

Research Study

**Enforcement and its Impact on Cost of Equity
and Liquidity of the Market**

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1. Executive Summary

Theory suggests that enforcement of securities laws is important. If securities laws are not enforced, outside investors will doubt whether they will get their money back with a fair return. So outside investors will not give their money to firms (this leads to low liquidity in capital markets) or, if they give money to firms, they will demand a higher return (this leads to a higher cost of equity). If firms cannot raise money from outside investors, they will not be able to invest in profitable projects. This decreases growth, employment, and wealth-creation.

There is little literature documenting the importance of enforcing securities laws. On December 8, 2005, I was asked by the Task Force to Modernize Securities Legislation in Canada to prepare a report titled “Enforcement and Its Impact on Cost of Equity and Liquidity of the Market.”

These are the findings from my survey of the literature: 1) Securities laws exist in most countries, but are not enforced in many countries; 2) Firms in countries with stricter enforcement of securities laws have a lower cost of equity and more liquid capital markets. This is especially true for developing countries with segmented capital markets; 3) The enactment of the Sarbanes-Oxley Act in 2002 in the U.S. improved the liquidity of the U.S. capital markets. There is, however, little evidence that it decreased the cost of equity of U.S. firms; 4) The enforcement of insider trading laws, which are a special case of securities laws, decreases cost of equity. The enactment of insider trading laws does not improve capital markets. As a matter of fact, there is some evidence that it is better to have no insider trading law at all than to have an insider trading law that is not enforced; 5) The enforcement of securities laws that improve the informative nature of financial statements lowers the cost of equity and increases the liquidity of the capital markets; 6) There is some evidence that mechanisms that facilitate private enforcement (like mandated disclosures and clear liability rules) are more effective than the public enforcement of securities laws.

These are my findings from my study of Ontario: The U.S. Securities and Exchange Commission enforces securities laws much more vigorously than the Ontario Securities Commission. When scaled by the size of the stock market, the SEC prosecutes 10 times more cases for all securities laws violations than the OSC prosecutes, and 20 times more insider-trading violations. A detailed examination of insider trading cases shows that the SEC resolves the cases faster than the OSC, and fines 17 times more per insider trading case than the OSC does.

2. Summary of Recommendations

Recommendation # 1: Measured against a U.S. benchmark, enforcement of securities laws is weak in Canada. As there is overwhelming global evidence that enforcement of securities laws reduces cost of equity and improves liquidity – the effect is stronger in emerging markets, but the effect still exists in developed countries like Canada – Canada can strengthen its capital markets by increasing enforcement of its existing securities laws.

Recommendation # 2: As there is global evidence that enforcement of securities laws that improve disclosure is the most effective in improving capital markets, Canada should place particular emphasis on the enforcement of securities laws that make firms more transparent in their dealings with the Canadian capital markets.

3. Introduction

An entrepreneur with a good idea is constrained by the amount of capital she can raise. Though she can use her own money, and borrow from family and friends, these are limited sources of capital. Eventually, if she wants to make her firm achieve its potential, she has to fund its growth using other people's money. All big investments in the world have used, will use, and will continue to use other people's money.

The ability of firms to raise money from outside investors is remarkable. Equity is more of a paradox than debt. Investors who hold equity are residual claimants. This means that they can get a share of the firm's profits only if the firm has profits after fixed claimants (like debt-holders) are paid off. Debt-holders can get their principal and interest only if the firm has enough profits to pay their interest and principal; otherwise, the debt-holders may have to be content with the liquidation proceeds of the firm's assets.¹

Good securities laws ensure that the game is not rigged against outside investors. There are at least six ways in which insiders can be encouraged to act with integrity in the utilization of corporate funds: board of directors; active large shareholders; takeover threats; certification from outside parties (like auditors); disclosure; and the protection provided by the legal system to outside investors. Securities laws affect each of these six mechanisms.

Securities laws are important for a society. Not only are they important, but so is their enforcement. If securities laws are not enforced, outside investors will doubt whether they will get their money back with a fair return. So they will not give their money to firms – leading to low liquidity in capital markets - or, if they give money to firms, they will demand a higher return, leading to a higher cost of equity. If firms cannot raise money from potential investors, they will not be able invest in profitable projects. This decreases growth, employment, and the creation of wealth in society.

The above argument makes sense, but is it theoretically sound? Is there any evidence that securities laws are good for capital markets? Yes, there is. A burgeoning law and finance literature unambiguously documents that capital markets can only work when good securities laws exist.²

¹ Records of two banks in Mesopotamia (around 3000 B.C.) are the first records of debt in history. The first recorded shares were of the Russia Company (UK, 1553 A.D.)

² An excellent place to start exploring this literature is to read the classic "Law and Finance" by Rafael La Porta, Florencio Lopez-De-Silanes, Andrei Shleifer and Robert Vishny, in the *Journal of Political Economy* 106, 1113-1155, published in 1998.

However, as a security law, like any other law, is useless unless it is enforced, it is curious to note that there is little literature documenting the importance of enforcing securities laws.

On December 8, 2005, I was asked by the Task Force to Modernize Securities Legislation in Canada (hereafter referred to as “the Task Force”), to prepare a report titled “Enforcement and Its Impact on Cost of Equity and Liquidity of the Market.” I was asked to perform two tasks: first, to carry out a comprehensive survey of the extant literature documenting the effect of enforcement of security laws on cost of equity and liquidity; and second, study the Canadian situation in as much detail as available data will allow.

This study is important for the Task Force. The Task Force was set up by the Investment Dealers Association of Canada (IDA) on June 27, 2005. Its mandate is to examine issues related to investor protection, access to capital, enforcement, governance and regulatory burden, and recommend revisions to Canadian securities legislation and regulation.

This study is also important for Canadian and foreign firms wishing to raise capital in Canada. Assuming investors - in this case Canadian investors - are rational, they would demand higher compensation if they believe that the probability of getting their money back with a fair return is low. So both Canadian and foreign firms wishing to raise capital in Canada need to know how much extra return they will have to pay their Canadian investors if securities laws are not enforced in Canada. If this “dishonesty premium” is high, firms would be tempted to list their securities in jurisdictions outside Canada where securities laws are enforced.

This study is also important because of the special situation of Canadian capital markets. Canada has one of the most decentralized securities regulatory systems in the developed world. Its security regulation is carried out by provincial securities commissions and self-regulatory organizations, which include the Investment Dealers Association of Canada. This fragmented framework has multiple rules, decision makers and costs. Though competition among regulatory bodies has some benefits, it also has its drawbacks. A particular cost is the ineffectiveness of enforcement of securities laws. In its December 2003 report, “It’s Time”, the Wise Persons Committee to Review the Structure of Regulation in Canada described enforcement activities in Canada as “poor or very poor” and “lengthy, drawn out matters with little apparent progress in terms of reaching resolution.” The cases of Bre-X Minerals Ltd and YBM Magnex International were cited as examples of such deficiencies.³

³ The ideas in this paragraph come from the IDA Submission to the Task Force to Modernize Securities Regulation in Canada, January 26, 2006 (<http://www.tfmsl.ca/Documents/IDA27Jan06.pdf>)

4. Development of Hypothesis: Should Enforcement Affect Capital Markets?⁴

This paper sets out to test two hypotheses regarding the effect of enforcement of securities laws on capital markets.

The starting hypothesis is that enforcement of securities laws does not matter: the optimal government policy is to leave security markets alone. This hypothesis is associated with Coase (1960) and Stigler (1964). The idea is simple: if firms wishing to raise money do not disclose, investors will assume the worst (Grossman (1981)). Investors can rely on these disclosures when there are reputational, legal or contractual penalties for misreporting, and if misreporting is easy to detect. If misreporting is not easy to detect, outside third parties like auditors, underwriters or stock exchanges can act as certifiers.

However, if the payoff from cheating is too high and/or private tort and contract litigation is too expensive, there may be a role for public securities laws. Either the government can mandate disclosure and lay down clear laws for liability in order to facilitate private enforcement under contract law or tort law, or the government can publicly enforce securities laws. An alternate hypothesis, therefore, is that enforcement of securities laws does matter.

This leads us to our two hypotheses:

- 1) The enforcement of securities laws does not matter, in the sense that the enforcement of securities laws does not affect the return investors want from holding shares in a stock market (the cost of equity in the stock market), and
- 2) The enforcement of securities laws does not matter, in the sense that the enforcement of securities laws does not affect the amount of shares investors are willing to buy or sell in the stock market (liquidity of the stock market).

⁴ The ideas in this section are distilled from La Porta, Lopez-De-Silanes and Shleifer (2006)

5. Measurement of Key Variables

i. Enforcement

The word “enforce” was first used in popular English literature in 1350A.D. Webster’s Online Dictionary gives two definitions:

- 1) Ensure observance of laws and rules; "Apply the rules to everyone";
- 2) Compel or impose; "Social relations impose courtesy".

The enforcement of securities laws could be public, which would involve the use of public agents such as inspectors, tax auditors, police, prosecutors, etc., to detect and sanction violators of legal rules. These public regulators could intervene before the fact by laying out clear rules for compliance, or they could intervene after the fact, by bringing lawsuits and/or imposing penalties. The enforcement of securities laws could also be private, through civil lawsuits brought by private parties under existing contract and tort law.

The measurement of enforcement of securities law in the literature has been biased towards ex-post measurement - complaints, investigations, and disciplinary actions like fines - because they are easy to count. Also, as there is little information about the private enforcement of securities laws, the literature has been biased towards measurement of public enforcement. Therefore, unless stated otherwise, our measurement of enforcement of securities laws in this paper will be restricted to ex-post, public enforcement of securities laws. As a matter of fact, since there are only a handful of papers examining the link between enforcement of securities laws and the quality of capital markets, we will restrict ourselves in this study to the measures they use.

Bhattacharya and Daouk (2002) focus on insider trading laws. They use the date of the first prosecution under an insider trading law as their measure of enforcement of insider trading laws. La Porta et al (2006) develop a metric for the enforcement of all securities laws, obtained from a questionnaire of lawyers. One lawyer per country is invited for each of 49 countries to give his/her views on public enforcement of securities laws in his/her country. The public enforcement index is made up of the arithmetic mean of the supervisor characteristics index (the arithmetic mean of appointment by the Executive branch, permanency of tenure and focus); the rule-making power index; the investigative powers index (the arithmetic mean of the ability to ask for documents and call witnesses); the orders index (the arithmetic

mean of orders issuer, orders distributor, and orders accountant); and the criminal index (the arithmetic mean of criminal director, criminal distributor and criminal accountant). Hail and Leuz (2005) use the La Porta, et al (2006) measure for the enforcement of securities laws.

ii. Cost of Equity

The cost of equity in a country is defined as the return shareholders demand for holding shares in that country. What shareholders demand is an ex-ante (before the fact) variable that can only be measured ex-post (after the fact). Fifty years of work in financial economics has tackled this problem using five different approaches.

The first approach is simply descriptive statistics. Mean returns of stock prices are calculated over a long time period, and the cost of equity is assumed to be equal to the mean return. This approach works if we have a long time-series, leading to dramatically wrong conclusions with short sample periods. For example, we can easily conclude from rising (falling) stock prices and therefore higher rates of return, that the cost of equity is rising (falling), whereas it may be that the only reason that stock prices are rising (falling) is because cost of equity is falling (rising).

The second approach uses an international asset pricing factor model. This is a classical approach because it assumes that the major determinant of the cost of equity is risk. How do we measure risk? The Bekaert and Harvey (1995) model has an empirical specification that allows for partial integration of a country to world equity markets. It assumes that risk in a country is driven by the sensitivity of the country's stock market to a global factor and to a local factor. The more (less) integrated a country is to the rest of the world, the higher (lower) its sensitivity to the global factor, and the lower (higher) its sensitivity to the local factor. This model can be adapted to include additional factors such as foreign exchange, liquidity, and political factors (for example, an indicator for liberalization of markets, and an indicator for outside shareholder rights).

The third approach backs out cost of equity from dividend yields. It is based on the assumption that in an efficient market, the share price is forward-looking, and equals the expected discounted value of future dividends. So, knowing the share price and an estimate of forecasted dividends, it is possible to back out the discount rate, which is the cost of equity. Bekaert and Harvey (2000) is the state-of-the-art model in this area. Similar to their 1995 model, this model can be adapted to include additional factors.

The fourth approach recognizes explicitly that the cost of equity is an expectation measure, and therefore it may be gleaned from survey data. Erb, Harvey, and Viskanta (1996) find that surveys of bankers about a country's creditworthiness are good predictors of the cross-section of expected equity returns. So, a function of the inverse of a country's creditworthiness is taken to be the proxy cost of equity for that country. That is, higher credit ratings lead to a lower cost of equity. Again, this basic model can be adapted to include additional factors.

The fifth approach is an accounting approach. It backs out cost of equity from analyst earnings forecasts. It is based on the assumption that in an efficient market, the share price is forward-looking, and equals the expected discounted value of future residual incomes or abnormal earnings. Knowing the share price and an estimate of forecasted residual incomes or abnormal earnings, it is possible to back out the discount rate (cost of equity). Hail and Leuz (2005) is the state-of-the-art model in this area, and is adaptable to other factors.

To summarize, as the cost of equity can never be observed, the literature has used five different approaches to back it out from observed variables. All these approaches have their advantages and disadvantages. It is important, however, to use all five approaches as a robustness test.

iii. Liquidity

O' Hara (1995) writes: "Liquidity, like pornography, is easily recognized but not so easily defined." She then goes on to define liquidity as the ease of transacting in securities. This definition, unfortunately, does not easily lend itself to measurement.

The classical measures of liquidity are volume of trade, turnover (volume of trade divided by the market capitalization) and the percentage bid-ask spread (ask price minus bid price scaled by the mid-point of the bid-ask spread). The recent advent of intra-day trading data has led to the introduction of more precise liquidity measures. These include, but are not limited to, the depth of the limit order book and Kyle's (1995) lambda (the sensitivity of price to changes in order flow).

As intra-day trading data is available only for advanced stock markets like the U.S., we restrict our measures of liquidity in this study to the three classical measures described above.

6. Test of the Hypothesis – Does Enforcement Affect Capital Markets?

i. All Securities Laws, All Countries

Hail and Leuz (2005) ask whether international differences in the cost of equity across 40 countries are systematically related to legal institutions and securities regulation. Their study is broad, covering many types of legal institutions and securities regulation, though the enforcement of securities laws is one of their variables. They measure enforcement using a survey of lawyers, similar to La Porta, et. al. (2006). A drawback of this measure is that surveys tell us what people say, not what they do. To measure the cost of equity in a country, Hail and Leuz rely on the fifth approach – the accounting approach – and use four variants of this accounting model.

The relevant conclusion of the Hail and Leuz (2005) paper with respect to our study is that countries with stricter enforcement of securities laws have a lower cost of equity. A fascinating side result is that this effect is stronger in countries whose capital markets are segmented from world capital markets. If a country's capital market is well-integrated with global capital markets - as is supposedly the case with Canada - then although enforcement does lower cost of equity, the effect is not as dramatic as in emerging markets.⁵

Daouk, Lee and Ng (2005) ask whether capital market governance affects the quality of the stock market in 33 countries. Their definition of capital market governance captures three aspects of enforcement of securities laws: the degree of earnings opacity in a country; the enforcement of insider trading laws; and the effect of removing short-selling restrictions. Their measures of the quality of the market are also threefold: cost of equity (measured by approaches two and three); liquidity (measured by trading volume, market depth, and foreign U.S. investments); and pricing efficiency (are prices asynchronous? is IPO under-pricing high?)

The implication of the Daouk, Lee and Ng (2005) paper for our study is that improvements in the capital market governance index are associated with decreases in the cost of equity, increases in market liquidity, and increases in market-pricing efficiency. An interesting figure from their paper is their estimate of the economic significance of their findings: an increase of one standard deviation in the capital market

⁵ Does enforcement of securities laws in a country cause the country to be well-integrated into world capital markets, and therefore, ironically, makes enforcement less potent? This reverse causality has not been investigated, as far as we know, in any paper.

governance index is associated with about a 3% decrease in the cost of equity. Daouk, Lee and Ng (2005) do not test whether the effects are smaller in better-integrated capital markets.

La Porta et al (2006) ask a tantalizing question: What works in securities laws? Is it the public enforcement of existing securities laws, or is it the standardization of the private contracting framework to improve market discipline and private litigation? As discussed before, their measure of the public enforcement of securities laws in 49 countries is derived from responses to a survey questionnaire. Their measure of capital market development is based on seven metrics: stock market size scaled by GDP; number of listed firms; size of IPO offerings scaled by GDP; responses from business executives of new and medium-sized firms when asked how easy it is to raise equity; the premiums paid for control in block purchases; ownership concentration in the largest firms; and traded volume scaled by GDP. La Porta et al (2006), therefore, have no measure of cost of equity. They do, however, have a measure for liquidity: traded volume scaled by GDP.

La Porta et al (2006) find that there is little evidence that public enforcement benefits stock markets, but there is strong evidence markets benefit from laws that mandate disclosure and clear liability rules that facilitate private enforcement.

The La Porta et al (2006) paper is the only one in the literature that gives some empirical evidence that private enforcement of securities laws may be more effective than public enforcement of securities laws. The caveat, however, is that the authors do not measure private enforcement; rather, they *assume* private enforcement exists because clear disclosure rules and clear liability rules *facilitate* private enforcement.

Rafael La Porta, Florencio Lopez-De-Silanes, Andrei Shleifer and Robert Vishny have revolutionized the field of law and finance by publishing a number of important papers in this area. Though the paper discussed above is most relevant with respect to our study, they have a number of other published papers that are tangentially related to our enquiry. La Porta et al (1998) classify countries by their legal origin – Common Law, German/Scandinavian Law, and French Civil Law – and find that securities laws protect outside-shareholders most in the Common Law countries, and least in French Civil Law countries. They then document that this leads to lower ownership concentration in firms in the Common Law countries, and higher ownership concentration in French Civil Law countries. La Porta et al (1997) document that countries with poorer investor protection laws have smaller and narrower capital markets. In La Porta et al (2002) it is found that firms in countries with poorer investor protection laws are valued lower by stock

investors. Finally, Shliefer and Wolfenzon (2002) give a theoretical model justifying the above stylized, empirical facts.

ii. All Securities Laws (Sarbanes-Oxley), United States

The Sarbanes-Oxley Act (SOX) was passed by the U.S. Congress in 2002 as a response to the corporate governance scandals of Enron, WorldCom, Global Crossing, Qwest, etc. The goal of this act was to improve corporate accountability and the integrity of public financial information. As SOX brought about a dramatic change in some securities laws in the United States, it is a natural to ask whether this affected U.S. capital markets.

Ogneva, Raghunandan and Subramanyam (2005) ask whether the implementation of Section 404 of the Sarbanes-Oxley Act of 2002 (SOX) – a statute that requires that managers acknowledge responsibility for maintaining adequate internal controls⁶ over financial reporting – has affected firms' cost of equity. They measure cost of equity using the fifth approach, the accounting approach and find that firms that disclose internal control problems have a slightly higher cost of equity than firms that disclose no internal control problems. These differences in the cost of equity, however, disappear if additional explanatory variables at the firm-level are introduced.

A similar sceptical view of the effect of SOX on the cost of equity is taken in the paper by Bhattacharya, Groznik and Haslem (2003). They examine the effect of CEO certification on the share price, not on the cost of equity. The underlying hypothesis is that when CEOs certify their earnings, the market will place more credence on the earnings numbers, the cost of equity will fall, and the share price will rise.

On June 27, 2002, the Securities and Exchange Commission of the United States ordered the CEOs and CFOs of 688 large firms to certify the earnings numbers of their companies by 5:30PM EST, Aug 14, 2002. Bhattacharya, Groznik and Haslem (2003) find that certification was not only a non-event for the certifiers around their certification date, but it was *also* a non-event for the non-certifiers around Aug 15, 2002: there was no abnormal movement in share prices.

⁶ Internal controls are defined as the practices, transactions, procedures and processes used to monitor the financial transactions of a firm, and to protect its property and assets. An example of an internal control is the internal audit department.

There could be a number of reasons why certification was a non-event. Their paper provides cross-sectional and time-series evidence that supports just one hypothesis: the market had partially separated firms with good earnings transparency from firms with bad earnings transparency before the SEC order of June 27, 2002. This implied that regulation did not help the market's ability to differentiate *further* between these two types of firms.

Jain, Kim and Rezaee (2004) examine the effect of SOX on liquidity. They use three different measures of liquidity: the percentage bid-ask spread; depth (the number of shares investors are willing to buy or sell at a given price); and the adverse selection component of the bid-ask spread (an estimate of how much of the percentage bid-ask spread is explained by the fact that traders know that insiders may be trading against them).

To determine the effect of SOX on liquidity, Jain, Kim and Rezaee (2004) first do a time-series analysis. They find that in the period surrounding the reported financial scandals, all liquidity measures deteriorated. The liquidity measures improved following the passage of the Sarbanes-Oxley Act. They then do an analysis and find that the deterioration and successive improvement of these liquidity measures affected all types of firms, particularly large firms. So the Sarbanes-Oxley Act did improve market liquidity.

To summarize, the above papers find that the U.S enactment in 2002 of the Sarbanes-Oxley Act improved the liquidity of the U.S. capital markets, but find little evidence that it decreased the cost of equity of U.S. firms.

iii. Insider Trading Laws, All Countries

Bhattacharya, Daouk, Jorgenson and Kehr (2000) document that shares trading in the Bolsa Mexicana de Valores do not seem to react to company news. Using a sample of Mexican corporate news announcements from the period from July 1994 through June 1997, they discover that there is nothing unusual about returns, volatility of returns, volume of trade or bid-ask spreads in the period of time before and after the announcement i.e. the event window. This observation suggests one of five possibilities: the sample size is too small to detect any impact; stock markets in Mexico are inefficient; markets are efficient but the corporate news announcements are not value-relevant; markets are efficient and corporate news announcements are value-relevant, but they have been fully anticipated; and/or markets are efficient and corporate news announcements are value-relevant, but unrestricted insider trading has

caused prices to fully incorporate the information. A classification of the sample into A-shares (which only citizens may hold) and B-shares (which foreigners can hold) reveals that this lack of reaction is concentrated primarily in the A-shares, suggesting that foreigners are more surprised than locals. This, and the result that the return volatility of A-shares leads to return volatility of B-shares (but not strongly enough to warrant trading rules to arbitrage it away), imply that insider trading is responsible for a Mexican corporate news announcement to be a non-event.

Bhattacharya and Daouk (2002) go on to explore the importance of insider trading laws for the entire world, not just for Mexico. They first carry out a comprehensive survey on the existence and enforcement of insider trading laws around the world. To preclude any selection bias, they begin the second part of the paper only after they have obtained information from *all* countries that have stock markets. No one has done such a survey before.

They find that, as of December 1998, 103 countries had stock markets and that these stock markets exhibit a bewildering diversity. The ages of the stock markets range from a few months (1998, Tanzania) to hundreds of years (1585, Germany), with the median year of establishment being 1953. As expected, stock markets in developed countries (median year of establishment is 1859) are older than stock markets in emerging markets (median year of establishment is 1973). The number of listed firms on the main stock exchange ranged from 2 (1997, Macedonia) to 5,843 (1997, India), with the median number of listed firms being 128. As expected, stock markets in developed countries (median number of listed firms is 249) list more firms than stock markets in emerging economies (median number of listed firms is 85). Stock market capitalization from US\$0.002 billion (1997, Guatemala) to US\$8879.631 billion (1997, New York Stock Exchange), with the median being US\$14.8 billion. As expected, the size of the stock markets in developed countries (median size is US\$292.692 billion) is greater than the size of the stock markets in emerging economies (median size is US\$3.968 billion). Dollar volume of trade ranged from US\$0.0003 billion (1998, Tanzania) to US\$5777.6 billion (1997, New York Stock Exchange), with the median dollar volume being US\$4.92 billion. As expected, there is more trading in the stock markets of developed countries (median dollar volume is US\$179.3 billion) than in the stock markets of emerging economies (median dollar volume is US\$0.777 billion). Turnover, which is defined as trading volume divided by market capitalization, ranged from 0.00127 (1998, Tanzania) to 30.99 (1997, Ecuador), with the median being 0.338. Finally, the liquidity of stock markets in developed countries (median turnover is 0.547) is greater than the liquidity of the stock markets in emerging economies (median turnover is 0.246).

Bhattacharya and Daouk (2002) determine that insider trading laws were first established in the U.S., in 1934, which was the only country to have such laws until they were established in France in 1967. The latest country to introduce insider trading laws is Cyprus, which it did in 1999. The median year of establishment of these laws is 1991. Developed countries (median year of establishment of insider trading laws is 1989) have had these laws on their books longer than emerging markets (median year of establishment of insider trading laws is 1992). Today, 100 percent of developed countries have insider trading laws on their books, but only 80 percent of emerging markets do. Before 1990, the respective figures were 55 percent and 39 percent.

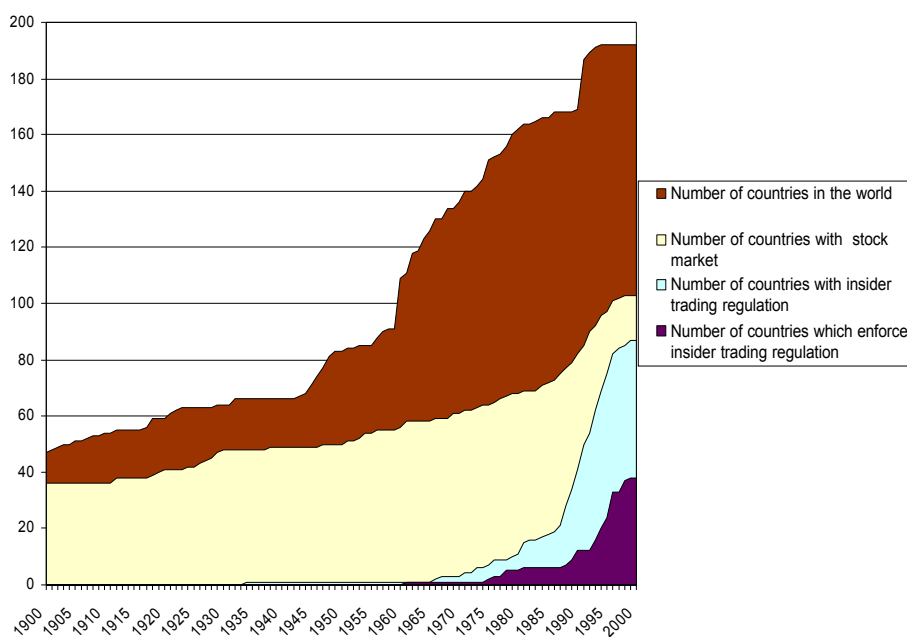
Enforcement of insider trading laws is difficult to measure. Bhattacharya and Daouk (2002) find the date of the first prosecution (if any), and assume that enforcement begins after that date. They document that the first case under federal insider trading laws took place in the United States in 1961. Until 1990, only nine countries had brought any charges forward under these laws. The latest country to prosecute under insider trading laws is Oman (1999). The median year of the first prosecution is 1994, the same for both developed countries and emerging economies. Despite this, 82 percent of developed countries have prosecuted up to the year 2000, but only 25 percent of emerging markets have prosecuted to that date. Before 1990, the respective numbers were 23 percent and 7 percent.

The figure below (which is Figure 1 in Bhattacharya and Daouk (2002)) graphically demonstrates the history of the existence of enforcement of insider trading laws in the twentieth century. It plots the time series of the number of countries in the world, the number of countries with stock markets, the number of countries that have insider trading laws, and the number of countries that enforce their insider trading laws. It is apparent from this graph that in the first third of the century, these laws did not exist anywhere; in the second third, these laws existed in only one country (the United States); and in the last third of this century, existence and enforcement of insider trading laws accelerated. This acceleration was particularly pronounced during the 1990s.

This figure also tells us that if we use the argument of revealed preferences of governments around the world, it seems that a consensus has been achieved among governments: insider trading laws are good for society. Since Bettis, Coles, and Lemmon (2000) find in their sample of U.S. firms that 92 percent of them have policies restricting insider trading, it could be argued that even firms agree that insider trading is undesirable. So the debate about the pros and cons of insider trading laws seems to have been settled. Every developed country today has these insider trading laws, and four out of five emerging market economies have it.

The enforcement of these laws, however, is a different issue. Only one in three countries has enforced these laws. The puzzling question is, why? Stamp and Welsh (1996, page ix) write: “In a number of common law jurisdictions...the burden of proof on the prosecution is onerous, making it difficult to secure a conviction. In other jurisdictions...this problem is exacerbated by the legislatures’ attempt to provide an exhaustive list...which can be exploited by the experienced insider dealer. On the other hand, in a number of other countries ...there is no real political will to enforce the legislation”.

Figure 1. Insider Trading Regulations in the Twentieth Century



The second purpose of the Bhattacharya and Daouk (2002) paper is to ask whether the existence and enforcement of insider trading laws matter. More precisely, do prohibitions against insider trading affect the cost of equity? This is an important question, and one that had not been answered before. Its importance lies in that fact that a major purpose of stock markets is to make it easier for corporations to raise financing through equity, and therefore corporations would like to know if they have to pay an extra return in stock markets where insiders trade with impunity.

Bhattacharya and Daouk (2002) estimate the cost of equity of a country in 55 countries using the first four measurement approaches mentioned in Section 5: mean return, an international asset pricing model, dividend yields, and survey data. They find that the cost of equity in a country, after controlling for a number of other variables, does not change after the introduction of insider trading laws, but decreases

significantly after the first prosecution. Their results are robust to whichever of the four methodologies they use to estimate the cost of equity in a country. The lesson of the Bhattacharya and Daouk (2002) paper is that it is not the law, but rather the enforcement, that counts.

Bhattacharya and Daouk (2002) lead to further exploration of the implications of the enforcement of insider trading laws. Other papers that have delved into the subject of enforcement of insider trading laws are Ackerman and Maug (2006) and Bhattacharya and Daouk (2005). Ackerman and Maug (2006) analyze a sample of 19,000 acquisition announcements from 48 countries. Their hypothesis is that if there is frequent insider trading before an acquisition, prices will start revealing the presence of inside information, and so the run-up in prices will predict the announcement return. They provide evidence that supports this hypothesis. Countries with no insider trading laws show strong predictability, (i.e. information leakage before the acquisition announcement), while those countries that do have insider trading laws show no predictability, (i.e. little information leakage before the acquisition announcement). Interestingly, they find that the impact of insider trading legislation is stronger in countries with more effective judicial systems. Enforcement of insider trading laws has a weaker effect in such countries.⁷ So, though the enforcement of the law dominates the enactment of the law (Bhattacharya and Daouk (2002)) on average, the dominance is weaker in countries with more effective judicial systems.

Bhattacharya and Daouk (2005), in a re-examination of the data they used in their original paper, find a similar dichotomy between developed markets and emerging markets. Their paper argues, both theoretically and empirically, that sometimes no security law may be better than a good security law that is not enforced. The second part of the paper shows that a specific security law - the law prohibiting insider trading - may satisfy these conditions. The third part of the paper takes this prediction to the data. The cost of equity *actually rises* when a country introduces an insider trading law, but does not enforce it. This result, however, holds only for emerging markets. So, in the case of Canada, though enforcement of insider trading laws reduces the cost of equity, non-enforcement is unlikely to increase the cost of equity.

iv. Laws on Earnings Quality, All Countries

A very important subset of securities laws tries to ensure that the financial statements released by firms reveal the truth. In an important paper, Leuz, Nanda and Wysocki (2003), show that earnings management is higher in countries with weaker investor protection. But is there any link between earnings

⁷ They use the Bhattacharya and Daouk (2002) measure of enforcement.

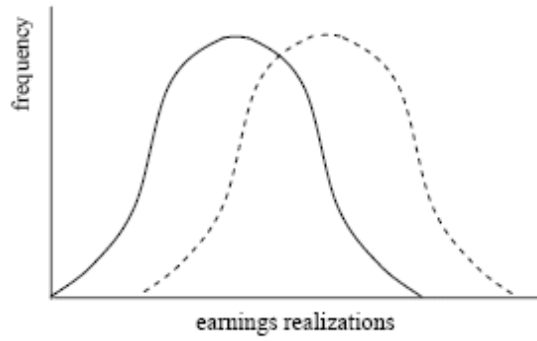
management and market quality (as measured by cost and amount of liquidity)? If a link exists between earnings management and market quality, we could establish that one important reason that the enforcement of securities laws affects cost of equity and liquidity is because enforcement of securities laws affects the quality of financial statements presented by firms, and the quality of financial statements put forth by firms affects the cost of equity and liquidity.

Bhattacharya, Daouk and Welker (2003) establish this link. They analyze the financial statements of 58,653 firm-years from 34 countries for the period 1985-1998 to construct a panel data set measuring three dimensions of earnings opacity for each country: earnings aggressiveness; loss avoidance; and earnings smoothing. Earnings opacity is defined as the poor correspondence between reported accounting earnings and unobservable economic earnings. Earnings aggressiveness refers to the fact that reported accounting earnings tend to be higher than unobservable economic earnings. This means that the distribution of reported accounting earnings is to the right of the distribution of unobservable economic earnings. Loss avoidance is the tendency to avoid reporting losses. As it is easy to manipulate a small loss to look like a small gain, but it is not possible to do the same for big losses, the distribution of reported accounting earnings shows an abnormally low mass around small losses and an abnormally high mass around small profits. Earnings smoothing refers to the fact that reported accounting earnings tend to be less volatile than unobservable economic earnings. This means that the distribution of reported accounting earnings has a lower variance than the distribution of unobservable economic earnings. The figure below (which is Figure 1 in Bhattacharya, Daouk and Welker (2003)), illustrates these three dimensions of earnings opacity.

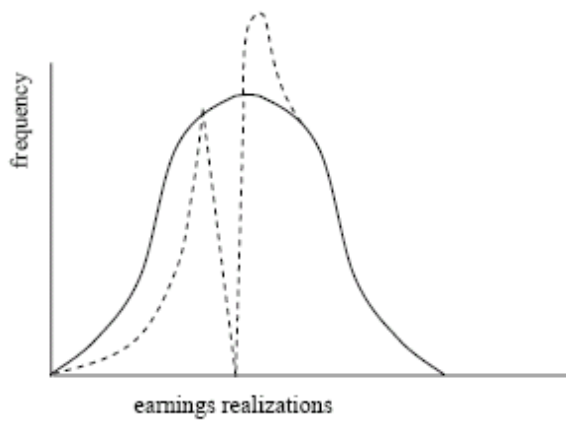
How do we measure unobservable economic earnings, the true earnings? Following the accounting literature, Bhattacharya, Daouk and Welker (2003) assume that operating cash flows represent true unobservable earnings, and as accounting earnings are the sum of operating cash flows and accruals, accounting earnings are assumed to be manipulated by managing accruals.

Bhattacharya, Daouk and Welker (2003) then combine the three dimensions – earnings aggressiveness, loss avoidance and earnings smoothing – to obtain an overall earnings opacity time-series measure per country. They then explore whether earnings opacity affects two dimensions of an equity market in a country: the return demanded by shareholders and how much they trade. While not all results are consistent for the three individual earnings opacity dimensions, their panel data tests document that, after controlling for other influences, an increase in overall earnings opacity in a country is linked to an increase in the cost of equity and a decrease in trading in the stock market of that country.

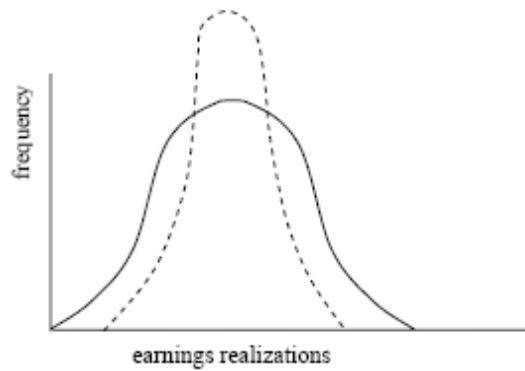
FIGURE 1
Distributional properties of
accounting earnings vs. economic earnings



Earnings Aggressiveness



Loss Avoidance



Earnings Smoothing

—— Economic earnings
----- Accounting earnings

7. The Canadian Experience⁸

The purpose of this section is to find out how Canadian enforcement of securities laws compare with the U.S. enforcement of securities laws. To do this comparison, we tried to obtain data on all enforcement actions by all 13 Securities Commissions in Canada. Unfortunately, we could get data only for the Ontario Securities Commission (OSC).⁹ We then obtained data on all enforcement actions by the U.S. Securities and Exchange Commission (SEC).¹⁰

Table 1 analyzes the enforcement actions of the Ontario Securities Commission (OSC). From 1997 to 2005, the OSC initiated 175 cases, with an average initiation of 19.4 cases per year. When scaled by the number of listed firms in the Toronto Stock Exchange and the TSX Venture Exchange, their prosecution count is 5.9 cases per 1000 firms. We then do a detailed analysis of insider trading cases. From 1997 to 2005, the OSC initiated 11 insider trading cases, with an average prosecution of 1.2 insider trading cases per year. When scaled by the number of listed firms in the Toronto Stock Exchange and the Venture Exchange, their prosecution count is 0.3 insider trading cases per 1000 firms. The average time to resolve an insider trading case is 3.9 years. The total fines imposed for insider trading cases in the 1997-2000 period was US\$700,000. This amounts to US\$70,300 per case, or US\$ per billion of market capitalization.¹¹

Table 2 analyzes the enforcement actions of the U.S. Securities and Exchange Commission (SEC). From 1995 to 2005, the SEC initiated 4,929 cases, with an average initiation of 448 cases per year. When scaled by the number of listed firms in the United States (NYSE plus AMEX plus NASDAQ), their prosecution count is 65.0 cases per 1000 firms. We then do a detailed analysis of insider trading cases. From 1995 to 2005, SEC initiated 391 insider trading cases, with an average prosecution of 35.5 insider trading cases per year. When scaled by the number of listed firms in the U.S., the prosecution count is

⁸ This section, which compares Canadian enforcement with U.S. enforcement, should be read with the following caveats. First, as we had data only for Ontario, the province of Ontario is used as a proxy for Canada. Second, because of this, there are scaling has some problems. (If we scale by number of listed firms, Toronto has too many listed firms; if we scale by country, market capitalization, Ontario is smaller than Canada). Third, enforcement is different in the two countries (In Canada, agencies other than the Ontario Securities Commission enforce, and we could not obtain this other data; in Canada, unlike the U.S., cases are rarely resolved with the plaintiff neither admitting nor denying the charges, and so the number of cases resolved decreases in our data).

⁹ This data is available publicly on the website of the OSC from the years 1997 to 2006:
http://www.osc.gov.on.ca/Enforcement/Proceedings/ep_index.jsp.

¹⁰ This data is available publicly on the website of the SEC from the years 1995 to 2006:
<http://www.sec.gov/litigation/litreleases.shtml>

¹¹ A more useful scaling technique would be to estimate the dollar fine per dollar loss. Unfortunately, we could not obtain data for the dollar loss for either the SEC or the OSC.

5.84 insider trading cases per 1000 firms. The average time to resolve an insider trading case is 3.9 years. The total fines imposed for insider trading cases in the 1995-2000 period was US\$411,890,000. This amounts to US\$1,201,000 per case, or US\$1,201 per billion US\$ of market capitalization.

The four figures below facilitate our comparison of the OSC and SEC enforcement of securities laws. The first figure compares the number of enforcement actions between the two countries with the number of enforcement actions, scaled by the number of listed firms. As can be seen, the SEC enforcement of securities laws is about 10 times greater than OSC enforcement of securities laws. The second figure compares the number of enforcement actions for insider trading cases between the two countries. The numbers of enforcement actions are scaled by the number of listed firms. The SEC enforcement of insider trading laws is about 20 times greater than OSC enforcement. The third figure compares the fines for insider trading cases between the two countries, scaled by the number of cases. As can be seen, SEC fines for insider trading per case are about 17 times greater than OSC fines. The fourth and last figure compares the average time it takes to resolve an insider trading case between the two countries: the SEC resolves an insider trading case in 3.0 years, whereas it takes the OSC about 3.9 years.

To summarize, the U.S. Securities and Exchange Commission enforces securities laws much more vigorously than the Ontario Securities Commission. The difference is an order of magnitude higher. When scaled by the size of the stock market (as measured by the number of listed firms), the SEC prosecutes 10 times more cases per firm for all securities laws violations, and 20 times more cases for insider trading violations, than the OSC. A detailed examination of insider trading cases shows that the SEC resolves the cases faster than the OSC, and fines are 17 times more per insider trading case than those of the OSC.

i. Recommendations

Recommendation #1: Measured against a U.S. benchmark, enforcement of securities laws is weak in Canada. As there is overwhelming global evidence that enforcement of securities laws reduces cost of equity and improves liquidity – the effect is stronger in emerging markets, but the effect still exists in developed countries like Canada – Canada can strengthen its capital markets by increasing enforcement of its existing securities laws.

Recommendation #2: As there is global evidence that enforcement of securities laws that improve disclosure is most effective in improving capital markets, Canada should pay particular emphasis

in the enforcement of securities laws that make firms more transparent in their dealings with the Canadian capital markets.

Table 1. Litigations by OSC 1997-2005

Year	All cases			Insider Trader cases				
	Number of firms	Number of Cases	Number of cases per 1000 firms	Number of Cases	Number of cases per 1000 firms	Average resolution time (years)	Total fines (000 USD)	Average USD fine per IT case (per billion USD of market cap)
1997	1,420	7	4.9	0	0.0			
1998	1,433	8	5.6	0	0.0			
1999	3,814	21	5.5	0	0.0			
2000	3,992	39	9.8	0	0.0			
2001	3,987	15	3.8	1	0.3	3.5	9	9,000 (13)
2002	3,791	15	4.0	1	0.3	3.2	0	0 (0)
2003	3,599	20	5.6	2	0.6	4.5	670	335,000 (789)
2004	3,604	26	7.2	2	0.6	4.8	11	5,500(10)
2005	3,610	24	6.6	5	1.4	3.5	10	2,000
AVERAGE								
PER YEAR		19.4	5.9	1.2	0.3	3.9	140	70,300 (203)

Table 2. Litigations by SEC 1995-2005

Year	All cases			Insider Trader cases				
	Number of firms	Number of Cases	Number of cases per 1000 firms	Number of Cases	Number of cases per 1000 firms	Average Resolution time (years)	Total fines (000 USD)	Average USD fine per IT case (per billion USD of market cap)
1995	8,160	122	54.4	16	7.1	2.7	32,000	2,000,000(4,300)
1996	8,783	431	49.1	47	5.4	2.7	24,360	518,000(2,690)
1997	8,823	400	45.3	26	2.9	4.1	33,430	1,286,000(2,820)
1998	8,449	390	46.2	21	2.5	3.3	57,870	2,756,000(4,150)
1999	8,504	386	45.4	47	5.5	3.0	35,230	750,000(2,070)
2000	7,851	451	57.4	43	5.5	3.1	32,860	764,000(2,180)
2001	7,069	448	63.4	48	6.8	2.4	33,570	699,000(2,480)
2002	6,586	619	94.0	57	8.7	2.8	93,040	1,632,000(8,730)
2003	6,159	619	100.5	48	7.8	3.1	40,980	854,000(3,050)
2004	6,097	496	81.4	38	6.2	3.2	28,550	751,000(1,090)
2005	6,407	500	78.0	-	-	-	-	-
AVERAGE								
PER YEAR		448	65.0	35.5	5.84	3.0	37,445	1,201 (4,040)

All cases: Include Manipulation, False reporting, Failure to report, Insider Trading and others

Number of cases: Litigation initiated in a given year. Source SEC database and OSC website

Resolution time: Time between the start of the insider trading and the first resolution in the case. Source: SEC Database and OSC website.

Total fines: total fines imposed by SEC, including disgorgement, prejudgment interest and punity fines. Source SEC Database and OSC website.

Number of firms: Total number of firms listed in NYSE, NASDAQ and AMEX for SEC, and TSE and Toronto Venture for OSC. Source: World Federation of Exchanges and Toronto Venture 99 Factbook

Fig. 1. Number of total initiated cases per 1000 firms

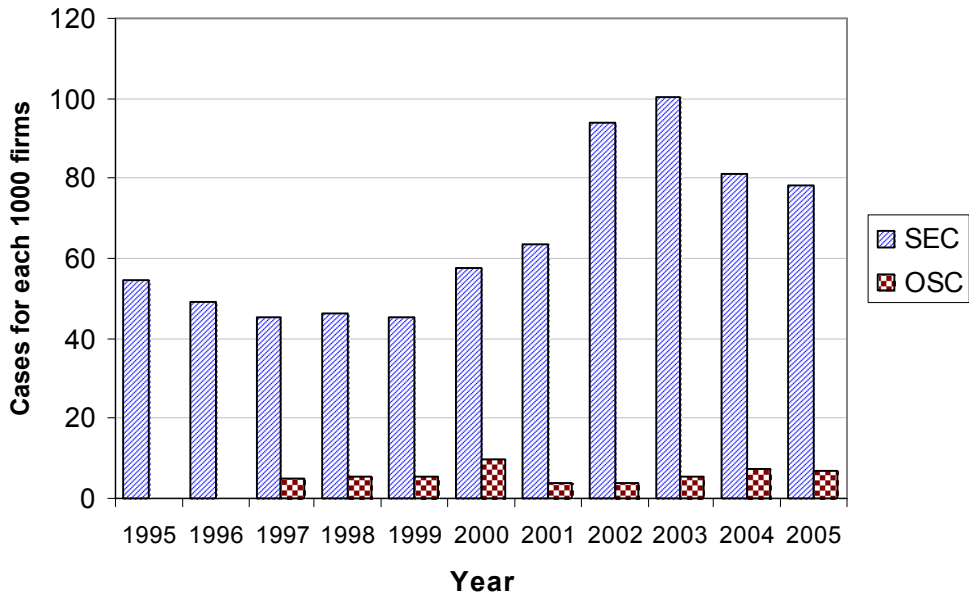


Fig 2. Number of Insider Trading cases per 1000 firms

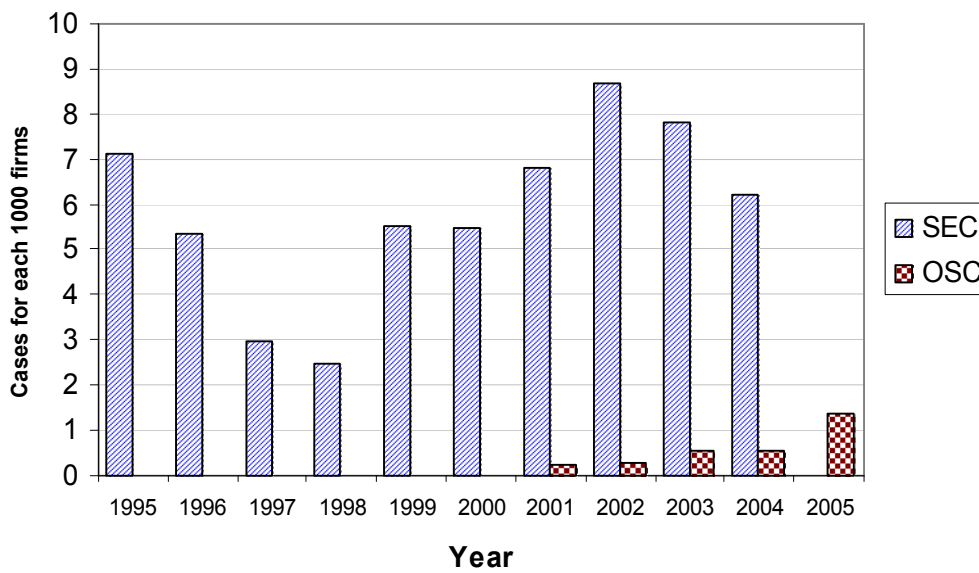


Fig. 3 Average fine per Insider Trading case

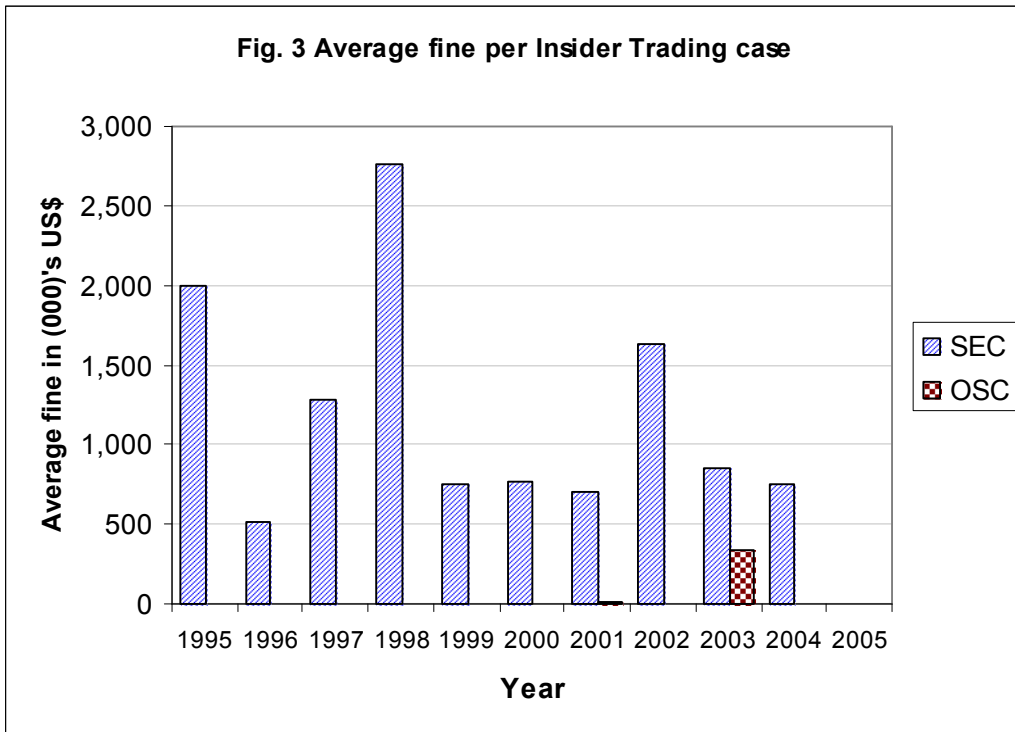
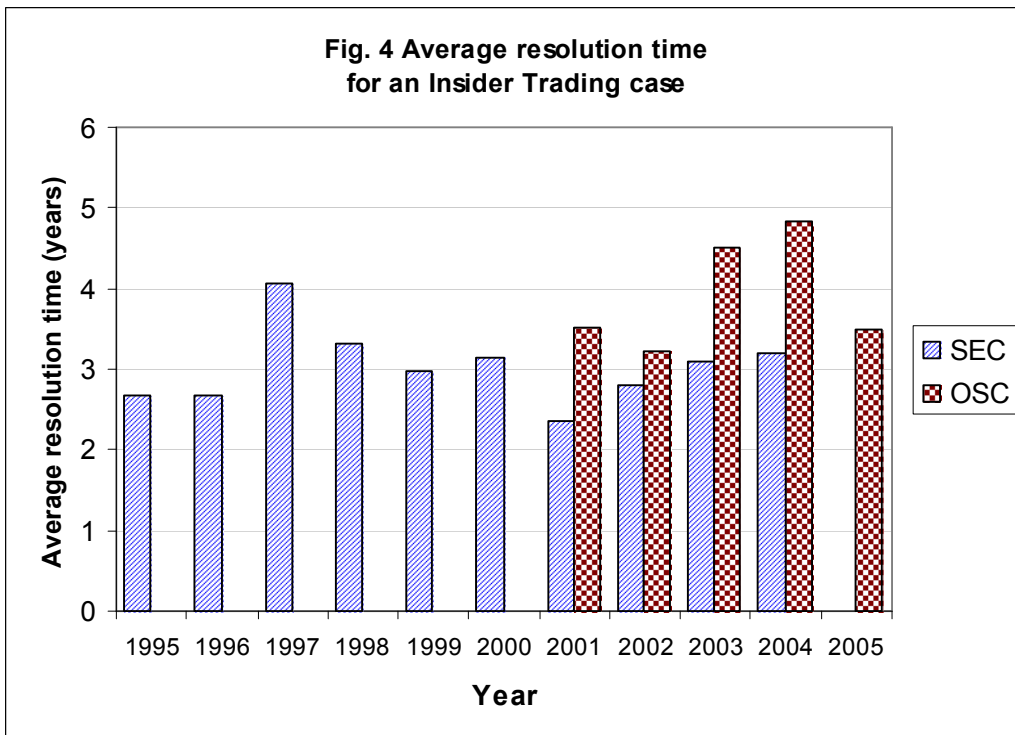


Fig. 4 Average resolution time for an Insider Trading case



8. Conclusion

There is little literature documenting the importance of enforcing securities laws. On December 8, 2005, I was asked by the Task Force to Modernize Securities Legislation in Canada to prepare a report entitled “Enforcement and Its Impact on Cost of Equity and Liquidity of the Market”.

The following are the findings from my literature survey: First, securities laws exist in most countries; they are not enforced in many countries. Second, it is enforcement of these laws that is important. Firms in countries with stricter enforcement of securities laws have a lower cost of equity and more liquid capital markets. This finding is especially true for developing countries with segmented capital markets. Third, the enactment of the Sarbanes-Oxley Act in 2002 in the U.S. improved the liquidity of the U.S. capital markets. There is, however, little evidence that it decreased the cost of equity of U.S. firms. Fourth, enforcement of insider trading laws, which are a special case of securities laws, decreases cost of equity. The enactment of insider trading laws does not improve capital markets. In fact, there is some evidence that it is better to have no insider trading law than to have an insider trading law that is not enforced. Fifth, the enforcement of securities laws that improves the informativeness of financial statements lowers the cost of equity and increases the liquidity of the capital markets. Sixth, there is some evidence that mechanisms that facilitate private enforcement (such as mandated disclosure and clear liability rules) are more effective than the public enforcement of securities laws.

These are my findings from my study of Canada: The U.S. Securities and Exchange Commission enforces securities laws much more vigorously than the Ontario Securities Commission. When scaled by the size of the stock market (as measured by the number of listed firms), the SEC prosecutes 10 times more cases for all securities laws violations, and 20 times more insider trading violations than the OSC prosecutes. A detailed examination of insider trading cases shows that the SEC resolves the cases faster than the OSC, and fines 17 times more per insider trading case than the OSC does.

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