004). The limitations of these types of measures are that the selection and coding of the relevant disclosures are subjective, that they generally capture the existence of particular disclosures rather than the quality of those disclosures, and that the construction of a single index assigns particular weights to the different disclosure items. Moreover, these measures often do not capture other disclosure activities that can complement and/or substitute for financial report disclosures.

Other studies focus on the timing and frequency of firms' disclosures, such as management forecasts of earnings (see, for example, Hutton, Miller and, Skinner, 2003, and Nagar, Nanda, and Wysocki, 2003), and conference calls with analysts (i.e. Tasker, 1998; Frankel, Johnson, and Skinner, 1999; and Bushee, Matsumoto, and Miller, 2003). While it is difficult to objectively quantify the information issued with management forecasts and during conference calls, these studies highlight the fact that these disclosure events generally reveal useful qualitative and contextual information to outside investors.

More recent studies have made a more direct attempt to measure the "quality" of accounting information provided to outside investors by analyzing the properties of a firm's reported earnings. Appendix 1 provides a short primer on the current empirical approaches that attempt to quantify a firm's accounting, earnings and accruals quality. For example, Leuz, Nanda and Wysocki (2003) examine various earnings properties that can limit the usefulness of the accounting information for outside investors. These earnings properties can also capture outright earnings management to deceive outsiders and to increase information

¹⁴ For example, Lang and Lundholm, 1993, find that AIMR disclosure ratings are strongly correlated with past performance. Healy and Palepu (2001) also identify additional limitations of the AIMR data.

asymmetry between informed parties and uninformed outside investors. Bhattacharya, Daouk and Welker (2003) and Lang, Raedy and Yetman (2003b) apply these measures to explore the relation between earnings management and capital market outcomes.

Other research suggests that conservative accounting reports and information releases (i.e., firms release bad news in a timely fashion to outside investors) can capture another important dimension of a firm's discretionary information quality. Basu (1997) introduces an empirical measure of conservatism that attempts to capture the asymmetric timeliness of earnings. This measure is widely used in the current empirical literature (see, for example, Ball, Kothari and Robin, 2000).

Recent studies by Dechow and Dichev (2002) and Francis, LaFond, Olsson and Schipper (2005) attempt to model the relation between a firm's cash flows and working capital accruals to measure earnings quality. Follow-up research also claims that these accruals measures can potentially capture a firm's overall information quality (see, for example, Ecker, Francis, Kim, Olsson, and Schipper, 2006). However, Wysocki (2005) and Liu and Wysocki (2006) demonstrate that these "accruals quality" measures fail to capture "earnings quality", let alone overall information quality. Other earnings properties such as persistence, value relevance, and smoothness may also capture the quality of accounting information used by outside investors (see, for example, Francis, LaFond, Olsson, and Schipper, 2004).

ii. Benefits of Voluntary Disclosures

a) Liquidity Benefits of Voluntary Disclosures

As discussed in Part 4, section i, a possible direct benefit of voluntary disclosure is greater liquidity of a firm's securities. Survey evidence suggests that managers believe that such a liquidity benefit exists. Graham, Harvey and Rajgopal (2005) survey managers from 312 public U.S. firms and find that 44% of managers strongly agree with the statement that "voluntarily communicating information increases the overall liquidity of our stock" (compared to 17% of managers who strongly disagree with the statement). However, the survey provides no evidence on the economic magnitude of the liquidity benefit nor which types, quantity, frequency, and quality of voluntary disclosures are necessary to achieve a measurable impact on stock liquidity.

Other cross-sectional studies attempt to directly quantify the stock market liquidity benefits of greater voluntary disclosure. Welker (1995) tests the liquidity impact of firms' voluntary disclosure using AIMR

disclosure rankings. He finds that the firms in the lowest third of the disclosure rankings have about 50 percent higher bid-ask spreads than firms in the highest third of the rankings. However, his tests for the sensitivity of bid-ask spreads to disclosure policy based on the probability of informed trade activity and probability of information event occurrences are statistically insignificant. Healy, Hutton, and Palepu (1999) also use AIMR rankings to examine a sample of firms that voluntarily increase their disclosures. They find these firms had a significant increase in their liquidity (bid-ask spreads and trading volume) after the perceived increase in their disclosure quality. In an international setting, Leuz and Verrecchia (2000) examine a sample of German firms that voluntarily adopt more onerous disclosure requirements by switching from German GAAP to an international reporting regime (i.e., IAS or U.S. GAAP). Leuz and Verrecchia (2000) find that switching firms have smaller bid-ask spreads and higher trading volume following the switch and relative to German GAAP firms.

These studies suggest that voluntary disclosures level the playing field and reduce the amount of price protection that less-informed traders apply when buying or selling shares. Arguably, the economic significance of the liquidity effects in cross-sectional studies of U.S. firms appears to be small. One issue is that these studies analyze firms' disclosures within the rich and stringent U.S. disclosure system where the effects of additional voluntary disclosures may be fairly marginal (Leuz and Verrecchia, 2000). Moreover, cross-sectional studies may understate the true liquidity impact of voluntary disclosures. For example, firms with non-existent or minimal disclosures do not appear in the samples, but are likely to have such large bid-ask spreads that there is little or no public trading.¹⁵ In other words, these extreme cases are often missing from cross-sectional studies, and therefore the results likely understate the true magnitude of the liquidity impact of voluntary disclosures.

b) Voluntary Disclosure and Firms' Cost of Capital

Another possible benefit of corporate disclosures is that they lower firms' cost of capital. As outlined in Part 4, section 1, there are several mechanisms by which an increase in corporate disclosures can manifest in a lower cost of capital. At present, however, the literature has primarily focused on establishing the link between disclosure and the cost of capital and has provided relatively little evidence on the mechanism. In this section, we review several of the key papers and results without trying to be comprehensive (see also Healy and Palepu, 2001; Core, 2001).

¹⁵ Consistent with this claim, Bushee and Leuz (2005) document that firms in the OTC markets have extremely low levels of market liquidity and Leuz, Triantis and Wang (2006) show that liquidity essentially "vanishes" if firms cease to provide public disclosures on a regular basis.

Again, there is survey evidence suggesting that managers perceive a cost-of-capital benefit from expanded voluntary disclosures. Graham, Harvey and Rajgopal (2005) find that 39% of managers strongly agree with the statement the “voluntarily communicating information reduces our cost of capital”, while 22% strongly disagree with this statement. However, the economic magnitude of this cost-of-capital effect cannot be determined from this survey. Moreover, it should be noted that the perceived benefits of disclosure do not apply equally to all firms. Graham et al. (2005) find that the perceived reduction in the cost of capital is greatest for firms with *high* analyst following.¹⁶

Theory suggest that information asymmetry and the adverse selection problems of non-disclosure can flow back to the firm’s share issuance decision and translate into a higher cost of raising capital. Consistent with this conjecture, research documents a positive link between external capital-raising activities and disclosure quantity and quality (e.g., Frankel, McNichols and Wilson, 1995; Healy, Hutton and Palepu, 1999; Lang and Lundholm, 2000). More recently, there are also studies that document more extensive pre-IPO disclosures are associated with lower underpricing (e.g., Schrand and Verrecchia, 2005).

Other cross-sectional studies attempt to directly quantify the cost of capital benefits of greater voluntary disclosure. One of the first studies in this vein is Botosan (1997). She creates a self-constructed index of voluntary annual report disclosures for a sample of U.S. companies and links it to an *ex ante* imputed cost-of-capital measure. In her overall sample, she does not find a significant relation between voluntary disclosure and cost of equity capital. However, firms with low analyst following do exhibit the predicted negative relation between disclosure and cost of equity capital. Note that the latter result is *exactly opposite* to the survey findings of Graham et al. (2005) who suggest that the disclosure-cost of capital relation is weakest for firms with low analyst following.¹⁷

Follow-up research by Botosan and Plumlee (2002) finds a significant negative relation between cost of equity capital and annual report disclosures. However, they find contradictory evidence suggesting that the cost of capital is higher for firms with more timely voluntary disclosures, and no association between the cost of capital and firms’ investor relations activities. Other mixed evidence on the cost of capital outcomes is also presented in Healy, Hutton and Palepu (1999). They find that firms’ realized stock

¹⁶ They also find that the beneficial impact of voluntary disclosures on a firm’s P/E (which can be viewed as a rough measure of its cost of equity capital) is much more muted for firms with low analyst following.

¹⁷ The Merton (1987) model of incomplete information and risk sharing suggests that firms can make investors aware of their existence and enlarge the investor base, which in turn lowers their cost of capital. This effect would seem most pronounced for small firms (e.g., in the OTC markets) and it less relevant for large firms with high analyst following.

returns are *higher* in the years following an improvement in their disclosures. Taken literally, this finding suggests that better disclosure actually increased the rate of return required by investors and therefore increased the firm's cost of capital. However, realized returns are likely to be a relatively poor proxy for firms' cost of capital unless they are measured over very long time periods.

In an international context, Hail (2003) examines a sample of Swiss firms where mandated disclosure is low and there is large variation in firms' voluntary disclosure policies. He finds that more forthcoming firms enjoy around a 2.5% cost advantage over the least forthcoming firms. His strong findings suggest that different institutional factors in Swiss and U.S. markets affect the outcomes of firms' disclosure policies. These findings also reinforce the possible interactive effects between firms' disclosure policies, institutional factors, and ultimately the impact of disclosure regulation.

Francis, LaFond, Olsson and Schipper (2005) examine the link between cost of equity capital and the "quality" of a firm's accruals. They find a strong negative relation between their measure of accruals quality and various cost of capital measures - including P/E ratios, market betas, and observed stock returns - suggesting that the cost of capital decreases when earnings quality increases. Francis et al. (2005) also create an economy-wide risk factor based on their "accruals quality" measure. They argue that their stock returns tests support the idea that "accruals quality" is a systematic, i.e. non-diversifiable, risk factor, over and above beta. However, there are a number of competing findings that undermine the interpretation of these results. For example, Francis et al. (2005) find that their results are strongest for "innate" accruals components that are not within managers' discretion, suggesting that the accruals quality factor also picks up firm characteristics, such as the risk of the business process. Consistent with this conjecture, Wysocki (2005) shows that the Dechow and Dichev (2002) and Francis et al. (2005) accruals measures have little ability to identify high-quality accruals. Moreover, Liu and Wysocki (2006) present evidence that the information risk factor used by Francis et al. (2005) and Ecker et al. (2006) does not capture information risk related to accruals. Finally, Core et al. (2006) show that the asset pricing tests in Francis et al. (2005) and Ecker et al. (2006) are not suited to determine whether accruals quality is a priced risk factor. When conducting proper (two-stage cross-sectional tests) asset pricing tests, Core et al. (2006) find little evidence that accruals quality is priced as a separate risk factor. However, they do find evidence that firms' beta factors are inversely related to accruals quality as the model by Lambert et al. (2006) predicts.

Recent studies also examine the association between cost of debt capital and voluntary disclosures. Sengupta (1998) uses AIMR rankings of firms' disclosures to examine the relation between cost of debt

and voluntary disclosure. He documents an inverse relation between disclosure and the effective interest cost of raising debt. Miller and Puthenpurackal (2002) also find that U.S. debtholders demand economically significant premiums on bonds for foreign firms that have no prior history of on-going disclosure. Moreover, Zhang (2006) finds that lenders offer lower up-front interest rates to firms that report conservative earnings numbers and that these findings are robust to controlling for numerous of other earnings attributes.¹⁸ This evidence contrasts with other studies that claim that conservative earnings properties are not a primary factor in determining cost of capital (i.e., Francis, LaFond, Olsson and Schipper, 2004). However, a major difficulty of tests involving the cost of debt is to control for the specifics of firms' debt contracts, such as the covenants, and their impact on the cost of debt.

Overall, the evidence on the cross-sectional relation between voluntary disclosures and firms' cost of capital is quite mixed and hence it is difficult to draw a definitive conclusion from the aforementioned studies or other work in this area. The results appear to be very sensitive and can vary across types of firms (i.e., different sizes); with the presence of other intermediaries (i.e., financial analysts); across types of disclosures (i.e., annual reports versus timely disclosures versus conservative earnings); across types of investors (shareholders versus bondholders); and across different institutional environments (i.e., U.S. versus other markets).

Another issue is that voluntary disclosure studies likely face a self-selection problem, which makes estimating the marginal effects of voluntary disclosures on the cost of capital (and other outcomes such as liquidity) very difficult. The fact that many studies do not address this issue may also contribute to the lack of consistent findings and implies that we should use caution when interpreting the findings (see, e.g., Leuz and Verrecchia, 2000; Core, 2001; Nikolaev and van Lent, 2005; Larcker and Rusticus, 2005).

iii. Empirical Evidence on the Costs of Voluntary Disclosures

There is a general paucity of empirical evidence on the direct costs and out-of-pocket expenses of disclosure. It is often difficult to quantify the direct costs associated with disclosure activities especially if

¹⁸ Graham, Harvey and Rajgopal (2005) survey managers from 312 public firms and find that 42% of managers strongly agree with the statement that "a smooth earnings path is preferred because it achieves or preserves a desired credit rating." This compares with 19% of managers who strongly disagree with this statement. This statement is relevant because 47% of the managers also strongly agree with the statement that "a smooth earnings path is preferred because it promotes a reputation for transparent and accurate reporting." In other words, smooth earnings appear to be synonymous with high quality financial reporting and this property appears to be valued by debtholders. However, this is somewhat ironic because the most surveyed managers also stated that smooth earnings fail to clarify true economic performance.

they come in the form of opportunity costs such as managerial time. However, the empirical literature suggests that there are fixed costs to information production and dissemination than induce economies of scale in disclosure. Empirical disclosure studies consistently find that larger firms have better average disclosure quality (see, for example, Lang and Lundholm, 1993).

On the other hand, there is more evidence on the indirect costs of voluntary disclosures. For example, there are a number of empirical studies that examine the effects of proprietary costs¹⁹ on firms' voluntary disclosure decisions. Harris (1998) explores the association between product market competition and detailed industry segment disclosures. She finds that profitable operations in less-competitive industries are less likely to be reported as industry segments. Berger and Hann (2003) also provide insights into the issue of proprietary costs by examining a change to U.S. reporting requirements for segment disclosures (i.e., the transition from SFAS 14 to SFAS 131). Under SFAS 14, firms were arguably given greater discretion in defining industry segments and therefore hiding segment information. SFAS 131 reduced this flexibility and discretion. Berger and Hann (2003) compare segment disclosures under both standards and find that firms that previously aggregated information under SFAS 14 had higher abnormal profitability and operations with more divergent performance. Leuz (2004) also examines proprietary costs for voluntary disclosures of segment information for a sample of German firms. He also finds that firms are less likely to voluntarily disclose segment information if profitability across segments is heterogeneous and the mean profitability reported in the consolidated income statement is less revealing. Together results generally support the existence of variation in proprietary costs across firms and provide evidence that these differential costs influence firms' voluntary disclosure choices.

Scott (1994) also tests for the effect of proprietary costs using Canadian firms' voluntary disclosures of pension plan information. The pension plan information is considered proprietary in nature because of the conflicting interests of the firms' managers and organized labour unions. Scott (1994) finds evidence consistent with his prediction that as likelihood of union rent extraction increases, the likelihood that firms will voluntarily disclose pension plan information decreases.

Other research posits that shareholder litigation provides a disincentive for firms to voluntarily provide forward-looking disclosures. Many early studies find mixed evidence on the effect of litigation on disclosure, especially bad news disclosures (see, for example, Kasznik and Lev, 1995; Skinner, 1997; and

¹⁹ *Proprietary costs* are the costs faced by a firm if it reveals information to outside parties. These costs include the revelation of trade secrets, the disclosure of profitable customers and markets, or the exposure of operating weakness to competing firms, unions, regulators, investors, customers or suppliers.

Johnson, Kasznik and Nelson, 2001). Field, Lowry and Shu (2005) attempt to reconcile this mixed empirical evidence on the relation between bad news disclosures and litigation. They highlight a possible endogenous relation between observed litigation outcomes and voluntary management disclosures of bad news. After explicitly modeling the endogeneity in their empirical tests, their results suggest that disclosure potentially deters litigation. Therefore, given the threat of litigation, more forthcoming disclosure can benefit the firm in the sense that it reduces expected litigation costs.

iv. Voluntary Disclosure Studies and their Implications for Disclosure Regulation

While cross-sectional empirical disclosure studies generally support the existence of firm-specific costs and benefits of corporate disclosures, these studies provide few insights into the desirability, efficiency, or expected aggregate outcomes of regulating these disclosures. However, these studies do demonstrate strong interactions between firms' voluntary disclosure choices, numerous other firm- and market-level factors, and observed capital market outcomes. These interactions suggest that disclosure regulations cannot be considered in isolation from other factors.

v. Key Lessons and Insights

Several insights arise from this survey of the empirical literature on the costs and benefits of disclosure. First, caution must be exercised in interpreting the empirical studies that document valuation and cost of capital benefits of disclosure activity across firms within a given sample. These studies do not and cannot quantify the overall net benefit to the economy and generally overlook the costs of regulation (**Insight #1**). Second, potential disclosure regulations cannot be considered in isolation from other current or proposed legal, enforcement, governance, and regulatory elements (**Insight #2**). These elements influence the costs and benefits of disclosure and firms' disclosure decisions. Third, costs and benefits of disclosure regulation differ widely across firms and it is unlikely that a regulation and enforcement system can be designed to meet the needs of all firms (**Insight #4**). These insights are discussed in detail in Part 7.

6. Evidence on Disclosure Regulation

In this section, we focus on recent empirical studies that can provide direct insights into the aggregate economic consequences of disclosure regulations. We review studies that examine the economic outcomes of changes in regulations, as well as studies that explore international differences in disclosure regulations, accounting standards and other institutional factors.

As Healy and Palepu (2001) note in their survey, empirical research on disclosure regulation and the economic consequences of (major) regulatory events is rare; most of the studies focus on the U.S. Securities Regulation Acts of 1933 and 1934. While there is a vast literature on the capital market consequences of mandated changes of (particular) accounting standards, (i.e., Watts and Zimmerman, 1986; Fields, Lys, and Vincent, 2001; Kothari, 2001) these studies examine firms operating within the U.S. disclosure regime and generally focus on individual (accounting) rule changes, rather than broader changes in firms' disclosure requirements. Moreover, this literature generally uses the association between reported accounting numbers and stock returns (or prices) as a way to evaluate particular rules or rule changes. As Holthausen and Watts (2001) point out, there is little theory supporting this as a criterion for standard setting and, as a consequence, the literature provides few insights for accounting regulators.

More recently, there are a number of studies evaluating the economic consequences of major regulatory changes, such as the Sarbanes-Oxley Act, the Eligibility Rule on the OTC Bulletin Board, and Regulation Fair Disclosure. There is also academic research exploiting international variation in disclosure regulation. In this section, we review these relatively new studies in addition to the early work on disclosure regulation. Due to the paucity of empirical work on disclosure regulation, we also review related studies on accounting quality and countries' institutional features.

i. Early Studies Evaluating Changes in Disclosure Regulation

The early literature on disclosure regulation primarily studies the Securities Act of 1933 and the Exchange Act of 1934 and is generally sceptical about the merits of the regulation, e.g., its value to investors. Stigler (1964) and Jarrell (1981) analyze abnormal returns²⁰ to new issues as a way to gauge whether fewer fraudulent or overpriced securities are brought to the market after the 1933 Act. Both

²⁰ *Abnormal returns* are stock price changes that are adjusted for overall stock market movements. The adjustment allows researchers to attribute stock price changes to particular events, rather than general market trends.

studies find no evidence that, after the 1933 Act, registered securities exhibit larger returns than unregistered securities offered before the Act, questioning the widely held view that unregistered securities offerings in the 1920's were generally overpriced and that investors are better off after the Act. However, both studies also find that the variance of abnormal returns has decreased (see also Simon, 1989), suggesting that securities offerings are less risky since the introduction of SEC disclosure regulation. In addition, Jarrell (1981) provides evidence that default rates of registered bonds have decreased after the Act.

Benston (1969) finds little evidence of fraud related to financial statements in the period before the Acts of 1933 and 1934. In addition, he documents that there was widespread voluntary disclosure prior to the Acts. In his evaluation of the 1934 Act, Benston (1973) confirms that there were few abuses in reporting prior to the Act and finds little evidence that the risk of securities has significantly decreased. Finally, Chow (1983) analyzes stock price reactions to events related to the passage of the Acts and finds negative abnormal stock returns, which are partly attributable to effects of firms' accounting-based debt covenants. This evidence is consistent with the notion that the 1933 Act had significant out-of-pocket costs for firms and that it affected firms' investment and financing opportunities by tightening existing covenants. It also highlights that regulation may have (unintended) effects on financial contracts.

All these findings have been heavily debated and repeatedly challenged (e.g., Friend and Herman, 1964; Seligman, 1983; Coffee, 1984; Easterbrock and Fischel, 1984; Romano, 1998; Fox, 1999). Critics of these studies (and proponents of mandatory disclosures) often point to the findings in the above studies that the variance of abnormal returns of new issues decreases after the imposition of SEC disclosure regulation and view this evidence as supporting the notion that mandatory disclosures reduce risk faced by investors. However, there is another explanation for this finding. Several of the studies, document a trend after the Act from public debt offerings towards private debt placements, and this trend is more pronounced among relatively risky bonds (Benston, 1969; Jarrell, 1981; Simon, 1989). Thus, it is possible that securities regulation has simply shifted riskier securities to less regulated markets (which in turn gave rise to the OTC markets).

Another issue with the early studies is that they do not control for changing market conditions over the time period, in particular the onset of the Great Depression. The problem is that all exchange-traded firms were affected by the securities regulation and hence the studies do not have a natural control group. In this regard, more recent changes in securities regulation that affected only a subset of firms allow for tighter research designs.

ii. Recent Evidence on the Benefits of Changes in Disclosure Regulation

There are a number of recent studies documenting statistically and economically significant benefits from tighter securities regulations. Ferrell (2003) analyzes the Securities Act Amendments of 1964, which subjected larger OTC securities - many of which later traded on NASDAQ - to the Acts of 1933 and 1934. He finds that the imposition of SEC disclosure regulation is associated with a significant reduction in volatility among OTC securities, relative to securities that are already subject to SEC disclosure requirements. This finding is consistent with the notion that information is more quickly impounded in prices, leading to lower volatility and hence more efficient prices. In addition, he documents that OTC securities exhibit positive abnormal returns during the time period over which passage of the 1964 Amendments became likely.

In a concurrent study, Greenstone et al. (2005) also find positive abnormal stock returns to firms affected by the 1964 Securities Acts Amendments. They differentiate between firms that are more or less affected to properly identify the effect of the 1964 Amendments. They document that OTC firms most affected by the imposition of SEC disclosure regulation experience abnormal returns between 11-22% from the time the regulation was proposed to when it went into force, and abnormal returns of about 3.5% in the weeks surrounding firms' announcements that they had first come into compliance. The authors attribute the positive market reaction to reduced conflicts of interests between controlling insiders and outside shareholders (Shleifer and Wolfenzon, 2002). Consistent with this explanation, Greenstone et al. (2005) find that OTC firms experience an increase in operating performance relative to unaffected firms. Moreover, Ferrell (2003) and Greenstone et al. (2005) show that there is no difference in abnormal returns subsequent to when the regulation was passed and came into effect, consistent with the notion that securities markets have fully priced the effect of regulation. These findings cast doubt on what we can learn from simple comparisons of abnormal returns for extant securities before and after a regulatory change.²¹

Improved stock price efficiency²², as suggested by the evidence in Ferrell (2003), can be socially beneficial if it results in an improvement in the allocation of capital. Similarly, a reduction in agency costs associated with conflicts of interest between controlling insider and outside investors, as suggested

²¹ In fairness, however, it should be pointed out that studying returns to *new* issues is different (as, e.g., in Stigler, 1964) and geared towards widespread claims that public offerings before the passage of 1933 Act were often overpriced.

²² *Stock price efficiency* measures the extent and accuracy with which stock prices reflect currently available information.

by Greenstone et al. (2005), can be socially desirable if diversion and outsider expropriation is inefficient and socially costly (e.g., Shleifer and Wolfenzon 2002). However, at present, there is little empirical evidence on the link between stock price efficiency and capital allocation (e.g., Durnev, Morck and Yeung, 2003; Verdi, 2006). The inefficiency of expropriation and whether better institutions spur economic growth is also still debated (e.g., Acemoglu, Johnson, Robinson, 2001 and 2002; Glaeser, La Porta, Lopez-de-Silanes, Shleifer, 2004). Moreover, the overall welfare consequences of the effects in Ferrell (2003) and Greenstone et al. (2005) are unknown because neither study can determine the extent to which shareholders' gains resulted from wealth transfers from controlling insiders or other stakeholders in these companies.

A final piece of evidence on the benefits of disclosure regulation comes from Bushee and Leuz (2005). Their study exploits a regulatory act, the so called "Eligibility Rule," in the previously unregulated OTC Bulletin Board (OTCBB) in 1999. Prior to the Rule, smaller firms that were not subject to 1964 Securities Act Amendments could be quoted on the OTCBB without filing with the SEC. The Rule eliminates this possibility and forces these firms to comply with the reporting requirements under the Securities Exchange Act of 1934. In analyzing firms that are subject to the Rule and those that should be unaffected, the study is probably the first to provide evidence on externalities from disclosure regulation. They find that OTCBB firms that were already subject to SEC reporting obligations experience positive abnormal returns around key announcements dates of the rule, as well as sustained increases in liquidity. This evidence is consistent with the existence of positive externalities of disclosure regulation, possibly due to liquidity spillovers or to an enhanced reputation of the OTCBB.

iii. Recent Evidence on the Costs of Changes in Disclosure Regulation

Bushee and Leuz (2005) document benefits and drawbacks from the passage of the Eligibility Rule in 1999. They find that the imposition of SEC disclosure requirements forced over 2,600 firms (or 76% of the market segment) into the less-regulated Pink Sheets market, at significant costs in terms of market value and liquidity. This evidence suggests that, for the majority of (smaller) OTCBB firms, the firm-specific costs of SEC disclosure regulation outweigh the benefits. And even firms that were compelled to adopt SEC disclosures to avoid removal from the OTCBB exhibit negative abnormal returns associated with the announcement of the rule change, suggesting that the regulatory change is costly to these firms,

which is consistent with the fact that the rule eliminated the prior (and presumably preferred) disclosure strategy of these firms.²³

The existence of significant “crowding out” effects of disclosure regulation in Bushee and Leuz (2005) illustrates that it is important to consider the various ways in which firms can respond to the imposition of regulation. For instance, firms can go private, move to an unregulated market, or choose not to go public. The earlier studies on the Securities and Exchange Acts reviewed in Part 6, section i, also point to evidence that firms may have substituted private placements for public offerings. This evidence on firms’ responses to the Acts is perhaps more important than their controversial return findings around the Acts. Understanding firms’ potential responses and avoidance strategies is crucial when evaluating the costs and benefits of disclosure regulation and also when designing the rules in the first place.

In a recent study, Leuz, Triantis and Wang (2006) provide further evidence on firms’ responses to regulatory shocks and the cost of disclosure regulation to smaller firms. They examine public companies that cease to make periodic filings to the SEC, but continue to trade publicly. The study shows that, in 2003 and 2004, over 300 U.S. companies stopped filing with the SEC by deregistering their securities, yet continued to trade in the OTC market, notably the Pink Sheets, which does not require SEC registration. The study shows that the recent surge in deregistration can be partly attributed to the Sarbanes-Oxley Act (SOX) of 2002. It highlights that securities regulation can impose substantial costs on firms, particularly smaller ones, and that it triggers various avoidance strategies, which can have unintended consequences. For instance, the evidence in Leuz et al. (2006) suggests that SOX is pushing out smaller firms with fewer growth opportunities and financial difficulties, but also firms that appear to exhibit larger agency problems. Once these firms exit the SEC disclosure system, shareholders have little protection.

Gomes, Gorton and Madureira (2005) investigate the effects of the adoption of Regulation Fair Disclosure (Regulation FD) by the SEC in October 2000, which was intended to stop the practice of selective disclosure, in which companies give material information only to a few analysts and institutional investors prior to disclosing it publicly. Gomes et al. (2005) find that the adoption of Regulation FD caused a significant reallocation of information-producing resources (e.g., loss of analyst coverage), resulting in a welfare loss for small firms, which now face a higher cost of capital. The loss of the selective disclosure channel for information flows could not be compensated for via other information

²³ Nevertheless, these firms experience significant increases in liquidity upon compliance, consistent with earlier findings in the literature that increases in the commitment to disclosure manifest in higher liquidity.

transmission channels, suggesting that Regulation FD had unintended consequences, especially for smaller firms.

Finally, there is a recent series of papers evaluating the effects of SOX, which probably was the most sweeping change to U.S. securities regulation since the Securities and Exchange Acts of 1933 and 1934 (e.g., Engel, Hayes, and Xue, 2005; Li, Pincus, and Rego, 2004; Rezaee and Jain, 2005; and, Zhang 2005). The evidence is decidedly mixed. Jain et al. (2004) conduct an analysis of market liquidity and document an improvement in liquidity measures following SOX. Rezaee and Jain (2005) find positive abnormal stock price reactions to events that increased the likelihood of the passage of SOX. Li et al. (2004) document positive abnormal returns to events resolving the uncertainty regarding the contents of SOX regulations. In contrast, Zhang (2005) finds negative cumulative abnormal returns to legislative events leading to the passage of SOX.

However, a major difficulty in evaluating SOX is that it applies to all firms that are registered with the SEC. Thus, it is difficult to separate the effects of SOX from other contemporaneous events. For instance, foreign equity markets experience negative abnormal returns to key SOX events as well (e.g., Zhang, 2005), which casts serious doubt that the abnormal returns to legislative events can be solely attributed to SOX.

Recognizing this issue, Litvak (2005) analyzes the returns of foreign firms that are cross-listed on U.S. exchanges (i.e., NYSE, NASDAQ and AMEX) and compares them to returns of matched counterparts in their home country during event days on which it became apparent that SOX applies to cross-listed, foreign firms. She finds a significantly negative reaction of cross-listed firms to those SOX events, suggesting that the costs of SOX outweigh its benefits for foreign firms. On the other hand, Anand, Milne and Purda (2006) examine a set of Canadian firms that do not trade on U.S. exchanges and are not required to adopt SOX provisions. They argue that Canadian firms that have a high demand to access outside capital may voluntarily adopt certain SOX provisions (including disclosure requirements) in order to attract U.S. investors. They present empirical evidence consistent with this hypothesis. This finding has potentially important implications for firms “bonding” strategies discussed in Part 6, section v.

At this point, the evidence on SOX is generally inconclusive and we need more studies to evaluate the Act or, at least, to sort out its major costs and benefits. Interestingly, SOX is not only a considerable change in law but also a departure in the approach of regulation in the sense that it prescribes particular

corporate practices, rather than just the disclosure of these practices (Romano, 2004). This aspect makes the Act a particularly interesting object to study.

iv. International Evidence on the Costs and Benefits of Disclosure Regulation

Recent research also examines the international differences in disclosure and securities regulation and their economic impact on markets, including cost of capital for firms. For instance, La Porta, Lopez-de-Silanes, Shleifer (2006) provide evidence that stricter and better enforced securities regulation is associated with financial market development, such as the size of a country's equity markets and IPO activity. Similarly, Hail and Leuz (2006) examine international differences in firms' cost of equity capital across 40 countries and their association with the quality of countries' legal institutions and securities regulation. Their results support the idea that firms from countries with more extensive disclosure requirements, stronger securities regulation and stricter enforcement mechanisms have a significantly lower cost of capital. They also show that, the cost of capital effects of strong legal institutions are much smaller as capital markets become globally more integrated. Conversely, the effects are large and economically meaningful for countries with segmented capital markets. This finding is consistent with economic theory but it cautions regulators to think about the degree to which their capital markets are integrated with other markets around the world. Strong integration appears to put upper bounds on the benefits from strong disclosure regulation.

The latter conclusion has important implications for Canadian markets, which are highly integrated with U.S. capital markets and other markets around the world. Moreover, it should be noted that the study does not provide evidence that the benefits of strict disclosure regulation outweigh the costs; the costs of regulation still have to be carefully considered.

Francis, Khurana, Pereira (2005) document a link between cost of capital and firms' disclosure for firms from a range of countries. One caveat to this study is that much of the effect is driven by firm-level factors and that firms' voluntary disclosure choices appear to operate independently of country-level regulations. Therefore, the results are more similar in spirit to purely domestic cross-sectional studies where it is difficult to draw conclusions about the aggregate economy-wide effect of disclosure regulations (see Part 5 for more discussion).

v. International Evidence on the Importance of Countries' Institutional Features

Recent empirical studies have investigated the link between countries' institutional features and outcomes such as accounting quality, corporate transparency, and ultimately a firm's cost of capital. Compared to many of the cross-sectional voluntary disclosure studies of domestic firms (discussed in Part 5), these international comparative studies can provide potentially more interesting and relevant insights on the effects of disclosure regulations on firms' disclosure activities and related economic outcomes.

Studies by Ball, Kothari, and Robin (2000), Hung (2001), and Leuz, Nanda and Wysocki (2003) highlight the fact that a country's legal environment directly affects firms' financial reporting incentives, and ultimately the quality of financial information reported to outside investors. For example, Leuz, Nanda and Wysocki (2003) examine the average quality of the accounting earnings reported by firms from 31 countries. Their results suggest that the combination of investor protection laws and the enforcement of these laws are an important determinant of the average quality of earnings numbers within a country. More importantly, they show that these investor protection effects persist even after controlling for a country's accounting rules. A key message of this paper is that mandated accounting rules and regulations cannot be considered in isolation and these rules may have limited effectiveness without understanding other economic and institutional factors that affect firms reporting incentives. These conclusions are reinforced by the work of Ball, Robin, and Wu (2004), who examine the influences of mandated financial reporting standards as well as other economic and institutional factors on the reporting decisions of firms in Hong Kong, Malaysia, Singapore and Thailand. They find that even though these countries have "high-quality" accounting standards that match those of the U.S. and International Accounting Standards, other institutional factors limit the effectiveness of the accounting standards which ultimately leads to lower quality financial reporting by firms in these countries.

One such factor is a firm's ownership structure, which responds to a country's institutional framework (La Porta, Lopez-de-Silanes, and Shleifer, 1999; Claessens, Djankov, and Lang, 2000; Faccio and Lang, 2002; Denis and McConnell, 2003). Weak protection of minority shareholders' rights combined with concentrated ownership appear to lead to significant valuation discounts for firms (see, for example, La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2002; Claessens, Djankov, Fan, and Lang, 2002; Lemmon and Lins, 2003). Recent research shows that firms' ownership structures shape insiders' reporting incentives and hence the quality of observed financial reporting (e.g., Fan and Wong, 2001; Haw et al., 2004; Ball and Shivakumar, 2005; Burgstahler et al., 2006). These findings again highlight that isolated

changes to disclosure regulations and accounting standards may lead to unexpected or ineffective outcomes if other important institutional arrangements such as firms' ownership structures are ignored.

There is also a growing literature on how firms cope with or overcome some of the disadvantages they face in their home markets because of regulatory, institutional, or other constraints that limit their ability to raise capital from domestic investors. For example, with the globalization of financial markets, firms have ever-increasing options to attract capital from foreign investors and to "opt into" stricter foreign regulatory regimes by listing or cross-listing in foreign markets. For instance, many Canadian firms have sought cross listings in the U.S. and subjected themselves to U.S. securities regulation. Thus, a firm can opt into a foreign regime and thereby bond itself to the more onerous disclosure, accounting and governance requirements of another country. Such bonding behaviour suggests that more demanding regulations and standards can be beneficial to (certain) firms. On the other hand, countries with regulations that are perceived too onerous and hence costly may fail to attract foreign firms. Such claims have recently been made for cross-listings on U.S. exchanges after the passage of SOX. Non-U.S. firms are said to prefer cross-listings on the London Stock Exchange instead. This discussion highlights that it can be important for regulators to consider the consequences of disclosure regulation on firms' cross-listing behaviour. Moreover, it shows that stringent disclosure regulation can be a double-edged sword.

The cross-listing literature provides a number of insights on the potential costs and benefits of stringent regulations. It exploits the fact that cross listing on a U.S. exchange has several legal and regulatory consequences for foreign firms. Foreign firms must file a Form 20-F reconciliation with the U.S. SEC requiring them to provide additional extensive disclosures beyond those required in (most) firms' home countries. The firms also become subject to SEC oversight and legal liabilities from private securities litigation. At the same time, cross-listed firms are exempt from certain U.S. regulations and reporting requirements, for example Regulation Fair Disclosure. On balance, however, U.S. compliance and disclosure requirements and legal liability make cross-listing costly for foreign firms. These costs can allow "higher-quality" firms to separate themselves from the "lower-quality" firms (see, for example, Coffee, 1999; Stulz, 1999; Doidge, Karoyli, and Stulz, 2004). Consistent with the bonding hypothesis, recent empirical work by Lang, Lins and Miller (2003a) and Lang, Raedy and Yetman (2003b) suggests that foreign firms with cross-listings in the U.S. report higher quality accounting numbers and have higher valuations than their foreign counterparts. An important caveat to these results is that firms that *choose* to cross-list may be fundamentally different than their foreign counterparts. In other words, the accounting quality and valuations of these firms would have been different even if they had decided not to cross-list on another exchange (e.g., Lang et al., 2003a).

An important issue that arises for Canadian cross-listed firms is that stated reporting requirements in the U.S. and Canada are claimed to be very similar. In fact, Canadian firms are covered by the Multi-Jurisdictional Disclosure System, which recognizes the comparability of disclosure requirements across the U.S. and Canada and exempts cross-listed Canadian firms from many U.S. reporting requirements. This means that disclosure-related cross-listing effects could be of second-order importance for Canadian firms. On the other hand, Canadian enforcement of securities laws have traditionally been viewed as less stringent than U.S. enforcement by the SEC. Moreover, the U.S. is considered to be significantly more litigious than Canada (see, for example, Clarkson and Simunic, 1994). Therefore, while the stated disclosure requirements are similar in both countries, Canadian cross-listed firms may have much stronger incentives to meet both the letter and the spirit of reporting and disclosure regulations. This example again highlights the importance of enforcement for observed reporting practices (see also Leuz, Nanda, and Wysocki, 2003).

There are, however, many unresolved issues about firms' cross-listing decisions and implications for policy setters are still open to debate. Many cross-listing studies fail to provide direct evidence on the sources of the cross-listing effects. Thus, it is unclear which of the requirements associated with cross-listing on U.S. exchanges give rise to the documented effects (see, Leuz, 2003, for a commentary). Moreover, it is possible that it is market forces (rather than legal requirements) that are responsible for improvements in corporate transparency around U.S. cross-listings. For instance, in a recent study, Siegel (2005) raises doubts about the effectiveness of the U.S. legal system and SEC enforcement activities against foreign firms listed on U.S. exchanges and points to reputational effects.

Finally, there are recent studies that suggest that foreign investors seek out firms with higher-quality voluntary disclosures and invest more in countries with better disclosure regulations. A number of international studies demonstrate that foreign firms with better voluntary disclosures attract greater following by U.S. institutional investors (i.e., Bradshaw, Bushee, and Miller, 2004) and mutual funds (i.e., Aggarwal, Klapper and Wysocki, 2005). Aggarwal, Klapper and Wysocki (2005) find that reporting quality has investment effects that show up at both the firm and country level and that there are important interactions between the firm-level and country-level decisions.²⁴ Leuz, Lins, and Warnock (2005) present confirming evidence that firms with governance problems attract significantly less foreign investment (using comprehensive portfolio data of U.S. investors) and that the association between governance and U.S. investment is most pronounced in countries with overall governance weaknesses and poor

²⁴ For example, Aggarwal et al. (2005) find that firm-level voluntary disclosure effects are most pronounced for firms that reside in jurisdictions with lower mandated disclosures.

information flows. While these studies suggest that firms are penalized by foreign investors for poor quality financial reporting, the findings also suggest an important interplay among numerous factors such as corporate governance, voluntary reporting choices, and disclosure rules and regulations.

vi. **Key Lessons and Insights**

Several insights arise from this survey of the empirical evidence on the impact of disclosure regulation. First, potential disclosure regulations cannot be considered in isolation from other current or proposed legal, enforcement, governance, and regulatory elements in a country as well as other countries (**Insight #2**). These elements interact with, reinforce, and in some cases substitute for each other. Second, stringent regulations are costly to firms, resulting in avoidance strategies (e.g., listing in other global markets, delisting into unregulated markets, going private). The globalization of financial markets limits what a regulator can do (**Insight #3**). Third, the costs and benefits of disclosure regulation differ widely across firms and it is unlikely that a regulation and enforcement system can be designed to meet the needs of all firms (**Insight #4**). Given that firms face differential costs and benefits of disclosure regulations, policy makers may wish to consider “scaled regulations” that can meet the various needs of different types of firms (**Insight #5**). Finally, the evidence on the importance of firms’ reporting incentives for accounting and disclosure quality suggests that policy makers may wish to consider the adequacy of disclosures that allow outsiders and arm’s length investors to evaluate the reporting incentives of corporate insiders (**Insights #6 and #7**). These insights are discussed in more detail in the next section.

7. **Key Lessons and Insights for the Task Force to Modernize Securities Regulation in Canada**

This article surveys the academic literature on the costs, benefits, and associated capital-market effects of disclosure requirements. We particularly highlight the interaction between disclosure requirements with other securities regulations and institutional factors within a country. The literature contains some potentially important insights for Canadian regulators and policy makers. Despite this focus on regulation, our survey does not advocate the necessity of regulation or reforms to existing regulations in Canada. Instead, we highlight the tradeoffs that Canadian regulators, policy makers, and exchanges will face in evaluating potential reforms to Canadian disclosure requirements.

We emphasize that there are various mechanisms and forces that influence outcomes, such as corporate transparency, market forces, institutional arrangements in the country, and their interactions with disclosure regulation. In particular, we highlight that corporate transparency is a joint and interactive outcome of market forces, the incentives provided by various institutions, and regulations and the quality of their enforcement. These joint and interactive effects suggest significant complementarities between the elements of a country's institutional infrastructure and markets. As a result of these complementarities, we caution against evaluating particular disclosure regulations in isolation from other economic factors, institutional arrangements, and regulations. Seemingly successful disclosure regulations in other countries may not translate well to the Canadian market if other elements of the Canadian institutional infrastructure are different than, missing from, or superior to corresponding elements of the institutional infrastructure in other countries. We discuss the extent to which unilateral changes in disclosure and accounting rules are unlikely to yield the desired outcomes.

Based on the insights gleaned from our literature survey, we present a summary of key lessons and insights for the Task Force to Modernize Canadian Securities Regulation and other policy makers.

Insight #1: Limits of current academic studies to inform policy debate

Our review of the current academic literature suggests that caution must be exercised in interpreting research studies that document valuation and cost of capital benefits of disclosure activity. As discussed in detail in Part 5 of this survey, most empirical studies explore the association between firms' *voluntary* disclosure choices and the costs and benefits of these choices across firms in a given sample. These types of empirical studies can be erroneously used to support arguments for *mandated* disclosures. In fact, the majority of these studies *cannot* provide insights into the overall desirability, economic efficiency, or

aggregate outcomes of regulating firms' disclosure activities. In general, these studies do not quantify the aggregate net benefit of regulation to an economy and they overlook the costs of regulation.

Insight #2: Non-disclosure-related parts of institutional infrastructure affect disclosure

This survey highlights the importance of other parts of countries' legal and institutional infrastructures in influencing firms' disclosure choices. For instance, the effectiveness of corporate governance and the level of outside investor protection have been shown to be associated with observed reporting quality. Therefore, as discussed in Parts 4, 5, and 6, disclosure regulation and potential changes to existing disclosure requirements cannot be considered in isolation from other current or proposed elements of the legal, enforcement, governance and regulatory framework of a country as well as those in other countries. For example, disclosure requirements cannot be designed in isolation from the creation of enforcement mechanisms for these requirements, and vice versa. In addition, private enforcement mechanisms, such as shareholder litigation, rely on the availability of information to outside investors so that violations can be detected in the first place. These various elements of the institutional infrastructure interact with, reinforce, and in some cases substitute for each other.

Insight #3: Firms have choices with respect to disclosure regimes in global markets

Research shows that stringent regulations are costly to firms, resulting in avoidance strategies (e.g., listing in other global markets, delisting into unregulated markets, going private). In Part 6, we highlight research studies that demonstrate that firms have choices within a given country as well as with respect to disclosure regimes in global markets. Therefore, firms' avoidance strategies can impair the effectiveness of a proposed domestic regulation. This problem is particularly relevant for an open economy like Canada where U.S. markets and their associated regulations present an important outside option for Canadian firms. It is clear that the globalization of financial markets limits what a domestic regulator can do. On the other hand, recent U.S. regulatory changes have created additional costs for firms and some firms are considering termination of their cross-listing in the U.S. These changes may present opportunities for Canadian exchanges to "gain back" Canadian firms that previously decided to cross-list in foreign markets.

Insight #4: The economic impact of disclosure regulation varies across firms

The literature surveyed in Parts 5 and 6 suggests that the costs and benefits of disclosure regulation differ widely across firms and it is unlikely that a regulation and enforcement system can be designed to meet the needs of all firms. Therefore, a “one-size-fits-all approach” likely imposes significant costs on certain groups of firms. For example, smaller firms and firms with fewer external financing needs are often negatively affected by such regulation to the extent that disclosure costs exceed the benefits for these firms. The research evidence suggests that any potential regulatory changes should take into account the variation across firms in costs and benefits of mandated disclosures.

Insight #5: “Scaled regulations”

If policy makers decide to mandate certain disclosures, then “scaled regulations” may be more efficient because they can meet the various needs of different types of firms. Such regulations may reduce the regulatory costs that are associated with a “one-size-fits-all approach” (**Insight #4**). One way to design a system of scaled regulations is to introduce a two- or multiple-tier market system. Such a system could, for instance, include “premier”, “standard”, and “up-and-coming” market segments. At the higher end, the premier segment would have more onerous standards and enforcement, and only certain firms would meet these requirements. In contrast, the standard and up-and-coming segments could offer exemptions to smaller firms or firms for which the benefits of stricter disclosure regulation are likely to be small. In principle, policy makers can decide to assign firms to these segments based on certain criteria or to let firms “opt into” these market segments.

Enforcement could be taken on by a (single) securities regulator to avoid some of the issues with exchange-based enforcement. This arrangement would also address economies of scale in enforcement and could allow for criminal penalties. The securities regulator could also be given the power to relegate firms to a specific market tier as an enforcement mechanism. As such relegation is a very public signal and likely affords the regulator with a significant threat potential. Finally, it is important for policy makers to identify the key parties who might benefit from certain types of expanded disclosure. That is, they must identify who the key *external* financing parties (such as minority shareholders, bondholders, etc.) are that demand certain types of information and what the dominant contractual relations between firms and these outside financing parties are.

Insight #6: The importance of reporting incentives beyond accounting standards

In Parts 4 and 6, we highlight recent accounting research suggesting that the role of accounting standards in determining reporting quality may be overstated. Accounting standards of any kind afford significant discretion to corporate insiders, i.e., managers and controlling owners, that can: (i) make the reported financial numbers more informative, or (ii) allow them to manipulate the reported numbers if they have *incentives* to do so. Insiders' reporting incentives are multi-faceted and include factors such as corporate governance, compensation structures and market forces, and possible legal and regulatory penalties if insiders are caught manipulating accounting reports. As a consequence, insiders' reporting incentives are central in determining the quality of financial statements. Therefore, regulators and policy makers should think carefully about managers' and insiders' reporting incentives that are shaped by a multitude of factors (not just by the accounting standards). These incentives problems will persist even if harmonized international accounting standards (IFRS) become the widely accepted, because IFRS are virtually silent on the issue of how to influence and assure reporting quality.

Insight #7: Disclosure of Firms' Governance Systems

Given the role of incentives in determining reporting quality (see **Insight #6**), policy makers may wish to consider the adequacy of disclosures that allow outsiders and arm's length investors to evaluate the reporting incentives of managers and controlling owners. These "non-traditional" disclosures include information about the firm's ownership structure, compensation of managers and directors, related-party transactions, and other governance arrangements. While it is recognized that there is a difference between mandating particular governance practices and the disclosures of the chosen governance practices, we see the act of disclosing this governance information as having real effects and can change the behaviour of managers and insiders. Moreover, these governance disclosures can in turn change other reporting incentives to help ensure that "traditional" disclosures are also of high quality.

Appendix: Empirical Approaches to Measuring Accounting, Earnings and Accruals Quality

Accounting numbers are an important source of information about firm performance for investors and other stakeholders. Accounting numbers can be viewed as “high quality” if they provide a faithful and clear representation of a firm’s economic condition and performance. More than three decades of empirical capital markets research indicates that investors use reported accounting earnings as a primary input for investment and trading decisions (see, for example, Kothari, 2001). Therefore, recent research has focused on specific earnings attributes that may convey high-quality information to investors and other stakeholders.

It is important to note that there are two major components of a firm’s reported accounting earnings, namely cash flow from operations and non-cash accruals. Given that management can exercise discretion in determining accruals, these accruals can be managed or manipulated to fundamentally misrepresent a firm’s performance. Therefore, it is not surprising that there is a large and growing literature examining the link between accounting accruals and overall earnings quality (see, for example, Kothari, 2001, and Dechow and Schrand, 2004).

Below are some categories of important earnings and accruals attributes that may convey “high-quality” information to investors and other stakeholders. Within each category, empirical researchers have attempted to create quantitative measures of the specific earnings or accruals attribute.

- 1) *Lack of earnings manipulation and earnings management*: Earnings can be considered high-quality if they are not distorted and they present a true and fair picture of a firm’s performance. Managers can misrepresent changes in a firm’s economic performance using both real operating decisions (see, for example, Roychowdhury, 2006) and accounting reporting choices (see, for example, Healy and Whalen, 1999). Examples of earnings management include: (i) smoothing reported earnings to hide or misrepresent a firm’s underlying risk and volatility (i.e., Leuz, Nanda and Wysocki, 2003), (ii) overstating reported earnings to achieve a performance benchmark (i.e., Burgstahler and Dichev, 1997), (iii) reporting high accruals to overstate earnings in cases when good performance is desirable for managers (i.e., Healy, 1985; Richardson, Teoh, and Wysocki, 2004), and (iv) creating “cookie jar” reserves that can be used to boost future reported earnings. Many of these manipulations arise from managers’ discretionary accruals choices in determining a firm’s reported earnings. Common empirical measures of earnings management include:

- a. *Excessive smoothing activities.* Smoothing can be captured by the relative volatility of a firm's reported accounting earnings to its underlying economic volatility. Economic volatility can be captured in various ways including the volatility of a firm's underlying cash flows. In addition, a strong negative relation between cash flows and accruals can also suggest excessive smoothing activities to hide underlying risk.
 - b. *Benchmark beating.* If managers systematically manipulate reported earnings to beat a specific performance benchmark, then this will show up in the relative frequency earnings outcomes just above the performance target and just below the target. Important targets include zero earnings, analysts' quarterly earnings targets for a firm, and earnings-based financial ratios in a firm's debt covenants.
 - c. Firms can report high earnings by reporting large positive "discretionary" accruals (see, for example, Jones, 1991). These discretionary accruals can be estimated by taking total accruals reported by a firm and then subtracting out the non-discretionary parts related to growth (i.e., sales growth) and investment (i.e., overall level of fixed assets). The "leftover" part is deemed to be at management's discretion.
- 2) *Earnings help predict future firm performance:* If investors value firms on the basis of future expected cash flows, then earnings will be relevant to investors if they help predict these future cash flows. Common empirical measures of this prediction property include:
- a. Historical accounting data can be used to determine whether a firm's reported earnings in a given year help predict cash flows and/or earnings in future years. This attribute can also be similarly captured by examining the time-series persistence of earnings. However, persistent and unvarying reported earnings may also indicate earnings management which can make the earnings numbers less informative for investors (see example 1(a) above).
 - b. A smooth time-series of earnings may also be useful for investors if they believe that managers are using their reporting discretion to remove transient "hiccups" in performance. On the other hand, this smoothing activity can also misrepresent performance (see example 1(a) above).
- 3) *Reported earnings are strongly associated with stock prices and returns:* Research going back to Ball and Brown (1968) suggests an important relation between earnings reported in a fiscal period and stock returns over the same period. Common empirical measures of this link between earnings and stock prices and returns include:

- a. Earnings are viewed as being “value-relevant” if they have a strong association with stock returns or prices from *current* and *past* periods. This association can be estimated using historical data on earnings and stock prices.
 - b. Earnings are viewed as being “timely” for investors if *current* earnings exhibit a strong association with stock returns or prices from the *current* period or even trigger changes in stock prices when the earnings information is released to investors.
 - c. Earnings are viewed as being “conservative” if they are asymmetrically timely with respect to recognizing good news and bad news information. For example, earnings are conservative if they show a stronger association with stock returns when a firm’s stock price declines compared to when its stock price increases (see, for example, Basu, 1997).
- 4) *It has been claimed that accruals are “high quality” if they exhibit a strong association with a firm’s past, present and future cash flows.* Dechow and Dichev (2002) propose a model of accruals which posits a relation between current period accruals and operating cash flows in the prior, current, and future periods. They argue that observing a consistently strong relation between accruals and cash flows suggests that the reported accruals represent real economic transactions. On the other hand, they argue that observing a consistently weak relation suggest that the managers are either manipulating the accruals or they have poor ability to estimate the firm’s accruals. Common empirical measures of this “accruals-quality” property include:
- a. The use of historical observations of accruals and cash flows to determine the strength of the relation between current accruals and past, present, and future cash flows. Dechow and Dichev (2002) argue that if these cash flows can explain most of the variability in a firm’s reported accruals, then the accruals are deemed to be high quality. McNichols (2002) also extends this model to include changes in sales and the level of fixed assets to explain the variability in a firm’s reported accruals. However, Wysocki (2005) shows that firms that engage in earnings management will *also* exhibit a strong association between these cash flows and accruals. The evidence in Wysocki (2005) suggests that these type of accruals model have little or no ability to determine a firm’s true accruals quality.

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