

**The TSX Technology Company Listing Standards
as a Response to the “Hot Issue” Market of 1995-2000**

A. Douglas Harris
Faculty of Law
University of Toronto
doug.harris@utoronto.ca
(416) 946-7989

Incomplete draft – please do not reproduce or cite without permission.

This draft: January 28, 2004

“The TSX Technology Company Listing Standards as a Response to the ‘Hot Issue’ Market of 1995-2000”

A. Douglas Harris

Draft: January 28, 2004

JEL Nos. G3, K22

ABSTRACT

1999 was the busiest year ever for initial public offerings (“IPOs”) by technology companies. IPOs by firms with limited operating histories, negative earnings records and expectations, and revenues that were dwarfed by their market valuations, recorded gains on the Nasdaq National Market of over 1000% from the date of their IPO to the end of the calendar year. On the heels of these extraordinary events, the Toronto Stock Exchange (“TSX”) announced in June 2000 that it reduced its original listing standards (the minimum quantitative criteria that firms must satisfy in order to be listed and traded on the exchange) in order to “enable the listing of additional technology companies that did not previously qualify under existing listing criteria” and thereby improve the TSX’s “competitive position ... by allowing TSE calibre companies to graduate to the Exchange earlier than at present.”

I argue that in so doing the TSX acted in its shareholders’ interests – and not the public interest – in order to allow its shareholders to profit from a “hot issue” market for technology IPOs. Far from ameliorating the “irrational exuberance” of the period, I argue that the TSX consumed a portion of the exchange’s reputational capital in order to exploit that irrationality, and that the listing policies of the exchange were not efficient because they sought to attract inefficient “noise” trading. I also identify historical precedents for the TSX’s actions, including instances in which the London Stock Exchange and the New York Stock Exchange relaxed their original listing standards during hot issue markets in order to attract IPO listings that benefited their members.

Table of Contents

I.	INTRODUCTION	1
II.	PRIOR LITERATURE ON STOCK EXCHANGE LISTING STANDARDS	4
III.	THE ROLE OF STOCK EXCHANGES IN CAPITAL MARKETS	9
A.	STOCK EXCHANGE COMPETITION IN NORTH AMERICA	9
B.	NORTH AMERICAN STOCK EXCHANGES	13
1.	<i>TSX</i>	<i>13</i>
2.	<i>TSX Venture</i>	<i>14</i>
3.	<i>NYSE</i>	<i>15</i>
4.	<i>Nasdaq</i>	<i>16</i>
C.	THE GATEKEEPING FUNCTION AND STOCK EXCHANGE LISTING STANDARDS	17
1.	<i>The Role of Listing Standards and the Importance of Exchange Reputation</i>	<i>17</i>
2.	<i>The History of Listing Standards</i>	<i>23</i>
3.	<i>How Listing Standards are Set</i>	<i>25</i>
4.	<i>The Impact of Listing Standards on Exchange Revenues</i>	<i>25</i>
IV.	STOCK EXCHANGE LISTING STANDARDS FOR TECHNOLOGY COMPANIES	30
A.	TSX	30
1.	<i>General Listing Standards</i>	<i>30</i>
2.	<i>Research and Development Company Listing Standards</i>	<i>32</i>
3.	<i>Technology Company Listing Standards</i>	<i>35</i>
B.	OTHER EXCHANGES	38
V.	HOT ISSUE MARKETS AND STOCK EXCHANGE RESPONSES	40
A.	HOT ISSUE MARKETS	40
1.	<i>Increased Trading Volume and Turnover and Their Impact on Exchange Revenues</i>	<i>46</i>
2.	<i>Increased Volatility and Share Prices and Its Impact on Exchange Revenues</i>	<i>48</i>
B.	CASE STUDIES – STOCK EXCHANGE REACTIONS TO HOT ISSUE MARKETS	50
1.	<i>The London Stock Exchange and Biotech Listings - 1993</i>	<i>50</i>
2.	<i>The NYSE and IPOs – 1983 and 1994</i>	<i>52</i>
3.	<i>The NYSE and Dual Class Capital Structures</i>	<i>53</i>
4.	<i>Other Exchanges and the Internet Bubble</i>	<i>57</i>
VI.	ALTERNATIVES	59
VII.	CONCLUSION	64

The TSX Technology Company Listing Standards as a Response to the “Hot Issue” Market of 1995-2000

A. Douglas Harris*

I. INTRODUCTION

On June 28, 2000, the Nasdaq Composite Index, bellwether of the so-called “New Economy”, stood at 3940.34, down from its all-time high of 5048.617 on March 10, 2000, but recovering from a recent low of 3164.55 on May 23, 2000. The initial public offering (“IPO”) market had recently concluded “the busiest and most lucrative year ever for technology IPOs” in 1999 in which highly anticipated initial public offerings by Red Hat, Inc., Akamai Technologies, Inc. and Ariba, Inc. (technology companies with negative earnings records and expectations, and twelve month trailing revenue figures that were dwarfed by their market valuations) and others recorded gains on the Nasdaq National Market of over 1000% from their IPO to the end of the calendar year.¹ Despite the dramatic decline in the Nasdaq Composite Index in April and May 2000, an article published on June 28, 2000 began: “It almost looks like the good ol’ days of last year’s IPO market.”²

It was in this context that the Toronto Stock Exchange (the “TSX”³), the senior equities trading market in Canada, announced on the same date that it had developed new original listing standards that would reflect the fact that technology companies “continue to drive” the TSX’s

* Assistant Professor, University of Toronto Faculty of Law and Director, Capital Markets Institute, University of Toronto.

¹ Joanna Pearlstein, “The Top 25 IPOs of 1999” in *Going Public (Supplement to Red Herring)* (July 2000) 10 at 10-11.

² Terzah Ewing, “Deals & Deal Makers: IPO Market Comes Back to Life on Marvell Debut” *Wall Street Journal* (28 June 2000) C22. The author did go on to say that market watchers remained cautious and that investors had become more conservative, emphasizing that recent successful IPOs had featured profitable companies. *Ibid.*

³ At the relevant times for this paper, the Toronto Stock Exchange was known by the acronym “TSE”. The exchange adopted the acronym “TSX” in April 2002. This paper refers to the Toronto Stock Exchange as the “TSX” for all periods before and after the adoption of the new acronym.

new listings and were “among the largest IPOs and listings on the TSE in 2000.”⁴ In the regulatory notice that accompanied the announcement, the TSX stated that the new standards would “enable the listing of additional technology companies that did not previously qualify under existing listing criteria” and thereby improve the TSX’s “competitive position ... by allowing TSE calibre companies to graduate to the Exchange earlier than at present.”⁵

This paper considers whether the TSX, in its capacity as a gatekeeper and self-regulatory organization, responded appropriately to the investment community’s appetite for technology issues by lowering its original listing standards to accommodate technology companies. Did the TSX maintain the appropriate balance between its shareholders’⁶ interests and the interests of listed issuers and investors, or did its shareholders exploit a modern-day tulip mania?

This paper proceeds as follows: Part II reviews prior literature on stock exchange listing standards, highlighting the relative lack of academic study of this critical gatekeeping function. Part III describes the role that stock exchanges play in national and international capital markets, focusing on the increasing competition that they face from each other and from alternative providers of the services they have traditionally provided. Part III focuses on a particular and unique stock exchange function: acting as gatekeepers to the primary and secondary public equity markets. Part IV describes the TSX technology company listing standards within the context of TSX listing standards at the time they were introduced, and situates the TSX technology company listing standards within the North American market for IPO listings at that

⁴ Toronto Stock Exchange, News Release, “Toronto Stock Exchange Announces Listing Requirements for Technology Companies” (28 June 2000).

⁵ Toronto Stock Exchange, Regulatory Notice 2000-018, 23 O.S.C. Bull. (30 June 2000) 4638 at 4639-4640.

⁶ Prior to the demutualization of the TSX in April 2000, owners of the TSX were “members” of the organization, and only members were authorized to trade on the exchange. Demutualization disaggregated ownership and trading privileges, so that there are now separate classes of shareholders and “participating organizations”. This paper uses the post-demutualization terminology and refers to the former members as shareholders.

time. Part V develops a connection between so-called “hot issue” markets – periods in which IPO volumes and underpricing experience significant increases – and historical precedents in which other senior global exchanges (including the London Stock Exchange (“LSE”) and the New York Stock Exchange (“NYSE”)) changed their listing standards to capture IPO listings in response to hot issue markets. The hypothesis that I develop in Part V is the following: the TSX acted in its shareholders’ interests – and contrary to the interests of existing listed companies and retail investors – when it lowered its listing standards in order to allow its shareholders to reap the benefits of a hot issue market for technology IPOs. TSX shareholders generally benefited from the TSX’s listing of technology company IPOs through increased levels of listing fees and trading fees, while TSX specialist firms benefited through an increased level of uninformed or “noise” trading associated with technology company IPOs and secondary market activity. Far from ameliorating the “irrational exuberance” of the technology bubble of the late 1990s, TSX shareholders executed a rational plan to exploit it, and in the process, retail investors. Part VI considers briefly two alternatives that were open to the TSX at the time it decided to introduce the new technology company listing standards, and Part VII concludes.

II. PRIOR LITERATURE ON STOCK EXCHANGE LISTING STANDARDS

Very little of the large academic literature on stock exchanges focuses on the development, enforcement and effect of original and continuing quantitative listing standards.⁷ The prior literature concentrates on the comparative performance of different market structures (auction vs. dealer markets, for example) and the impact of different regulatory provisions and regimes on market transparency, liquidity and efficiency.⁸ There is also a large literature on the signalling and bonding effects of non-U.S. issuers choosing to list on a U.S. exchange and thereby subjecting themselves to more stringent qualitative governance and disclosure requirements imposed by U.S. exchanges and U.S. securities laws.⁹ In most cases, this literature takes as exogenous the set of companies that list or are listed on any particular exchange (in connection with market structure analyses) and/or assumes that the quantitative original listing standards are not an issue in comparison to qualitative listing standards (in connection with signalling and bonding analyses).

The isolated exceptions include a recent paper by Macey and O'Hara analyzing stock exchange listing fees and requirements.¹⁰ Macey and O'Hara focus on listing fees principally, but they also address briefly quantitative original listing standards, supporting the continued

⁷ Original listing standards (i.e., those requirements that apply at the time an issuer applies to list a security on the exchange for the first time) and continued listing standards (i.e., those requirements that the issuer and/or the listed securities must meet on an ongoing basis in order to remain listed on the exchange) comprise quantitative and qualitative aspects. Quantitative aspects relate to financial and operational characteristics such as earnings, profits and duration of operations, while qualitative aspects relate to matters such as board composition, capital structure, reporting and governance. This paper focuses on the TSX's *quantitative* original and continuing listing standards because the TSX did not waive or amend its qualitative listing standards for technology issuers.

⁸ See, for example, Laura Nyantung Beny, "U.S. Secondary Stock Markets: A Survey of Current Regulatory and Structural Issues and a Reform Proposal to Enhance Competition" [2002] Col. Bus. L. Rev. 399, and the works Beny cites.

⁹ See, for example, John C. Coffee, "Racing Towards the Top?: The Impact of Cross-Listings and Stock Market Competition on International Corporate Governance" (2002) 102 Col. L.Rev. 1757 [Coffee, "Racing"].

¹⁰ Jonathan R. Macey & Maureen O'Hara, "The Economics of Stock Exchange Listing Fees and Listing Requirements" (2002) 11 J. Fin. Intermediation 297 [Macey & O'Hara, "Economics"].

relevance of listing standards generally with the assertion that “for some firms a listing on a particular exchange does convey information to investors, and this branding is an important feature of exchange competition.”¹¹ Macey and O’Hara reject the elimination of listing standards altogether, on the basis that it would eliminate “what vestiges of the quality signalling function that remain” in an exchange listing.¹² Macey and O’Hara argue that, rather than eliminate quantitative listing requirements, “[a] better alternative for an exchange would be to revise its listing requirements to expand the number of firms eligible for listing ... by looking beyond the mere size of listing applicants, to factors such as their business plans and prospects, the integrity and quality of management, the firm’s commitment to following sound, conservative accounting practices, and to good corporate governance.”¹³ This is not an argument in favour of eliminating listing standards, but it is an argument in favour of replacing quantitative listing standards with qualitative listing standards. The workability of this alternative original listing “screen” is dubious, however, and perhaps for this reason Macey and O’Hara do not pursue it in their paper.

Jenkinson and Ljungqvist note briefly in their volume on initial public offerings that “[s]ome stock exchanges, beginning to view listings as a source of revenue, have pro-actively lowered listing requirements or established new market segments aimed at small, high-growth ventures in an attempt to entice firms to float.”¹⁴

Black identifies “a stock exchange with meaningful listing standards and the willingness to enforce them by fining or delisting companies that violate disclosure rules” as one of the

¹¹ Macey & O’Hara, “Economics”, *supra* note 10 at 307.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ Tim Jenkinson & Alexander Ljungqvist, *Going Public* (Oxford: Oxford University Press, 2001) at 29. The possibility of establishing a separate market segment for companies that do not meet the exchange’s existing quantitative original listing standards is discussed in Part VI and in a separate work I am pursuing examining the experience of European exchanges and Nasdaq with this strategy.

preconditions for strong securities markets, and asserts, without elaboration, that “[i]nvestors use the listing as a proxy for company quality.”¹⁵ Black’s emphasis in his discussion of stock exchanges is, however, as the first quote suggests, on their role in imposing and enforcing disclosure obligations (a return to the signalling and bonding approach to listing standards).

Chemmanur and Fulghieri develop a model of the entrepreneur’s decision to take a private company public (as opposed to raise additional private equity) and refer briefly to listing standards. They argue that listing standards, such as an historical profitability requirement, impose an upper limit on investors’ costs of evaluating an IPO firm and thereby restrict the variance of the true value of the firm.¹⁶

Coffee has provided an historical account of the development of the NYSE’s quantitative listing standards from a public choice perspective, explaining how NYSE members depicted a self-serving quantitative screen, designed to protect the NYSE’s minimum commission rate structure, as a mechanism to protect investors by ensuring minimum “quality” standards for NYSE-listed securities.¹⁷

Finally, the extensive U.S. literature on dual class capital structures (reviewed in Part V.B.3 below) can be seen as a debate over listing standards, although none of the participants conceive of it in this way. Instead, commentators focus on the shareholder democracy and

¹⁵ Bernard S. Black, “The Legal and Institutional Preconditions for Strong Securities Markets” (2001) 48 UCLA L. Rev. 781 at 796 [Black, “Preconditions”].

¹⁶ Thomas J. Chemmanur & Paolo Fulghieri, “A Theory of the Going-Public Decision” (1999) 12 Rev. Fin. Stud. 249 at 272.

¹⁷ John C. Coffee, “The Rise of Dispersed Ownership: The Roles of Law and the State in the Separation of Ownership and Control” (2001) 111 Yale L. J. 1 [Coffee, “Dispersed Ownership”]. See also Part III.C.2 below.

governance aspects of dual class capital structures without examining the gatekeeping role of stock exchanges in deciding whether or not to list subordinate voting securities.¹⁸

This academic silence (relatively speaking, at least) on the role of quantitative listing standards is puzzling, considering the important role they play in determining the set of securities to which qualitative exchange regulation will apply. Two explanations are possible. One is that the vast majority of issuers and securities are inframarginal with respect to quantitative listing standards: issuers and their securities are either unequivocally qualified for listing on an exchange or they are not. As a result, quantitative original listing standards do not matter to the average issuer that is the focus of the literature on qualitative listing standards.

Another possible explanation is that commentators believe (although I am not aware of any who have said so explicitly) that the fact that the securities have met a quantitative listing standard provides no additional information in efficient capital markets and therefore should be irrelevant to investors. This argument proves too much if there is to be any continuing role for listing standards, however, for it would require *all* listing standards to be eliminated in favour of free access for issuers to the facilities of a stock exchange so long as each issuer was subject to identical disclosure requirements. No one has called for such a drastic step. Even alternative trading systems (known as “ATSs”, and also known as electronic communication networks or “ECNs”) restrict their activities with respect to equity securities to those already listed on a traditional exchange or recognized quotation system.¹⁹ Furthermore, based on their assertion that

¹⁸ The only exception of which I am aware is Jeffrey N. Gordon, “Ties that Bond: Dual Class Common Stock and the Problem of Shareholder Choice” (1988) 76 Cal. L. Rev. 1, in which Gordon argues that the NYSE prohibition on listing subordinate voting securities provided a “bonded non-renegotiation right” that decreased the cost of capital for NYSE-listed firms – the threat of delisting was so severe that investors in NYSE-listed companies were assured that the management of those companies would not propose a mid-stream recapitalization to introduce subordinate voting securities.

¹⁹ This is a requirement in Canada under National Instrument 21-101 Marketplace Operation; see s. 6.3 restricting ATS trading to listed or quoted securities and corporate and government debt securities.

the “noisiness” of IPO prices increases with the cost of evaluating IPO firms, Chemmanur and Fulghieri argue that imposing quantitative original listing standards “leads to an upper bound on the variance (conditional on the equity offering price) of the true value of the firm whose equity is listed, and is consequently desirable for exchanges seeking to control this variance.”²⁰ Macey and O’Hara acknowledge a continuing role for listing standards where this variance is the largest: in connection with the securities of smaller domestic firms and foreign firms from undeveloped equity markets.²¹

Listing standards appear, therefore, to matter. Analyzing the bases on which listing standards are set and their impact on the owners of stock exchanges and investors, as I do in this paper, presents a novel approach to analyzing stock exchange regulation more generally. The connection I draw between hot issue markets and stock exchange policy development is also novel.

²⁰ Chemmanur & Fulghieri, *supra* note 16 at 272.

²¹ Macey & O’Hara, “Economics”, *supra* note 10 at 302. Macey and O’Hara also point to the increase in the number of foreign listings and decline in the number of domestic listings on the NYSE between 1998 and 2002 as evidence of this differential value of the certification function. *Ibid.* at 302-3.

III. THE ROLE OF STOCK EXCHANGES IN CAPITAL MARKETS

A. Stock Exchange Competition in North America

Stock exchanges have historically played important roles in capital markets, including performing the following functions:

- a) gatekeeping: stock exchange listing standards perform a screening function, admitting only some securities for trading through the facilities of the exchange, and thus to the public equity markets;
- b) providing liquidity: stock exchanges facilitate the secondary market in issued securities, bringing buyers and sellers together in a central location to facilitate transactions in listed securities in a manner that minimizes the price impact of individual transactions but aggregates the price effect of multiple transactions;
- c) providing information: in the course of providing liquidity, the transactions conducted on stock exchanges provide valuable information to investors about the size, depth and direction of the market for a particular security, thereby increasing the informational efficiency of the capital markets;
- d) monitoring trading in listed securities and activities of market participants: stock exchanges monitor trading in listed securities and the other activities of market participants in order to enforce exchange rules intended to prevent manipulation and other market misconduct; and
- e) providing standard form disclosure and governance requirements: most stock exchanges impose disclosure and governance requirements on the issuers of the

securities listed on the exchange that, in many instances, go beyond the disclosure and governance requirements imposed by securities and corporate law.²²

Exchanges compete with one another to provide these services. Competition in the Canadian market was eliminated, however, when the existing Canadian trading markets (the Vancouver Stock Exchange (“VSE”), the Alberta Stock Exchange (“ASE”), the Winnipeg Stock Exchange (“WSE”), the TSX, the Montreal Exchange (“ME”) and the Canadian Dealing Network (“CDN”, an over-the-counter market that was a subsidiary of the TSX)) agreed in March 1999 to a radical consolidation of those markets.²³ The TSX assumed responsibility for providing trading facilities and services for all “senior securities” (defined as securities, other than exchange-traded derivative products, that qualified for listing on the TSX), CDNX – a new combined CDN, VSE and ASE (and eventually WSE²⁴) – agreed to be responsible for “junior securities” (defined as securities other than exchange-traded derivatives or senior securities)²⁵ and the ME agreed to be responsible for exchange-traded derivative products.²⁶ Securities quoted on CDN were transferred to CDNX, as were non-derivative securities listed on the ME that did not qualify for listing on the TSX. The TSX, VSE and ASE undertook to jointly

²² Macey and O’Hara do not list “providing information” as a core exchange function, instead listing providing clearing services: Macey & O’Hara, “Economics”, *supra* note 10 at 299-300. Clearance and settlement services in connection with trades in TSX-listed securities using the facilities of the exchange (as opposed to the “third”, or “upstairs” market) are performed by the Canadian Depository for Securities Inc. (“CDS”). See also Jonathan R. Macey & Maureen O’Hara, “Regulating Exchanges and Alternative Trading Systems: A Law and Economics Perspective” (1999) 28 J. Legal Stud. 17 at 22 [Macey& O’Hara, “Regulating”].

²³ Memorandum of Agreement Entered into as of March 15, 1999 among The Alberta Stock Exchange, the Montreal Exchange, The Toronto Stock Exchange both for itself and on behalf of the Canadian Dealing Network Inc. and the Vancouver Stock Exchange (on file with author).

²⁴ The Winnipeg Stock Exchange announced on October 12, 2000 that it had reached an agreement to consolidate its operations with CDNX (Winnipeg Stock Exchange, News Release, “WSE and CDNX Reach Agreement” (12 October 12 2000)) and the operations were combined on November 24, 2000.

²⁵ The TSX acquired CDNX on August 1, 2001, and in April 2002 renamed the junior exchange “TSX Venture Exchange”. This paper refers to the junior exchange as “TSX Venture” for all after the acquisition and the adoption of the new name, but retains the name “CDNX” for historical periods prior to the acquisition.

²⁶ The ME also provides listing and regulatory services for small capitalization Quebec issuers.

determine the appropriate demarcation between junior and senior securities and the TSX agreed that it would not, during those discussions, decrease its minimum original listing standards, and that it would increase its standards for continued listing based on the outcome of those discussions.²⁷

Notwithstanding the elimination of domestic competition, the TSX faces competition from foreign exchanges, in particular the NYSE and Nasdaq, in connection with large IPOs that are able to satisfy the generally greater demands and higher issue costs²⁸ associated with a Canada-U.S. cross-border or U.S.-only IPOs. The geographical proximity of Canada and the U.S., together with the large degree of economic integration between the two countries, makes Canadian issuers the dominant foreign group on the NYSE²⁹ and Nasdaq,³⁰ and those exchanges the obvious targets for Canadian issuers contemplating a foreign IPO. The combined market value of trading of Canadian-issued securities interlisted on North American exchanges on the NYSE and Nasdaq in 2002 was \$248.4 billion (35.9% of the total value of trading in Canadian-based interlisted issuers), compared to trading value of \$426.3 billion (61.6% of total value of trading) on the TSX.³¹ In 2001, the NYSE and Nasdaq accounted for 42.2% of this trading and

²⁷ *Supra* note 23 at § 2.2.

²⁸ See Theresa Shutt & Hugh Williams, *Going to Market: The Cost of IPOs in Canada and the United States* (Ottawa: Conference Board of Canada, 2000).

²⁹ At the end of 2001, there were 462 foreign companies from a total of 53 countries listed on the NYSE, 74 of which were Canadian, representing 16% of foreign companies and a combined market capitalization of almost US\$77 (\$119.2) billion. (U.S. dollar amounts in this paper are converted to Canadian dollar amounts at the 2001 Bank of Canada annual average of US\$1 = \$1.54841633 (Bank of Canada, Financial Markets Department, Year Average of Exchange Rates, 2001).) This represented the largest single country complement, followed by the United Kingdom (53) and Brazil (30). Trading in Canadian securities represented 25.4% of non-U.S. volume in 2001, the largest single country percentage (followed by Finland (10.3%, almost wholly the result of trading in securities of Nokia Corporation) and the United Kingdom (8.7%)). Nortel Networks Corporation and Nokia Corporation were the most-traded non-U.S. stocks by dollar value of trading and by volume in 2001. The value of trading of Canadian securities on the NYSE in 2001 was over US\$152 (\$235.4) billion.

³⁰ ____.

³¹ 2002 TSX Group Fact Book (Toronto: TSX Group Inc., 2003) at 5.

the TSX 55.0%.³² A study of the Canadian and U.S. IPO markets found no trends over the period from 1993 to 1998 in ratios between the number of Canadian companies doing IPOs on the TSX relative to the NYSE or Nasdaq, and no trend in the number of Canadian companies listing on Nasdaq over the same period,³³ but the NYSE and Nasdaq continue to present an attractive source of capital and liquidity for large Canadian issuers.

Exchanges like the TSX also compete with other capital markets intermediaries in respect of most of the functions described above. For example, the liquidity function is under increasing challenge from ATSS and ECNs. The Internet and other online data sources provide a ready source of current trading information that was formerly available only from the exchange on which the trading took place. Private rights of action, insider trading disclosure and short swing trading rules have been identified as an alternative source of trading activity monitoring in the U.S.,³⁴ and in any event this is no longer an exchange function for the TSX.³⁵ Finally, there are numerous alternative sources of off-the-rack internal rules (including corporation and securities law statutes, regulations and rules).

Indeed, the gatekeeping function is the only exchange function without an alternative provider. The TSX still exercises sole control over the securities that are listed for trading

³² *Ibid.*

³³ Shutt & Williams, *supra* note 28 at 3. No clear trend appears in data for the period 1998-2001 set out in the TSX prospectus: TSX Group Inc., *Supplemented PREP Prospectus* (5 November, 2002) at 17.

³⁴ Jonathan R. Macey & Hideki Kanda, "The Stock Exchange as a Firm: The Emergence of Close Substitutes for the New York and Tokyo Stock Exchanges" (1990) 75 Cornell L. Rev. 1007 at 1035.

³⁵ Since 2002, Market Regulation Services Inc. ("RS Inc.") has provided regulation services to the TSX and TSX Venture under contract. The services that RS Inc. provides include monitoring trading activity, administering the exchanges' market conduct and trading requirements and monitoring and enforcing compliance with those requirements by the exchanges' participating organizations and their agents. RS Inc. is jointly owned as to 50% by each of the TSX and the Investment Dealers Association of Canada ("IDA"), the self-regulatory organization for Canadian investment dealers.

through the promulgation and enforcement (or non-enforcement³⁶) of its listing standards. This focuses attention on the continuing role and function of its listing standards since it is the only function in which the TSX and TSX Venture are not subject to direct competitive pressures.

B. North American Stock Exchanges

1. TSX

As a result of the restructuring of the Canadian exchanges in 2001, the TSX is now the sole senior equity trading market in Canada. Total trading volume in 2002 was \$637.7 billion or 46.4 billion securities on 26.5 million trades. At the end of 2002 there were 1,304 companies listed with a total market capitalization of almost \$1.045 trillion.³⁷

The TSX has a significant technology company component.³⁸ Technology companies represent approximately 10.6% of the number of companies listed on the TSX and approximately 7.3% of the TSX's total market capitalization, but accounted for 18.8% of the number of trades and 18.7% of the dollar value of trading volume in 2001.³⁹ In 1999, 23% of new listings on the TSX were securities issued by technology companies,⁴⁰ [rising/falling] to ___% in 2000,⁴¹ [rising/falling] to ___% in 2001⁴² and [rising/falling] to ___% in 2002.⁴³

The TSX depends heavily on fees generated by listings and trading volumes. TSX revenues in 2001 were \$179.952 million, of which \$54.185 million, or 30.1%, were listing fees

³⁶ See Part IV.A below.

³⁷ 2002 TSX Group Fact Book (Toronto: TSX Group Inc., 2003) at 72.

³⁸ I count as "technology companies" issuers in the following segments: [Biotechnology/Pharmaceuticals, Technology-Hardware, Technology-Software, Broadcasting, Cable & Entertainment and Online Services]. [Need to confirm current segment titles]

³⁹ Toronto Stock Exchange, *Technology* (2002), online: <<http://www.tse.com/en/marketActivity/tse/marketInformation/technology/index.html>>.

⁴⁰ Toronto Stock Exchange, *1999 Annual Report* at 10.

⁴¹ ____.

⁴² ____.

⁴³ ____.

and \$65.882 million, or 36.6%, were trading and related fees, for a total of 66.7%.⁴⁴ Between 1995 and 2001, listing fees and trading and related fees have represented a significant majority of TSX revenues.⁴⁵

As at December 31, 2002, there were 177 Canadian-based interlisted issues on the TSX⁴⁶ that represented aggregate volume for 2002 of 25.17 billion shares or \$426.3 billion.⁴⁷ Trading on the TSX in interlisted issues for the twelve months ended December 31, 2002 represented 66.9% of total traded value and 54.3% of total traded volume in that year.

2. TSX Venture

TSX Venture is the sole junior equity trading market in Canada (other than the ME, which has outsourced its trading functions to TSX Venture). Total trading volume on TSX Venture in 2002 was \$3.2 billion or 8.7 billion securities on 1.3 million trades.⁴⁸ At the end of September 2002, there were 2,539 companies listed with a total market capitalization of \$10 billion.⁴⁹

Prior to the TSX's acquisition of TSX Venture on August 1, 2001, TSX Venture revenues in 2000 included listing fees of \$12.8 million (27.8% of total revenues) and trading and related fees of \$16.3 million (35.4% of total revenues), for a combined total of 63.2% of total revenues.⁵⁰

⁴⁴ Remaining 2001 revenues were represented by market data fees (\$43.447 million or 24.1%), market regulation fees (\$14.078 million or 7.8%) and other sources (\$2.360 million or 1.3%). TSX Group Inc., *Supplemented PREP Prospectus* (5 November, 2002) at 8.

⁴⁵ See Part III.C.4 below.

⁴⁶ Toronto Stock Exchange, *December 2002 Review*, at ____.

⁴⁷ 2002 TSX Group Fact Book (Toronto: TSX Group Inc., 2003) at 5.

⁴⁸ 2002 TSX Group Fact Book (Toronto: TSX Group Inc., 2003) at 2.

⁴⁹ TSX Group Inc., *Supplemented PREP Prospectus* (5 November, 2002) at 16.

⁵⁰ Canadian Venture Exchange Inc., *Financial Report 2000* (2001) at 3.

Technology issuers dominate TSX Venture. While technology issuers represent approximately 14% of all listed issuers by number, in 2001 technology issuers represented 28% of total trading value and 25% of total trading volume.⁵¹

3. NYSE

The NYSE is the world's largest secondary market, with a global market capitalization of US\$16 (\$24.8) trillion at the end of 2001.⁵² Total trading volume in 2001 was US\$10.5 (\$16.3) trillion or 307.5 billion securities traded.⁵³ At December 31, 2001 there were 2,978 companies listed, of which 2,336 were U.S. companies with a global market capitalization of US\$11.1 (\$17.2) trillion and 462 were non-U.S. companies with a global market capitalization of US\$4.9 (\$7.6) trillion.⁵⁴

Technology companies were well represented on the NYSE during the technology boom, and continue to be a significant presence in NYSE trading. At the end of 1999, technology companies represented over US\$4 (\$6.2) trillion, or close to 25%, of the NYSE's total market capitalization.⁵⁵ In 2001, technology companies represented seven of the top fifteen issues in dollar volume and ten of the top fifteen issuers in share volume.⁵⁶

As is the case with the TSX, the NYSE derives the bulk of its revenues from listing and trading fees. Macey and O'Hara describe the NYSE as an "outlier in terms of listing fees and revenues" when compared to North American and European exchanges.⁵⁷ In 1999, listing fees

⁵¹ TSX Venture Exchange, *The Technology Sector on TSX Venture Exchange* (2002) at 1.

⁵² New York Stock Exchange, *The Year 2001 in Review* (2002) at 5.

⁵³ New York Stock Exchange, *The Year 2001 in Review* (2002) at 3.

⁵⁴ New York Stock Exchange, *The Year 2001 in Review* (2002) at 5.

⁵⁵ New York Stock Exchange, *1999 Annual Report* at ____.

⁵⁶ New York Stock Exchange, *The Year 2001 in Review* (2002) at 14-15.

⁵⁷ Macey & O'Hara, "Economics", *supra* note 10 at 308. Macey and O'Hara also document that NYSE member fees have been eclipsed by NYSE listing fees. *Ibid.* at 315.

were approximately US\$267.5 (\$414) billion and trading fees were approximately US\$138 (\$214) billion, representing 36% and 19%, respectively, of total revenues for the year, for an aggregate of 55%.⁵⁸

4. Nasdaq

The Nasdaq Stock Market, Inc., formerly a wholly-owned subsidiary of the National Association of Securities Dealers, Inc., operates the Nasdaq Stock Market. The Nasdaq Stock Market comprises two dealer markets: the National Market, for large capitalization issuer, and the SmallCap market, for smaller capitalization issuers.

Nasdaq had a global market capitalization of US\$2.9 (\$4.5) trillion at the end of 2001.⁵⁹ Total trading volume in 2001 was almost US\$11 (\$17) trillion or 471.2 billion securities traded.⁶⁰ At December 31, 2001 there were 4,109 companies listed, of which 3,662 were U.S. companies and 447 were non-U.S. companies.⁶¹

Technology companies dominate Nasdaq, representing 25% of listed companies in 2001, the largest single segment.⁶²

As is the case with the TSX and the NYSE, Nasdaq derives the bulk of its revenues from listing and trading fees. In 2001, “corporate client group services” (i.e. listing) fees were US\$156 (\$242) million and “transaction services (i.e. trading) fees were US\$408.8 (\$633) million, representing 18% and 48%, respectively, of total revenues for the year, for an aggregate of 66%.⁶³

⁵⁸ New York Stock Exchange, *1999 Annual Report* at ____.

⁵⁹ The Nasdaq Stock Market, Inc., *Form 10-K* (27 March 2002) at 3.

⁶⁰ The Nasdaq Stock Market, Inc., *Form 10-K* (27 March 2002) at 3.

⁶¹ The Nasdaq Stock Market, Inc., *Form 10-K* (27 March 2002) at 3.

⁶² The Nasdaq Stock Market, Inc., *Nasdaq 2001 Annual Report* (2002) at 17

⁶³ The Nasdaq Stock Market, Inc., *Form 10-K* (27 March 2002) at 37.

C. The Gatekeeping Function and Stock Exchange Listing Standards

1. The Role of Listing Standards and the Importance of Exchange Reputation

With few exceptions, listing is a discretionary process.⁶⁴ A listing on the TSX, NYSE or Nasdaq is not granted automatically to any issuer that completes an IPO. An issuer seeking to be listed must apply and be accepted for listing on its desired market, and the issuer's ability to meet the applicable original listing standards and to secure a listing is usually a key factor in determining whether the company will initiate an IPO, and in what jurisdictions the IPO will be conducted.

The original listing decision determines which issuers will be permitted to use the exchange listing as a signal to the capital markets of the quality of the issuer and its securities. This signal has two components: first, the exchange listing indicates (not always accurately⁶⁵) that the issuer has met the quantitative original listing standards relating to one or more of operating history, earnings, cash flow and assets, and therefore is at an advanced stage of development; and second, the exchange listing indicates that the issuer is subject to ongoing exchange regulation and has agreed to comply with exchange rules. Both of these signal components are especially important in the IPO market, where information asymmetries between the issuer's managers and potential investors are the greatest,⁶⁶ and reduce the listed issuer's cost of capital to the extent that existing investors believe that exchange rules relating to governance

⁶⁴ There are some circumstances in which securities are automatically entitled to a listing on an exchange. For example, rights that permit the holder to purchase listed securities will be automatically listed on the TSX. Toronto Stock Exchange, *Company Manual* s. 646.

⁶⁵ See Part IV.A.3 below for a discussion of the extent of "discretionary" listing of technology issuers on the TSX prior to the introduction of the technology company listing standards.

⁶⁶ Ronald J. Daniels, Paul Halpern, Jonathan Macey & Michael Trebilcock, *The Toronto Stock Exchange and Its Public Interest Mandate: A Paradigm in Transition* (1998, unpublished) at 11.

and disclosure, for example, are effective in reducing agency costs and the associated need for and cost of investor monitoring.

Furthermore, because prospective investors cannot hope to investigate every investment opportunity in the public market, they may restrict their search to securities that are listed on a particular exchange or class of exchange (for example, a market with national coverage as opposed to a regional market) where the information asymmetry between investor and issuer is perceived to be less severe.⁶⁷

From the issuer's perspective, the exchange listing represents a form of certification that reduces the cost the issuer must incur to extend credible assurances to potential investors about the quality of the issuer and its securities⁶⁸ and to existing investors about the level of agency costs within the firm.⁶⁹ An exchange listing may also play this certification role in markets other than the capital markets, like the employment market, the product market (for example, where the issuer's viability may be relevant in a purchasing decision that involves long-term warranty or service obligations) and the supply market (for example, in obtaining inputs on credit terms or in attracting strategic alliance parties). The certification function is effective even with other regulators. For example, an exchange listing reduces the relevant "seasoning" period and escrow regulatory requirements following an IPO under Ontario securities law.⁷⁰

The exchange can only provide this certification if the exchange itself has a good reputation. The fees that listed issuers pay include an element of return to the exchange on its

⁶⁷ Macey & Kanda, *supra* note 34 at 1023; Daniels et al., *supra* note 66 at 10-11.

⁶⁸ Macey & Kanda, *supra* note 34 at 1023.

⁶⁹ Coffee, "Racing", *supra* note 9.

⁷⁰ See Multilateral Instrument 45-102 Resale of Securities and National Policy 46-201 Escrow for Initial Public Offerings.

reputational assets,⁷¹ and the level of that return will be in direct correlation to the quality of those reputational assets. Original listing standards, therefore, are one of the ways in which the exchange seeks to protect its reputation as a repeat player in the market and therefore maximize the return it can earn on its reputational assets.⁷² Exchanges should therefore have appropriate incentives to screen applicant issuers and to accept only those that will conform to or enhance the reputation of the exchange. This incentive operates, however, only to the extent that the negative impact of accepting an issuer for listing on the value of the exchange's reputation outweighs any countervailing positive impact for the exchange and its owners of increasing the number of listed companies and associated revenue from listing fees and trading volume.⁷³

An unregulated market in IPO securities, using the facilities of an exchange or otherwise, would lead to a "lemons problem" of the sort described by George Akerlof.⁷⁴ A "lemons problem" arises in a market where information asymmetry exists between buyers and sellers regarding the quality of goods for sale in a market. The presence of below-average quality goods in the market lowers the average price for all goods; buyers will, in the absence of credible information about the quality of a particular item, pay no more than the average price for such

⁷¹ Daniels et al., *supra* note 66 at 11.

⁷² Of course, the exchange must also perform its other functions in a way that protects its reputational assets. For example, prior to the restructuring of the Canadian exchanges the reputation of the VSE suffered badly because of allegations, most notably in a series of articles in the Wall Street Journal in the 1990s and an episode of ABC's "Prime Time Live" in October 1990, that the exchange was ineffective in monitoring trading in VSE-listed securities and the activities of its listed issuers. The VSE's poor reputation was also tied to the reputations of the issuers it accepted for listing. One article called the VSE "the place to shop for unusual investments": Suzanne McGee, "Vancouver Exchange Scrambles to Lure Emerging Firms" *Wall Street Journal* (20 October 1999) C1.

⁷³ Macey and O'Hara make a similar point in "Globalization, Exchange Governance, and the Future of Exchanges" in R. Lintan & A. Santomero, eds., *Brookings Wharton Papers on Financial Services – 1999* (Washington D.C.: Brookings Institution Press, 1999) 1 at 8 [Macey & O'Hara, "Globalization"]. They then illustrate the point, however, by describing the Bre-X scandal, and the fact that Bre-X was listed on the TSX, as an example of "how this cost-benefit equation has changed over the years to reflect the fact that the certification function traditionally provided by exchanges is no longer of much value to investors." *Ibid.* at 8-9. It is not clear from their discussion what *ex ante* aspect of Bre-X's listing foretold the *ex post* fraud that was revealed to riddle the firm's operations.

⁷⁴ George A. Akerlof, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism" (1970) 84 Q. J. Econ. 488.

goods, and sellers of above-average goods eventually exit the market because the average price is below that at which they are willing to sell.⁷⁵ As sellers of above-average quality goods exit the market, the average quality of the goods in the market decreases, leading to a further decline in the average price, and so on until the market ceases to exist.

One institution that Akerlof identified to counteract the effects of quality uncertainty was the brand-name good. Akerlof observed that a brand name associated with a good served two functions: first, it serves as a certification of quality by a trusted source, and second it provides the unhappy customer with a means of retaliation by permitting him to curtail future purchases from that source.⁷⁶

Securities markets present good examples of lemons markets.⁷⁷ Black argues that IPO markets “are a far more vivid example than George Akerlof’s original example of used cars. ... a company’s shares, when the company first goes public, are like an unobservable car, produced by an unknown manufacturer, on which investors can obtain only dry, written information that they can’t directly verify.”⁷⁸ Applying Akerlof’s analysis to exchange listings, the exchange provides the brand name that ameliorates the information asymmetry between the issuer and the investor. Black identifies stock exchanges with “meaningful listing standards” as an important reputational intermediary that can reduce this information asymmetry.⁷⁹ Any exchange that eliminated its original listing standards in order to maximize revenue would degrade that brand

⁷⁵ This scenario is based on the assumption that sellers of above-average quality goods could not, without incurring uneconomic transaction costs, differentiate their goods from below-average quality goods.

⁷⁶ Akerlof, *supra* note 74 at 499-500.

⁷⁷ MacIntosh has identified occurrences of the lemons problem in the Canadian corporate and securities field. Jeffrey G. MacIntosh, *Legal and Institutional Barriers to Financing Innovative Enterprises in Canada* (1994) at 138.

⁷⁸ Black, “Preconditions”, *supra* note 15 at 786.

⁷⁹ *Ibid.* at 796.

name and invite retaliation until it eventually ceased to exist. Any reduction in the reputational value of the exchange listing would result in a higher cost of capital for the issuers on that exchange, regardless of their relative quality. The positive reputational effect of a listing on the exchange would be progressively eroded as increasing numbers of low quality issuers entered the market and drove out higher quality issuers, until a negative reputational effect took hold, driving more issuers away until the market became so small and illiquid that it would be uneconomic to invest in it, list on it or be a member of it (arguably what happened to the VSE). Any stock exchange with a self-preservation instinct, therefore, would quickly reverse course, reintroduce listing standards and seek to re-establish its reputation.

None of the exchanges considered in this paper have ever proposed eliminating listing standards. Instead, the exchanges have tinkered with their original listing standards, seeking to increase revenue as much as possible without irreparably eroding their reputational assets. In Akerlof's terms, complete information asymmetry has never been proposed, but reduced original listing standards may certainly have the effect of increasing information asymmetry between issuers and investors.⁸⁰

To understand why exchanges like the TSX are apparently willing to put their reputational assets at risk in order to accept technology companies for listing, it is necessary to understand the competitive pressures at work on them. As described above, the TSX competes with other North American exchanges, principally the NYSE and the Nasdaq National Market, for exchange listings. But the TSX also competes with other market participants and market features that fulfill the same signalling function. First, the involvement of other "reputational

⁸⁰ As Macey and O'Hara note, however, NYSE listing standards (and, by extension, listing standards in general) are an imperfect quality signal in any event, since they are in all cases both overinclusive (not all companies that meet the NYSE listing standards are large, substantial companies) and underinclusive (not all large, substantial companies that meet the NYSE's standards list on the NYSE). Macey & O'Hara, "Economics", *supra* note 10 at 301.

intermediaries”⁸¹ – like accounting firms, law firms and investment banking firms – in the offering process provides a reputational signal. These professionals have also invested in significant reputational assets that they seek to protect by ensuring that their names are not associated with failed companies or companies that engage in illegal or unethical behaviour.⁸²

Macey and O’Hara also point out that technological advances, in particular the Internet, have lowered the cost of obtaining information about firms, lowering the value of exchange certification.⁸³ Finally, the anti-fraud provisions of securities laws have reduced investors’ dependence on ex ante certification of issuer quality because of the availability of ex post remedies for breaches of those provisions.⁸⁴ The emergence of these indirect substitutes for the signalling function performed by stock exchanges in the capital markets has intensified the competition that stock exchanges face, putting even more pressure on exchanges to retain the listings that they have and to expand the number of new listings, even at the expense of their ability to perform the signalling function.

It is important to remember that the consumption of reputational capital by an exchange, in the form of reduced listing standards, for example, affects not only companies seeking a listing on the exchange, but also those firms already listed on the exchange. To the extent that listed companies are adversely affected, there is a negative externality associated with the exchange’s decisions regarding listing standards. Since the TSX is the sole senior equity trading market in Canada, listed firms have few exit options to voice their dissatisfaction with exchange

⁸¹ Macey & Kanda, *supra* note 34 at 1023 at 1040. See Macey & O’Hara, “Regulating Exchanges”, *supra* note 22 at 40-1.

⁸² Macey & O’Hara, “Economics”, *supra* note 10 at 301. The impact of this point obviously has to be considered in light of the gatekeeper failures that contributed to the accounting scandal in the U.S. centering on Enron, WorldCom and others. See, for example, John C. Coffee, Jr., “Understanding Enron: ‘It’s About the Gatekeepers, Stupid’” (2002) 57 Bus. Lawyer 1403.

⁸³ Macey & O’Hara, “Economics”, *supra* note 10 at 301.

⁸⁴ Macey & Kanda, *supra* note 34 at 1041.

policies: TSX Venture is small and illiquid relative to the TSX, and most companies that could qualify for a U.S. listing on the NYSE or Nasdaq have already listed on these markets. Those companies that are too large for TSX Venture yet too small for a U.S. listing are forced to bear at least a portion of the negative reputational effects associated with suboptimal original listing standards.

2. The History of Listing Standards

The earliest original listing standards were concerned with the profit margins of exchange members rather than the exchange's reputation and the quality of its listed issuers. The NYSE began granting quotations on a selective basis prior to the U.S. Civil War, accepting only larger, active issues in order to maximize trading volume and minimize the time and effort involved in individual transactions, and continued this screening activity to develop its present position as a specialist market in large capitalization issues.⁸⁵ Coffee presents a complementary public choice account of the NYSE's development of its listing standards. According to Coffee, the minimum commission rates maintained by NYSE members made trading in low-volume and low-price securities uneconomic, and so trading in those securities moved to other exchanges with competitive commission structures. The NYSE "quickly made a virtue of this inevitability, arguing that the low-price or low-volume stocks that migrated to other trading venues were unsuitable for the public customer."⁸⁶ Coffee also argues that the NYSE's decision to limit its membership meant that its fixed number of members did not have the ability to trade in all of the securities that desired to list on the exchange. Finally, Coffee argues that NYSE member concerns over the financial effects of the failure of other member firms led the exchange to be more conservative about the securities it would accept, avoiding highly risky and volatile

⁸⁵ R.C. Michie, *The London and New York Stock Exchanges, 1850-1914* (London: Allen & Unwin, 1987) at 196.

⁸⁶ Coffee, "Dispersed Ownership", *supra* note 17 at 36.

securities in members' self-interest while presenting the decision to do so as motivated by the public interest.⁸⁷

Exchanges' public statements about listing standards continue to tie these requirements exclusively to investors' interest in the reputational function of these requirements, equating satisfaction of these requirements with prominence, stability and quality. For example, the NYSE *Listed Company Manual* states that a NYSE listing "is internationally recognized as signifying that a publicly owned corporation has achieved maturity and front-rank status in its industry---in terms of assets, earnings, and shareholder interest and acceptance. Indeed, the Exchange's listing standards are designed to assure that every domestic or Non-U.S. Company whose shares are admitted to trading in the Exchange's market merits that recognition."⁸⁸ An NYSE spokesperson also remarked recently that "'We've always said that we don't want to be all things to all people'".⁸⁹

Similarly, the TSX *Company Manual* explains that the market in listed securities is more liquid than the market for securities traded in the over-the-counter market because of "public confidence in the high standards of the exchange's listing requirements" and that a listed company "joins the ranks of many strong and long-established domestic and international companies."⁹⁰

⁸⁷ *Ibid.*

⁸⁸ New York Stock Exchange, *Listed Company Manual* § 101.00.

⁸⁹ Raymond Hennessey, "Deals & Deal Makers: More IPOs Choose to List on NYSE" *Wall Street Journal* (29 April 2002) C5.

⁹⁰ Toronto Stock Exchange, *Company Manual* s. 1400-201.

3. How Listing Standards are Set

At the time that the TSX introduced the technology company listing standards, as today, the TSX set its own listing standards, subject only to OSC approval under Ontario securities law.⁹¹

This is not the only possible model. In the UK, since May 1, 2000 the Financial Services Authority (“FSA”), in its capacity as the “UK Listing Authority”, has set listing standards for the Official List of the LSE.⁹² In a speech in 2000, the Chair of the FSA praised this separation of functions as a way to reduce the conflict of interest inherent in stock exchanges that have public interest functions setting their own listing requirements:

In London, for example, we have reached the conclusion that one exchange, which is competing with others, should not be the national listing authority. ... I have to say I feel more comfortable now with that responsibility in-house, particularly when there are considerable pressures to relax listing standards to take account of the particular circumstances of new economy stocks. I am not saying that no change in listing requirements is possible. Indeed we have made some changes in the UK. But my personal view is that the public interest arguments can be better weighed by statutory regulators in this new environment, than by a profit-seeking exchange. And I am encouraged in that view by the fact that the London Stock Exchange itself reached the same conclusion.⁹³

This structure is discussed further as an alternative to this aspect of self-regulation by the TSX in Part VI below.

4. The Impact of Listing Standards on Exchange Revenues

Stock exchanges like the TSX derive their revenues from four principal sources:

- a) listing fees collected at the time of an original listing of a security, when additional securities of the same class are listed on the exchange, and on an annual basis;

⁹¹ See *Securities Act*, R.S.O. 1990, c. S.5, s. 21, as well as *In the Matter of The Toronto Stock Exchange Inc., Amendment to Recognition Order* (29 January 2002).

⁹² Financial Services Authority, *Annual Report 2001/02* (2002) at 22.

⁹³ Howard Davies, “Global Markets, Global Regulation” (Address to IOSCO Annual Conference, 17 May 2000) online: <<http://www.fsa.gov.uk/pubs/speeches/sp45.html>>.

- b) trading fees based on the value, volume and number of transactions executed using the facilities of the exchange;
- c) data fees for the provision of trading and quotation data; and
- d) market regulation fees charged to participating organizations for market regulation services.

Other revenue sources include business services fees for information technology licensing and service provision and facility rentals.

Listing and trading fees are volume based (listing fees are based on the market value of the securities being listed, while trading fees are based on the value of each trade), and both are subject to caps. Historical revenue source breakdowns (as a percentage of total revenues) for the TSX are shown in Chart 1:

Chart 1 – TSX Revenue Breakdown – 1995-2002⁹⁴

Revenue Source⁹⁵	Q3 2002	2001	2000	1999	1998	1997	1996	1995
Listing Fees	37.4	30.1	18.8	22.4	24.5	33.9	32.0	31.2
Trading Fees	31.1	36.6	57.2	57.5	50.1	40.6	44.6	39.1
Market Data Fees	25.7	24.1	16.2	18.4	17.4	20.3	17.7	21.0
Market Regulation Fees	1.4	7.8	6.4	0.0	0.0	0.0	0.0	0.0
Business Services	3.4	0.0	0.0	0.0	n/a	n/a	n/a	n/a
Income from Investments	n/a	n/a	n/a	n/a	3.3	2.7	3.9	3.9
Other	1.0	1.3	1.4	1.7	4.8	2.4	1.8	4.7

As is clear from this breakdown, listing and trading fees comprise the majority of TSX revenues, never falling below 66.7% of total revenues. Trading fees spiked upwards in 1999 and 2000, including record high trading activity in 1999.⁹⁶ Since the overall market slowdown at the

⁹⁴ TSX Group Inc., *Supplemented PREP Prospectus* (5 November 2002) at F-7 (1999-2002 data); Toronto Stock Exchange, *2000 Annual Report* at 60 (1996-8 data); and Toronto Stock Exchange, *1999 Annual Report* at 36 (1995 data).

⁹⁵ Totals in the Chart 1 may not add to 100 due to rounding.

⁹⁶ TSX Group Inc., *Supplemented PREP Prospectus* (5 November 2002) at 34.

end of 2000, listing fees and trading fees have been more equivalent. These revenue figures place the TSX generally in line with other North American exchanges, but reveal it to be more dependant on listing fees than European exchanges on average.⁹⁷

Not surprisingly, then, revenue-maximizing exchanges with income statements like the TSX have incentives to maximize the number of new listings and the volume and value of trading on the exchange. These incentives are aligned with the interests of TSX shareholders, participating organizations, listed companies and investors to the extent that they promote the development and maintenance of a deep and liquid market in listed securities.

However, all TSX stakeholders do not stand to benefit equally from increasing the number of listings of securities that are associated with a high volume of “noise” trading – defined by Fisher Black in his seminal article as the opposite of trading based on information.⁹⁸ Black argued that noise traders – “people who trade on noise as if it were information” and who “from an objective point of view would be better off not trading”⁹⁹ - are necessary for financial markets to exist. Without noise traders, those who trade on information would be reluctant to trade, on the correct assumption that others in the market have their own information. Shleifer and Summers published a series of articles on noise trading, presenting an alternative to the efficient markets hypothesis based on two assumptions: first, “some investors are not fully rational and their demand for risky assets is affected by their beliefs or sentiments that are not

⁹⁷ Macey and O’Hara cite data that listing fees generate 32% of revenues for North American exchanges, compared to 19.3% of revenues for European exchanges. Macey & O’Hara, “Economics”, *supra* note 10 at 308.

⁹⁸ Fisher Black, “Noise” (1986) 41 J. Fin. 529.

⁹⁹ *Ibid.* at 531.

fully justified by fundamental news” and second, “arbitrage – defined as trading by fully rational investors not subject to such sentiment – is risky and therefore limited.”¹⁰⁰

A certain level of noise trading, and a certain number of noise traders, therefore appear to be necessary for financial markets to exist. Shleifer and Summers concluded that noise traders were worse off than they would be if they traded on the basis of rational expectations, and that the activity associated with noise trading had a social cost (“as valuable human and other resources are allocated to separating noise traders from their money”) and a private cost to the extent that it reduces physical investment and has other negative impacts.¹⁰¹ Others have argued that noise trading harms markets by contaminating the informativeness of prices.¹⁰² On the other hand, De Long, Shleifer, Summers and Waldmann noted that noise trading may actually lower the cost of capital and increase the quantity of capital when noise traders are, on average, bullish and overinvest in equity, but at the noise traders’ expense.¹⁰³ Increasing the amount of noise trading also makes a market more volatile and active than is consistent with market efficiency, benefiting participating organizations investors both through increased listing and trading fees associated with increased trading volume, and informed investors through enlarging the pool of uninformed noise traders against whom to trade. As I will also argue below, technology company initial public offerings of common shares, the very segment targeted by the TSX in the

¹⁰⁰ Andrei Shleifer & Lawrence H. Summers, “The Noise Trader Approach to Finance” (1990) 4 J. of Econ. Persp. 19 at 19-20.

¹⁰¹ *Ibid.* at 30-1. See also J. Bradford De Long, Andrei Shleifer, Lawrence J. Summers & Robert J. Waldmann, “The Size and Incidence of the Losses from Noise Trading” (1989) 44 J. Fin. 681.

¹⁰² Jeremy Stein, “Informational Externalities and Welfare-Reducing Speculation” (1987) 95 J. Pol. Econ. 1123.

¹⁰³ De Long et al, *supra* note 101. As other authors put the question more recently: “Do the exuberant [i.e., noise traders] provide a subsidy to the socially productive – or are they merely lunch for the avaricious?”. Alexander P. Ljungqvist, Vikram Nanda & Rajdeep Singh, “Hot Markets, Investor Sentiment, and IPO Pricing” (working paper, 7 January 2002) at 31.

midst of the 1995-2000 hot issue market, are associated with high levels of noise trading¹⁰⁴ and resulting inflated trading volume, turnover, volatility and share prices.

Before presenting these arguments and supporting data, I document in the next part the process by which the TSX introduced the new technology company listing standards in 2000.

¹⁰⁴ As an example of the level of noise trading associated with Internet stocks, a recent study found that firms changing their names to Internet-related names (names incorporating “.com”, “.net” or “Internet”) enjoyed positive cumulative abnormal returns of 74% with no post-announcement negative drift. Demonstrating the “noisiness” of this trading, the level of the firm’s actual involvement with the Internet had no significant impact on the announcement day effect. Michael J. Cooper, Orlin Dimitrov & P. Raghavendra Rau, “A Rose.com by Any Other Name” (2001) 56 J. Fin. 2371.

IV. STOCK EXCHANGE LISTING STANDARDS FOR TECHNOLOGY COMPANIES

A. TSX

1. General Listing Standards

Prior to the introduction of the technology company standards, technology companies were required to satisfy the original listing standards generally applicable to companies listing in the “Industrial” category.¹⁰⁵ (The other two categories were Oil and Gas companies and Mining companies.¹⁰⁶) The Industrial company listing standards were last revised in 1998.¹⁰⁷

Under § 309 of the TSX *Company Manual*, Industrial companies had to come within one of three categories: profitable companies, companies forecasting profitability, or “research and development” companies. In addition to the requirements applicable to all companies relating to a minimum public distribution of securities,¹⁰⁸ the quality of management¹⁰⁹ and sponsorship by or affiliation with a TSX participating organization,¹¹⁰ the standards under the first two categories focus on three financial measures: net tangible assets,¹¹¹ earnings¹¹² and pre-tax cash flows.¹¹³

¹⁰⁵ Toronto Stock Exchange, *Company Manual* s. 307.

¹⁰⁶ *Ibid.*

¹⁰⁷ See *infra* note 119 and accompanying text.

¹⁰⁸ Companies seeking listing are required to have at least one million freely tradable shares having an aggregate market value of at least \$4 million held by at least 300 board lot (one hundred shares) holders. Toronto Stock Exchange, *Company Manual* s. 310.

¹⁰⁹ The Company Manual states that the exchange considers the management of the applicant issuer to be an “important factor” in considering a listing application, and that exchange staff will examine the background, experience and technical expertise of the issuer’s management (including its board of directors) in the context of the business of the company, including public company experience. Toronto Stock Exchange, *Company Manual* s. 311.

¹¹⁰ Sponsorship by a participating organization is a requirement for applications in the Industrial category, and can be a “significant factor” where the company “only narrowly meets the prescribed listing requirements”. Sponsors are required to review and report in writing to the exchange on a number of matters relating to the applicant issuer’s qualifications, disclosure, financial position, directors and officers. Toronto Stock Exchange, *Company Manual* s. 312 and s. 326.

¹¹¹ The TSX calculates “net tangible assets” as shareholders’ equity less deferred taxes and goodwill, as set out in audited financial statements. If no deferred taxes or goodwill are reported in the financial statements, shareholders’ equity is used. The TSX will include the proceeds of a public offering in calculating shareholders’ equity where the

Profitable companies are required to have net tangible assets of at least \$2 million, earnings of at least \$200,000 in the fiscal year immediately preceding the filing of the listing application, pre-tax cash flow of \$500,000 in the fiscal year immediately preceding the filing of the listing application, adequate working capital to carry on the business and an appropriate capital structure.¹¹⁴ Profitable companies with less than \$2 million in net tangible assets may still qualify for listing if they satisfy the higher earnings and cash flow thresholds that determine whether the company will be exempt from § 502 of the *Company Manual* (i.e., a “senior” listed company).¹¹⁵ The company’s audited financial statements included in the prospectus for the company’s IPO (and filed as part of the listing application) are required to demonstrate satisfaction of the financial requirements.

Companies forecasting profitability are required to have net tangible assets of at least \$7.5 million, evidence satisfactory to the TSX of earnings for the current or next fiscal year of at least \$200,000 before taxes and extraordinary items, evidence satisfactory to the TSX of pre-tax cash flow for the current or next fiscal year of at least \$500,000, adequate working capital to carry on the business and an appropriate capital structure.¹¹⁶ The evidence required by the TSX relating to forecast earnings and/or cash flow includes a complete set of forecast financial statements covering the current and/or the next fiscal year (on a quarterly basis), accompanied by

listing is sought in connection with and conditional upon the completion of an IPO, and will also consider, on a discretionary basis, permitting the inclusion of deferred development charges or other intangible assets.

¹¹² The TSX calculates “earnings” as earnings from on-going operations before taxes and extraordinary items.

¹¹³ The TSX calculates “pre-tax cash flows” as earnings before taxes plus non-cash expenses plus amortization plus depreciation expenses.

¹¹⁴ Toronto Stock Exchange, *Company Manual* s. 309(a).

¹¹⁵ The earnings threshold in this case is \$300,000 and the pre-tax cash flow requirement is at least \$700,000 in the fiscal year immediately preceding the filing of the listing application and an average pre-tax cash flow of \$500,000 for the two fiscal years immediately preceding the filing of the listing application. *Ibid.* at s. 309(a)(i), (b) and (c).

¹¹⁶ Toronto Stock Exchange, *Company Manual* s. 309(b).

an independent auditor's opinion that complies with Canadian accounting standards for future oriented financial information. This requirement leads to significant additional expense and delay for the company, since the auditor must complete a significant review of the forecast financial statements.¹¹⁷ In addition, because the forecast financial statements are required to be included in the IPO prospectus, underwriters and their counsel will subject them to full due-diligence review. The TSX also requires that the company have at least six months of operating history, including gross revenues at commercial levels for the six months preceding the filing of the listing application.

2. Research and Development Company Listing Standards

The listing standards for research and development companies focus less on assets, earning and cash flows, reflecting their earlier stage of development. Research and development companies are required to have a minimum of \$12 million in the treasury (the majority of which has been raised by the issuance of securities qualified for distribution by a prospectus), adequate funds to cover all planned research and development expenditures, general and administrative expenses and capital expenditures for a period of at least two years (supported by a quarterly projection of sources and uses of funds covering the period signed by the Chief Financial Officer of the company), a minimum two-year operating history that includes research and development activities, and evidence satisfactory to the TSX that the company has the technical expertise and resources to advance the company's research and development program.¹¹⁸

¹¹⁷ Detailed procedures that auditors are required to follow in reviewing and opining on future oriented financial information, including forecasts, are set out in the Canadian Institute of Chartered Accountant's assurance and related service guideline *AuG-6 Examination of a Financial Forecast or Projection Included in a Prospectus or Other Public Offering Document*.

¹¹⁸ Toronto Stock Exchange, *Company Manual* s. 309(d). For this last factor, the Exchange will consider all relevant factors, including the stage of development of the company's products or services and prospectus for commercialization; commercial and technical endorsements of the company's products or services from recognized academic institutions or industry participants; the existing or potential markets for the company's products or

The TSX published the research and development company listing standards for comment on November 5, 1998¹¹⁹ (applying them on an interim basis immediately) and the OSC approved the standards on July 29, 1999.¹²⁰ The new standards were published in conjunction with an increase in the other original listing standards for all issuers. The TSX said in its 1998 regulatory notice that the standards were developed to accommodate research and development companies “in recognition of their distinct nature and the growth in this industry sector,” referring specifically to “the biotechnology and high technology sectors”.¹²¹ The TSX also stated that the new criteria “largely reflect historical practices that have been applied to assess research and development companies, most of which were listed on an ‘exceptional’ basis”.¹²² With respect to the two-year operating requirement, the TSX argued “[a]ll companies must have a satisfactory track record of operations before they qualify for listing on the TSX” and that the requirement was “consistent with the requirements of other exchanges.”¹²³ Finally, in a “question and answer” section of a press release dated November 3, 1998 announcing the new standards, the TSX stated that “[t]he decision to include new requirements for research and

services and the marketing infrastructure and sales support necessary to service these markets; the background and expertise or management including its record of raising funds to finance research and development projects and ongoing operations; the existence and composition of any scientific advisory board; and affiliations with major industry enterprises or strategic partners. *Ibid.* § 309(d)(iv) n.11.

¹¹⁹ Toronto Stock Exchange, Regulatory Notice 98-036, 21 O.S.C. Bull. (6 November 1998) 7035 [TSX Regulatory Notice 98-036].

¹²⁰ 36 O.S.C. Bull. (10 September 1999) 5569.

¹²¹ TSX Regulatory Notice 98-036, *supra* note 119 at 7035-7036.

¹²² *Ibid.* at 7036.

¹²³ *Ibid.*

development companies reflects the increasing significance of knowledge-based industries as a vital growth sector for the TSX and for the Canadian economy overall.”¹²⁴

It seems clear that the TSX intended the 1998 additions to accommodate technology companies because the other Industrial categories of listing standards, with their focus on net tangible assets and positive earnings, were ill suited to technology companies. Even “mature” or sector-leading technology companies typically have few net tangible assets and may not have positive earnings. Furthermore, the requirement under § 309(b) of the *Company Manual* for a complete set of forecast financial statements accompanied by an independent auditor’s opinion added significant cost, delay and uncertainty to the IPO process for technology companies. However, the research and development company standards were an imperfect regulatory response, primarily because of the requirement of a minimum two-year operating history. Many technology companies, and particularly Internet success stories, have gone public after less than two years’ operation.¹²⁵ Furthermore, it was stretching the plain meaning of the words used in the standards to conclude that Internet companies providing business-to-business or business-to-consumer services were principally “research and development” companies.

As a result, even after the introduction of the research and development company standards many (eight out of a sample of forty, or 20% of the total number of technology companies listed) technology companies secured listing on the TSX on a discretionary basis

¹²⁴ Toronto Stock Exchange, News Release, “The TSX Raises Minimum Original Listing Standards for Industrial and Oil & Gas Companies, Introduces Requirements for Companies Involved in Research and Development” (3 November 1998).

¹²⁵ Jog and Wang have documented a sharp jump in the number of firms going public in Canada between 1990-94 and 1995-9 that are less than two years old (31 of 119 firms – or 26% - in 1990-4, compared to 51 of 133 firms – or 38% - in 1995-9): Vijay Jog & Liping Wang, “Aftermarket Volatility and Underpricing of Canadian Initial Public Offerings” (2002) 19 *Canadian Journal of Administrative Science* 231 at 234. Chapters Online Inc., for example, was incorporated on July 23, 1999 and was listed on the TSX on September 21, 1999. Its online book retailing business was transferred to it on August 30, 1999 by its parent, Chapters Inc., which had operated the business only since October 1998. The business listed on the TSX therefore had been in operation for less than one year.

through waivers of some or all of the established standards. Appendix “B” sets out all technology company IPOs on the TSX between January 1, 1998 and December 31, 2001. In 1998, TSX records show that there were five new IPO listings of technology companies. Based on a review of the financial information included in the final prospectus for each of those IPOs, one of those technology companies did not meet the TSX’s listing standards for profitable companies. In 1999, four of ten technology companies listed on the TSX in connection with an IPO did not meet any of the established standards, including the research and development company standards. In 2000, three of twenty-five technology companies listed on the TSX in connection with an IPO did not meet the established standards. However, following the introduction of the technology company listing standards, eleven of the technology companies listed on a non-discretionary basis under those standards had negative earnings and/or cash flow in the fiscal year prior to the IPO and likely would not have met the original listing standards prior to the introduction of the technology company standards. The discretionary listings cluster around the peak of the Internet bubble in late 1999 and early 2000: five of the eight discretionary technology company listings occurred between August 3, 1999 and March 31, 2000.

3. Technology Company Listing Standards

Shortly after the occurrence of this “bulge” of discretionary listings, the TSX introduced the new original listing standards for “technology” companies within the Industrial category. A note to the requirements in the *Company Manual* states that “technology companies” “[g]enerally would include innovative growth companies engaged in hardware, software, telecommunications, data communications, information technology and new technologies”.¹²⁶ In

¹²⁶ Toronto Stock Exchange, *Company Manual* s. 309(c) n.7.

its regulatory notice announcing the new requirements,¹²⁷ the TSX acknowledged that the Industrial issuer listing requirements described in the preceding section “are frequently inadequate measures for knowledge-based companies” and that “[w]hile many of these companies are well managed and well funded with promising technologies, good commercial prospects and substantial capital market support, they traditionally only have been granted a listing on a discretionary basis”.¹²⁸ Accordingly, the TSX was also motivated by a desire to “foster transparency and consistency in the application of listing standards.”¹²⁹

This last goal is a significant one, because the process of applying for a TSX listing where the issuer did not meet the published listing standards led to significant regulatory uncertainty and associated costs since companies and their counsel often would not know whether the TSX would grant discretionary relief until significant resources had been devoted to the Canadian tranche of a cross-border IPO. The TSX had little choice but to act in this way in light of the increase of the number of Canadian technology companies that considered a U.S. (specifically a Nasdaq National Market) listing as their first priority and a TSX listing to be a desirable, but ultimately disposable aspect of their IPO. In 2000 28% of the technology company IPOs listed on the TSX were also listed on a U.S. market, compared to 10% in 1999 and 20% in 1998.¹³⁰

The technology company original listing standards are based on the research and development company standards, but are considerably less stringent with respect to factors other than market capitalization and related items. Technology companies are required to have a

¹²⁷ TSX Regulatory Notice 2000-018, *supra* note 5.

¹²⁸ *Ibid.* at 4638.

¹²⁹ *Ibid.*

¹³⁰ The figure for 1998 is misleading because there were only 5 new technology company IPO listings in that year, of which one was a cross-border IPO. See Appendix A.

minimum of \$10 million in the treasury (the majority of which has been raised by the issuance of securities qualified for distribution by a prospectus), adequate funds to cover all planned development and capital expenditures and general and administrative expenses for a period of at least one year (supported by a quarterly projection of sources and uses of funds covering the period, including related assumptions, signed by the Chief Financial Officer of the company) and evidence satisfactory to the TSX that the company's products or services are at an advanced stage of development or commercialization and that the company has the required management expertise and resources to develop the business.¹³¹

The technology company standards also modify the market tests applicable to Industrial companies. The securities to be listed (which includes pre-IPO shares) must have a market value of at least \$50 million¹³² (there is no analogous requirement in the other Industrial company listing standards) and the "public float" (freely-tradable shares held by the public) must have a market value of at least \$10 million¹³³ (as opposed to \$4 million under the other Industrial company listing standards¹³⁴).

The technology company listing standards codify the approach that the TSX had been taking to listing technology companies, focusing on market capitalization as a substitute for the historical financial record of the company. Thus, the new standards substitute the judgment of

¹³¹ Toronto Stock Exchange, *Company Manual*, s. 309(c). For the last factor, the Exchange expects evidence of historical revenues or contracts for the future sale of the company's products or services, but will also consider all relevant factors, including affiliations or partnerships with major industry enterprises; commercial or technical endorsements of the company's products or services from recognized industry participants; existing or potential markets for the company's products or services and the marketing infrastructure and sales support dedicated to service these markets; the background and expertise or management including its record of raising funds. *Ibid.* s. 309(c)(iii) n.9.

¹³² *Ibid.* s. 309(c)(iv). In the case of an issuer applying for a listing in connection with its IPO, this requirement effectively supersedes the requirement that the issuer have a minimum of \$10 million in its treasury; the treasury funds requirement would apply, however, in the case of a public company that was seeking a listing.

¹³³ *Ibid.* s. 309(c)(v).

¹³⁴ *Ibid.* s. 310.

the market (what investors will buy) for the financial tests and record of sustained historical operations on which the other standards are based (what investors have been historically allowed to buy on the TSX). The TSX recognized this change, stating in the regulatory notice that “[s]trong investor demand and capital market support distinguishes many technology businesses from companies in other sectors” and that the higher public float requirements “acts as a measure of the market endorsement for a company”.¹³⁵ Effectively, the technology company listing standards reflect the TSX’s willingness to list any technology company where market demand reaches threshold levels.

The Canadian IPO market of 2000 and 2001 took advantage of the TSX’s concessions. Of the sixteen technology companies listed between the introduction of the technology company listing standards and the end of 2001, the majority (ten technology companies representing 62.5% of the total number) had negative earnings and pre-tax cash flows in the fiscal year prior to the IPO. Prior to the introduction of the technology company listing standards, just eight of twenty-four (or one-third) technology companies accepted for listing since the beginning of 1998 in connection with an IPO had negative earnings and pre-tax cash flows in the fiscal year prior to the IPO.

B. Other Exchanges

Appendix “A” summarizes the original listing standards of each of CDNX, Nasdaq and the NYSE that were relevant to a Canadian technology company doing an IPO at the time that the TSX introduced the technology company listing standards. Appendix “A” does not reflect all of the available combinations of factors, but focuses on those standards most likely to be met by an issuer that would use the TSX’s technology company original listing standards: an issuer

¹³⁵ TSX Regulatory Notice 2000-018, *supra* note 5 at 4639.

with a short operating history, few tangible assets and little or no historical revenues and/or earnings.

While it is difficult to draw a direct comparison because of the different financial measures used in each set of listing standards, generally the TSX's technology company listing standards are lower in quantitative terms than the Nasdaq National Market and the NYSE listing standards set out in the appendix, and generally equivalent to the Nasdaq SmallCap standards.

V. HOT ISSUE MARKETS AND STOCK EXCHANGE RESPONSES

A. *Hot Issue Markets*

“Hot issue” markets received their first academic consideration in 1975, when Ibbotson and Jaffe defined “hot issues” as underpriced stock offerings (typically IPOs of common shares) and “hot issue markets” as “periods in which the average first month performance (or aftermarket performance) of new issues is abnormally high”.¹³⁶ Ibbotson and Jaffe are widely credited with being the first to document that public equity markets demonstrate recurring periods in which IPOs of common shares show extraordinarily high levels of underpricing, generally leading extraordinary increases in IPO volume by approximately six months.¹³⁷ There is a large literature documenting hot issue markets and speculating as to their causes, although Ibbotson and others concluded in 1994 that “[r]ational explanations for the existence of hot issue markets are ... difficult to come by.”¹³⁸ One theory that reconciles three well-known IPO phenomena – underpricing, hot issue markets and long-run underperformance – was put forward by Ibbotson, Sindelar and Ritter in 1994:

We argue that these anomalies are interrelated in the following sense: periodic overoptimism by investors creates ‘windows of opportunity’ during which many firms rush to markets, which results in disappointing returns to long-term investors when the issuers fail to live up to overly optimistic expectations. ... The above patterns, moreover,

¹³⁶ Roger G. Ibbotson & Jeffrey F. Jaffe, “‘Hot Issue’ Markets” (1975) 30 J. Fin. 1027 at 1027. Loughran and Ritter define a hot issue market as “a month in which the average first day return is above the median month’s first day return.” Tim Loughran & Jay R. Ritter, “Why Don’t Issuers Get Upset About Leaving Money on the Table in IPOs?” (2002) 15 Rev. Fin. Stud. 413 at 433.

¹³⁷ Jay R. Ritter & Ivo Welch, “A Review of IPO Activity, Pricing and Allocations” (2002) 57 J. Fin. 1795 at 1800.

¹³⁸ Roger G. Ibbotson, Jody L. Sindelar & Jay R. Ritter, “The Market’s Problem with the Pricing of Initial Public Offerings” (1994) 7 J. Applied Corp. Fin. 66 at 72. Writing eight years later, Loughran and Ritter argued that “[c]urrently the literature offers no explanation that is consistent with rational behaviour on the part of investors that can generate this positive autocorrelation [among monthly average first day returns].” Loughran & Ritter, *supra* note 136 at 433. Loughran and Ritter put forward “prospect theory” as an equilibrium (i.e. rational) explanation for hot issue markets, arguing that a rise in the market generally will lead to an increase in expected underpricing of all IPOs that are in the selling period.

are much more pronounced for smaller, younger companies going public than for their older, more established counterparts.¹³⁹

Ljungqvist, Nanda and Singh echo this explanation of the three principal IPO anomalies by reference to market imperfections and irrational investor behaviour. Their model demonstrates that constraints on short sales in connection with IPOs (resulting from implicit and explicit penalties imposed on initial investors for “flipping” IPO securities, as well as contractual lock-up provisions that prohibit insiders and other pre-IPO shareholders from selling their securities following the IPO) allow a class of “irrationally exuberant investors” to drive the prices of IPO securities up, resulting in initial underpricing and long-run underperformance.¹⁴⁰ Underpricing is also used in their model to compensate initial investors in the IPO (regular institutional clients of underwriters) for the risk associated with carrying inventory after the IPO as they restrict supply of issued shares to maintain prices (the chief risk is that the hot issue market will end before the initial investor can unload its stake at a premium). Their model is based, then, on rational (or equilibrium) responses by issuers, underwriters and rational investors to the presence of irrationally exuberant investors in the IPO market.

This account is consistent with that put forward much earlier by Aggarwal and Rivoli, who argued that positive abnormal returns from IPOs were due not to underpricing of the offering relative to its intrinsic value, but rather by inefficiencies in the aftermarket for IPO securities that caused them to be overvalued in that market. They argue that their evidence is consistent with irrational “fads” in the IPO aftermarket.¹⁴¹

¹³⁹ Ibbotson, Sindelar & Ritter, *supra* note 138 at 66.

¹⁴⁰ Ljungqvist, Nanda & Singh, *supra* note 103 at 3.

¹⁴¹ Reena Aggarwal & Pietra Rivoli, “Fads in the Initial Public Offering Market?” [Winter 1990] *Fin. Mgmt.* 45.

Figure 1 reveals these patterns of severe underpricing leading jumps in IPO volume in U.S. data.¹⁴²

[Figure 1 here]

This figure is consistent with the consensus view in the literature that hot issue markets existed, in the U.S. at least, in the following periods:

- 1961,¹⁴³
- 1967-8,¹⁴⁴
- 1980,¹⁴⁵
- 1983-6,¹⁴⁶ and
- 1995-2000, with a spike in IPO underpricing in 1998-2000.¹⁴⁷

The common theme of the hot issue market phenomenon and other IPO “anomalies” is the inefficiency and frequent irrationality of IPO markets. This is consistent with Ritter and Welch’s prediction that “specific nonrational explanations and agency explanations will play a bigger role in the future research agenda” relating to fluctuations in IPO activity and underpricing, “particularly the excess of the Internet bubble period.”¹⁴⁸ The reference to bubbles is apt; Stiglitz defined a “bubble” as existing where “the reason that the price is high today is

¹⁴² This figure plots U.S. IPO data compiled by Jay Ritter and available on his website at <<http://bear.cba.ufl.edu/ritter/ipodata.htm>>.

¹⁴³ Jenkinson & Ljungqvist, *supra* note 14 at 48; Ibbotson, Sindelar & Ritter, *supra* note 138 at 68.

¹⁴⁴ Jenkinson & Ljungqvist, *supra* note 14 at 48; Ibbotson, Sindelar & Ritter, *supra* note 138 at 68.

¹⁴⁵ Jay R. Ritter, The “Hot Issue” Market of 1980 (1984) 57 J. Bus. 215 Jenkinson & Ljungqvist, *supra* note 14 at 48; Ibbotson, Sindelar & Ritter, *supra* note 138 at 68.

¹⁴⁶ Ibbotson, Sindelar & Ritter, *supra* note 138 at 68.

¹⁴⁷ See notes 150 to 153 and accompanying text.

¹⁴⁸ Ritter & Welch, *supra* note 137 at 1796.

only because investors believe that the selling price will be high tomorrow – when ‘fundamental’ factors do not seem to justify such a price”.¹⁴⁹

The Internet bubble of the late 1990s is arguably the longest and “hottest” hot issue market in history. Ritter and Welch provide representative statistics (all relate to U.S. data and are in U.S. dollars):

- “The 1980s saw modest IPO activity (about \$8 billion in issuing activity per year). In the 1990s, issuing volume roughly doubled to \$20 billion per year during 1990 to 1994, doubled again from 1995 to 1998, and then doubled again from 1999 to 2000 (\$65 billion per year), before falling to \$34 billion in 2001.”¹⁵⁰
- “Average first-day returns show a similar pattern, increasing from 7.4 percent in the 1980s to 11.2 percent in the early 1990s, to 18.1 percent in the mid-1990s, and to 65.0 percent in 1999 and 2000, before falling back to 14.0 percent in 2001.”¹⁵¹
- “... the percentage of technology firms increased from about 25 percent of the IPO market in the 1980s and early 1990s to 37 percent after 1995 and an amazing 72 percent during the Internet bubble, before returning to 29 percent in 2001.”¹⁵²
- “The increase in the percentage of technology firms over time is mirrored in the number of firms with negative earnings in the 12 months prior to going public. In the 1980s, only 19 percent of firms had negative earnings before going public.

¹⁴⁹ Joseph E. Stiglitz, “Symposium on Bubbles” (1990) 4 J. Econ. Persp. 13 at 13 (emphasis in original).

¹⁵⁰ Ritter & Welch, *supra* note 137 at 1796.

¹⁵¹ *Ibid.*

¹⁵² *Ibid.* at 1800-1.

This gradually increased to 37 percent by 1995 to 1998, and then rose precipitously to 79 percent during the Internet bubble.”¹⁵³

Hot issue markets are bad for you if you are a retail investor without privileged access to IPO allocations. Ritter and Welch calculate “market adjusted” average 3-year buy-and-hold returns on IPOs as -23.4% for the period from 1980-2001, but -32.3% for the period from 1995-8 and -34.3% for the period from 1999-2000. Even worse is a hot issue market in growth-oriented, early-stage firms like those that dominated the Internet bubble: Ritter and Welch note that long-run underperformance extends outside the IPO market to “small growth firms”, which they characterize as the “worst performing style category of last several decades”¹⁵⁴

Predictably, there is much less Canadian data on IPO underpricing, volumes, long-run performance and hot issue markets. IPOs in Canada do display underpricing, although to a much lesser extent than U.S. IPO markets.¹⁵⁵ Kooli and Suret studied IPO underpricing in Canada and found average underpricing of 20.57% for the period from 1991-8.¹⁵⁶ In another study of the same period, Kooli and Suret found this underpricing and five-year underperformance of 24.66% to be consistent with “the hot issue market story”¹⁵⁷ that “firms take advantage of windows of

¹⁵³ *Ibid.* at 1801.

¹⁵⁴ *Ibid.* at 1817.

¹⁵⁵ Jenkinson and Ljungqvist present a table summarizing comparative evidence of IPO underpricing that provides a rough guide (data and methodologies are obviously not equivalent across the studies they report): Jenkinson & Ljungqvist, *supra* note 14 at 38. The Canadian results report average underpricing of 7.4% (1971-92) and 7.2% (1993-9), compared to 15.3% (1960-92), 14.8% (1977-92) and 47.8% (1977-82). Jog reported average underpricing of 8.3% for the period 1971-1994: Vijay M. Jog, “The Climate for Canadian Initial Public Offerings” in Paul Halpern, ed., *Financing Growth in Canada* (Calgary: University of Calgary Press, 1997) 357 at 363.

¹⁵⁶ Maher Kooli & Jean-Marc Suret, “The Underpricing of Initial Public Offerings: Further Canadian Evidence” (working paper, undated) at 3.

¹⁵⁷ Maher Kooli & Jean-Marc Suret, “The Aftermarket Performance of Initial Public Offerings in Canada” (working paper, undated) at 30.

opportunity by issuing equity during hot issues periods”.¹⁵⁸ Jog and Wang estimated underpricing in Canada to be less severe, reporting average underpricing of 12% for the period 1990-9, 11.94% for the period 1990-4 and 12.06% for the period 1995-9.¹⁵⁹ Jog also calculated the long-run performance of Canadian IPOs between 1971-92 as significantly underperforming the market over the six years following the IPO.¹⁶⁰

My argument is also, however, that hot issue markets are good for you if you are a shareholder in a stock exchange or if you otherwise have a claim on exchange revenues, provided the exchange can participate in the particular issuer or industry segment that is experiencing the elevated underpricing and IPO volumes. I base this argument on the following characteristics of securities issued in hot issue market IPOs: increased trading volume and turnover, leading to increased trading fees and lower risk for specialists; and increased volatility around increased share prices, leading to increased trading fees.

I consider each of these claims in turn, first to argue that technology company IPO listings were associated with increased trading volumes, turnover, volatility and share prices during the late 1990s, and second to argue that these characteristics benefited the TSX and its shareholders at the expense of retail investors without preferential access to IPO allocations.¹⁶¹ I also argue that the TSX’s consumption of reputational capital in order to exploit the Internet bubble prejudiced issuers already listed on the TSX.

¹⁵⁸ *Ibid.* at 4.

¹⁵⁹ Jog & Wang, *supra* note 125 at 235.

¹⁶⁰ Jog, *supra* note 155 at 369.

¹⁶¹ See Barry Riley, “Risks without the reward”, *Financial Times* (8 December 2001) (WL): “But during the bubble in the late 1990s old exchanges changed their rules, and new exchanges sprang up, pursuing a competitive degradation of listing standards in order to trade large numbers of new enterprises often consisting of nothing more than hypothetical business plans. It was, arguably, what many investors wanted at the time.”

1. Increased Trading Volume and Turnover and Their Impact on Exchange Revenues

Anecdotal evidence began to emerge during the hot issue market for technology companies that trading in technology companies' shares was associated with increased volume and turnover. The anecdotal evidence includes a report that the time for a complete turnover in shares of Amazon.com, Inc. (i.e. for trading volume to equal the number of shares outstanding) was 58 days in mid-1997, 22 days in August 1998 and 13 days in December 1998.¹⁶² Trading in technology company shares represented a share of trading volume on Nasdaq and even on the NYSE that greatly exceeded their representation as a percentage of listed companies by number.¹⁶³

Recent academic studies have reached conclusions consistent with this anecdotal evidence. Ofek and Richardson found that the average volume of trading was approximately three times greater for Internet firms during the period from January 1998 to February 2000, and estimate that pure Internet firms represented 6% of the market capitalization of public equity markets in February 2000 but accounted for 19% of daily volumes.¹⁶⁴ Over their study period, Ofek and Richardson report that the share of trading volume captured by Internet companies never fell below the share of market capitalization of those same companies, and that the difference peaked at approximately 18% in March 1999.¹⁶⁵

¹⁶² George Anders, "Self-Made Mania: To Find Out Why Internet Stocks are So Hot, Just Log On" *Wall Street Journal* (4 January 1999) A1.

¹⁶³ The Wall Street Journal reported that trading in the shares of ten technology companies represented 20% of total trading (by volume) on the NYSE between January and November of 1999, and that trading in technology company shares represented approximately 2/3 of the total volume for the 200 most-traded securities on Nasdaq in November 1999. Greg Ip & Gregory Zuckerman, "Techsploitation: Media, Investors Learn the Joy of Techs, Forget Other Sectors" *Wall Street Journal* (6 December 1999) C1.

¹⁶⁴ Eli Ofek & Matthew Richardson, "The Valuation and Market Rationality of Internet Stock Prices" (2002) 18 *Oxford Review of Econ. Pol.* 265 at 268 [Ofek & Richardson, "Valuation"].

¹⁶⁵ *Ibid.* at 269 (Figure 2).

Carvalho, Durand and Ng studied a sample of Australian Internet companies (21 companies drawn from the Merrill Lynch (Australia) Internet Index) and found unusually high share turnover in the period between September 21, 1999 and March 29, 2000. Securities in their sample experienced average daily turnover during that period of 1.2% (i.e. daily trading volumes represented 1.2% of the total number of shares outstanding), compared to 0.58% for a control portfolio of securities drawn from the top 30% of ASX-listed securities by turnover.¹⁶⁶ The authors interpret their results as “*prima facie* evidence of irrationality in the market for Australian Internet stocks” because such securities do not satisfy what they consider to be conventional criteria for highly liquid securities (large and stable earnings streams, low price volatility and high quality financial disclosure).¹⁶⁷ This heightened trading activity in Internet and technology company securities has been attributed to a high level of participation by retail investors most likely to engage in noise trading.¹⁶⁸

A fortiori, increased trading volumes and turnover caused by large amounts of noise trading enhances the revenues of the exchange on which a security is listed. The direct benefit to the exchange comes in the form of increased aggregate variable trading fees. To the extent that they perform brokerage operations, participating organizations also benefit from increased trading commissions. Indirect benefits to exchanges organized as auction markets (like the TSX and the NYSE) accrue to the specialists in technology company securities, who get the benefit of exaggerated volumes and abundant liquidity. Indirect benefits to markets organized as dealer

¹⁶⁶ Jean-Paul Carvalho, Robert B. Durand & Hock Guan Ng, “Australian Internet Stocks: Were They Special?” (undated working paper) at 16.

¹⁶⁷ *Ibid.* at 22.

¹⁶⁸ Brad M. Barber & Terrance Odean, “The Internet and the Investor” (2001) 15 J. of Econ. Perspectives 41; John R.M. Hand, “The Role of Book Income, Web Traffic, and Supply and Demand In the Pricing of U.S. Internet Stocks” (2001) 5 European Finance Review 295 at 300; and Eli Ofek & Matthew Richardson, “DotCom Mania: The Rise and Fall of Internet Stock Prices” Journal of Finance (forthcoming June 2003).

markets (like Nasdaq) accrue to market makers, for whom the risks of trading with informed investors (i.e. an investor who may be trading on the basis of relevant information that the market maker does not possess) are reduced to the extent that trading is dominated by uninformed noise traders.

2. Increased Volatility and Share Prices and Its Impact on Exchange Revenues

Trading in technology company securities was also associated with heightened levels of price volatility and price to earnings (“P/E”) ratios. With respect to price volatility, Ofek and Richardson estimate that trading in Internet company securities displayed significant excess volatility (which they define as “the volatility in prices that does not correspond to that implied by the underlying fundamentals”¹⁶⁹); between January 1998 and February 2000, they estimate that trading in Internet company securities featured average daily volatility of 7.4% and median daily volatility of 7.3%, as compared to average and median volatility for non-Internet stocks of 3.5% and 3.0%, respectively.¹⁷⁰ They also report that the median daily high-low value for Internet company securities was 9.9% (compared to 3.25% for non-Internet company securities) for the same period, meaning that “over a two-year period, stock prices ranged close to 10% per day over an entire sector of the economy.”¹⁷¹

With respect to P/E ratios, several claimed anomalies support this assertion.¹⁷² Shiller famously adopted Federal Reserve Chairman Alan Greenspan’s phrase “irrational exuberance” to

¹⁶⁹ Ofek & Richardson, “Valuation”, *supra* note 164 at 278.

¹⁷⁰ *Ibid.* Ofek and Richardson consider and reject the explanation that this volatility is rational due to private information. *Ibid.* at 280.

¹⁷¹ *Ibid.* at 279.

¹⁷² Numerous instances of new economy subsidiary carve-outs being attributed a valuation that exceeds that of their parent have been documented. See Bradford Cornell & Quao Liu, “The parent company puzzle: when is the whole worth less than one of the parts?” (2001) 7 J. of Corporate Fin. 341; Owen Lamont & Richard Thaler, “Can the Market Add and Subtract?: Mispricing in Tech Stock Carve-Outs (working paper, May 2001); Michael J. Schill & Chungsheng Zhou, “Pricing an Emerging Industry: Evidence from Internet Subsidiary Carve-Outs” (2001) 30

encapsulate his thesis that equity markets in general had “been bid up to unusually high and unsustainable levels under the influence of market psychology”¹⁷³ and identified Internet company securities as the source of many contemporary examples of “financial prices that, it seems, cannot possibly be right.”¹⁷⁴

Markets as a whole were not insulated from the impact of these apparently anomalous price levels by the relative illiquidity of the affected securities, as is often the case (indeed, illiquidity is often identified as the cause of such price anomalies). As the data on the volume of trading in technology company shares indicates, a large number of trades were taking place at prevailing prices.¹⁷⁵

Again, the increased volatility and share prices associated with the market for technology company shares enhances exchange revenues to the extent that those revenues are based on the market capitalization of the issuer and the value of trading in that issuer’s securities. When technology companies complete their initial listing, or list the securities issued in a subsequent equity offering, the listing fees received by the exchange are based on that arguably inflated per-share value. Similarly, when the listed securities of technology companies are traded on the exchange, even at normal volumes, the trading fees received by the exchange are based on that same per-share value. While both listing and trading fees are subject to caps, the exchange benefits disproportionately (relative to other types of listed securities) from a large volume of retail trading in technology company shares, since a larger number of smaller, retail trades would

Financial Management 5; and Mark Mitchell, Todd Pulvino & Erik Stafford, “Limited Arbitrage in Equity Markets” (2002) 57 *Journal of Finance* 551.

¹⁷³ Robert Shiller, *Irrational Exuberance* (New York: Broadway Books, 2000) at 4.

¹⁷⁴ *Ibid.* at 175.

¹⁷⁵ Ofek & Richardson, “Valuation”, *supra* note 164 at 266.

generate more revenue under a per-trade fee cap than a smaller number of larger, institutional trades that would be more likely to exceed the cap.

B. Case Studies – Stock Exchange Reactions to Hot Issue Markets

This section describes other instances of stock exchanges consuming reputational capital in response to competitive pressures. First, I review the LSE's introduction of new listing standards designed to facilitate the listing of biotech companies at a time when U.K. biotech firms were going public on the Nasdaq market. Next, I look at the NYSE's changing relationship with the IPO market during the hot issue market of 1983 and then again in 1994. I also review the saga of the NYSE and dual class capital structures, in which the NYSE departed from its longstanding "one share one vote" policy in response to competition from Nasdaq and Amex. In all of these cases, existing exchange rules restricted the exchange's ability to exploit a developing market segment, and the exchange's response was to change those rules in order to be able to access that segment.

1. The London Stock Exchange and Biotech Listings - 1993

As appears to have been the case with the TSX and technology companies, the LSE first admitted biotech companies to its senior "Official List" on a discretionary basis in response to requests to waive or not apply its listing standards to such companies based on exigent circumstances. In the LSE's case, it was British Biotechnology Ltd. that was first listed in 1992 on an exceptional basis, the LSE waiving its listing requirement that applicants have a three-year record of earning revenues from their main business activity.¹⁷⁶ The LSE at the time also

¹⁷⁶ The requirement at the relevant time was contained in s. 3.6 of the LSE's Listing Rules.

operated a junior market – the Unlisted Securities Market (“USM”) – but the USM was seen as a failure,¹⁷⁷ and the LSE decided to close the USM in 1993 and formally closed it in late 1996.¹⁷⁸

Following the listing of British Biotech Ltd., the LSE listed other biotech firms notwithstanding that they did not meet the LSE’s revenue requirements.¹⁷⁹ Contemporaneous media reports attributed the LSE’s actions in part to competition from the Nasdaq market and Amex’s newly-created Emerging Company Marketplace for biotech IPO listings.¹⁸⁰ Commentators also raised concerns about the LSE’s concessionary listing of biotech companies.¹⁸¹

In late November 1993, the LSE introduced new listing rules for “scientific research based companies” in Chapter 20 of The Listing Rules. In place of a three-year revenue record, the LSE imposed numerous additional requirements, relating to the “ability to attract funds from sophisticated investors”, minimum offering size, minimum capitalization prior to the offering, the firm’s achievement of “significant commercial milestones,” executive and officer experience, and post-IPO lockups on insiders and major shareholders. In addition, the applicant was required to “have as its primary reason for listing the raising of finance to bring identified products to a stage where they can generate significant revenues”.¹⁸²

¹⁷⁷ “Biorhythms” *Economist* (3 July 1993) 74.

¹⁷⁸ Bank of England, *Finance for Small Firms: A Seventh Report* (2000) 59.

¹⁷⁹ Between the listing of British Biotech Ltd. in 1992 and the introduction of the new listing rules in late November 1993, the LSE listed ___ additional biotech firms.

¹⁸⁰ “AMEX aims for European listings” *Biotechnology Business News* (8 June 1993) 5; “Mixed views on new LSE biotechnology regulations” *Biotechnology Business News* (3 December 1993) 1.

¹⁸¹ An article in the *Economist* noted that “Some analysts fear that the exchange, which is hardly familiar with the ins-and-outs of cloning and genetic manipulation, has become too easygoing.” The same author noted that “Despite risk warnings, ordinary punters tend to assume that a stock exchange listing for a biotech firm constitutes some kind of endorsement.” “Biorhythms” *Economist* (3 July 1993) 74.

¹⁸² London Stock Exchange, *The Listing Rules* (1997) at Chapter 20.

Much like the TSX experience with the research and development company listing standards, however, the LSE found that it had not lowered the bar enough, and only two months after introducing the Chapter 20 rules, the LSE created in January 1994 a working party to review the requirements to further encourage and enable biotech listings.¹⁸³ The results of this working party's efforts appear to have been superseded by the LSE's introduction of the Alternative Investment Market ("AIM") – a replacement for the defunct USM – in late 1994.¹⁸⁴

Also much like the TSX response to the hot issue in technology company securities in the late 1990s and 2000, the LSE revisited its listing requirements in January 2000 to further accommodate technology companies that sought admission to the senior market rather than AIM. The LSE offered "innovative, high growth companies" a "concessionary route to listing", waiving the requirement for a three-year operating history in favour of minimum offering size and market capitalization requirements, as well as enhanced disclosure and quarterly reporting requirements.¹⁸⁵

2. The NYSE and IPOs – 1983 and 1994

Until 1983, the NYSE's original listing standards effectively excluded IPOs from listing on the exchange. The NYSE required firms applying for listing to demonstrate that the listed securities met exchange requirements for numbers of publicly-held shares and round-lot public shareholders. While these requirements were straightforward for firms that were already listed

¹⁸³ Michael Tate, "Biotech rush to market" *The Guardian* (30 January 1994) 2.

¹⁸⁴ Commentators had called for the LSE to segregate biotech firms in a separate market for emerging companies: "It [the LSE] needs to balance investor protection against a desire not to starve biotechnology firms of capital – and not to let too many go to rival markets. One answer may be to find an alternative to the USM." "Biorhythms" *Economist* (3 July 1993) 74. See also Michael Tate, "Tower vets new biotech rules" *The Guardian* (3 July 1994) 2, and Susan Charles & Mike Wort, "Financing Biotechnology in the UK – Changing Attitudes" *Diagnostics and Biotechnology Matters* (1 October 1994) [no pages available] regarding the activities of the working party. Reports of the creation of the AIM market began in September 1994; see "London Exchange Seeks an Alternative to Lure Small Stocks" *Wall Street Journal* (7 September 1994) A10.

¹⁸⁵ London Stock Exchange, *Note to Subscribers to the Listing Rules – Amendment No. 14* (2000) at 6.

on Nasdaq or on a regional exchange, they were problematic for firms applying for listing in connection with an IPO who could not, for obvious reasons, demonstrate compliance at the time of the application. The NYSE changed its requirements to permit the underwriter for the offering to certify, in advance of the closing of the offering and the distribution of the IPO securities, that the requirements would be met.

Following this change, the NYSE enjoyed a substantial increase in the number of IPO listings. Corwin and Harris document the shift in the IPO listing market following the NYSE's action: an overwhelming majority (386 of 398 IPOs recorded by Security Data Company ("SDC")) of IPOs in 1981 and 1982 chose Nasdaq. By 1989, the NYSE had captured over 30% of IPOs, and for the period between 1981 and 1996, the NYSE captured 17.7% of IPOs recorded by SDC, compared to 77.7% captured by Nasdaq and 4.6% captured by Amex and regional exchanges.¹⁸⁶ The NYSE did even better with large IPOs (proceeds of at least US\$40 million), peaking at over 80% in 1989.¹⁸⁷

Corwin and Harris further state that the NYSE "began to aggressively target IPO firms for listings" in the early 1990s, the exchange's action again arguably coinciding with a hot issue market in the U.S.¹⁸⁸

3. The NYSE and Dual Class Capital Structures

The story of the NYSE's policy respecting dual class capital structures and SEC Rule 19c-4 is not necessarily an illustration of stock exchange responses to hot issue markets, but it does reveal the extent to which exchanges' concern with their own viability may lead them to

¹⁸⁶ Shane A. Corwin & Jeffrey H. Harris, "The Initial Listing Decisions of Firms That Go Public" (Spring 2001) *Fin. Mgmt.* 35 at 36-8.

¹⁸⁷ *Ibid.*

¹⁸⁸ *Ibid.* Corwin and Harris do not document the reported change in the NYSE's attitude towards IPOs, and my research has yet to uncover supporting evidence for their statement.

sacrifice reputational capital and compromise their gatekeeping credentials in order to stem a flow of liquidity away from the exchange.

Between 1926 and 1994, the NYSE's original listing standards and continued listing standards prohibited a listed company from having a capital structure that included nonvoting common stock or more than one class of common stock having disparate voting rights.¹⁸⁹ A company doing an IPO could not get a listing on the NYSE if its capital structure had either of these features, and the NYSE would delist a company that amended its charter to introduce either of these features.¹⁹⁰ The NYSE also would not allow a listed company to create a class of common stock that had the effect of restricting the voting power of the company's outstanding common stock.¹⁹¹ In contrast to the NYSE's position, Nasdaq and Amex permitted dual class capital structures. Nasdaq rules did not impose any limitations on the capital structures of companies seeking a listing or companies that were already listed.¹⁹² Amex rules imposed restrictions on the extent to which voting power could be restricted.¹⁹³

¹⁸⁹ Roberta S. Karmel, "Qualitative Standards for 'Qualified Securities': SEC Regulation of Voting Rights" (1987) 36 Cath U.L. Rev 809 at 816.

¹⁹⁰ *Ibid.* at 817.

¹⁹¹ *Ibid.*

¹⁹² *Ibid.* at 820. This regulatory approach was supported by a study commissioned by Nasdaq and performed by Daniel Fischel (later published in the University of Chicago Law Review). Fischel asserted that IPOs of restricted stock never harmed investors because investors would discount the value of the offered stock to take the restricted voting rights into account, but that investors *could* be harmed by recapitalizations that create a class of restricted voting stock that is then offered to existing shareholders or new investors; such recapitalizations may have the effect of creating or protecting insider control and thereby impeding takeovers: Daniel R. Fischel, "Organized Exchanges and the Regulation of Dual Class Common Stock" (1987) 54 U. Chi. L. Rev. 119 at 147. After reviewing available empirical research, Fischel argued that it demonstrated that recapitalizations introducing dual class capital structures, and exchange listing rules that permitted them, had been beneficial for investors in certain types of companies, namely companies with significant existing insider voting power and concentrated share ownership. *Ibid.* at 148. In one respect, then, my thesis runs counter to Fischel's analysis of IPOs of restricted voting stock, in that I argue that the market for technology company IPOs was marked by inefficient noise trading and that the characteristics of the companies listed by the TSX were not adequately priced.

¹⁹³ Amex would not list or permit listed companies to issue non-voting common stock, but would permit subordinate voting stock so long as the company's capital structure conformed to what was called the "Wang Formula," named for Wang Corp., the first beneficiary of the permissive rule and a company that was denied a listing on the NYSE because of its dual class capital structure. Karmel, *supra* note 189 at 820. The "Wang Formula" limited the ratio of

In the mid 1980s, the NYSE's commitment to the "one share, one vote" policy wavered. Beginning in June 1984, the NYSE had observed a moratorium on delisting companies that did not comply with these continued listing standards,¹⁹⁴ and in 1986 proposed to change its listing rules¹⁹⁵ to permit recapitalizations creating a class of subordinate voting stock and to permit IPOs of subordinate voting stock.¹⁹⁶ Prior to the 1986 proposal, the then-Chairman of the NYSE affirmed that the NYSE still believed that the one share, one vote rule was the most desirable rule for listed companies, their investors and the country, but stated that "the national competitive environment may very well preclude the Exchange from unilaterally retaining one share, one vote".¹⁹⁷ In public statements at the time of the proposal, the NYSE stated that it would continue its prohibition of dual class capital structures only if other exchanges voluntarily adopted the prohibition or were forced to do so by federal regulation.¹⁹⁸ For its part, Amex's position was that the NYSE's proposed change would be detrimental to the U.S. capital markets in general, and Amex in particular. The particular effect on Amex would be a "substantial" loss

voting rights as between non-restricted and restricted stock to ten to one and required that the holders of the subordinate voting class must have the ability, voting as a class, to elect not less than 25% of the members of the board of directors. *Ibid.* and Joel Seligman, "Equal Protections in Shareholder Voting Rights: The One Common Share, One Vote Controversy" (1987) 54 Geo. Wash. L. Rev. 687 at 704.

¹⁹⁴ Karmel, *supra* note 189 at 820.

¹⁹⁵ The specific incident that prompted the NYSE action was General Motors Corporation's decision in 1984 to issue, in connection with its acquisition of EDS Corporation, a second class of common stock that would carry one-half of the voting rights of the existing class of common stock, and the effect that delisting General Motors (and the company's likely response of listing on the Nasdaq National Market) would have had on NYSE listing fees and trading commissions. Stephen M. Bainbridge, "The Short Life and Resurrection of SEC Rule 19c-4" (1991) 69 Wash. U. L.Q. 565 at 576 n.54 and Gordon, *supra* note 18 at 71.

¹⁹⁶ The recapitalization had to be approved by a majority of the company's "public" shareholders (shareholders who were not officers, directors or members of an officer's or director's immediate family, and who did not hold 10% or more of the company's voting equity securities) and a majority of the company's independent directors. These extraordinary approval requirements would not apply to companies applying to list on the NYSE in connection with an IPO where shares of the class of restricted voting were outstanding at the time of the IPO, and in all cases non-voting common stock would still be prohibited: Karmel, *supra* note 189 at 818-819.

¹⁹⁷ *Ibid.* at 819.

¹⁹⁸ Fischel, *supra* note 192 at 121.

of revenue if Amex companies with dual class capital structures, or that were considering implementing dual class voting structures, left Amex for the NYSE because of the NYSE's new acceptance of dual class capital structures.¹⁹⁹ Amex proposed that each of the NYSE, Amex and Nasdaq should be subject to federal regulation imposing a uniform one share, one vote requirement.²⁰⁰

Others agreed that federal intervention was required to change the outcome of this competitive process and its impact on the gatekeeping function performed by the NYSE. Legislation was introduced in Congress that was consistent with the NYSE's one share, one vote rule but that would also have applied to Amex and the Nasdaq National Market.²⁰¹ The SEC enacted Rule 19c-4 under its statutory authority to regulate securities exchanges.²⁰² The issue was eventually resolved by a 1994 agreement among the SEC, the NYSE, Amex and Nasdaq that the Chairman of the SEC described as ending "the possibility of a 'race to the bottom' in shareholder voting rights".²⁰³ The race for the bottom thesis was also shared by the Congressional sponsors of the proposed 1985 legislation, who adopted the phrase in

¹⁹⁹ Karmel, *supra* note 189 at 820.

²⁰⁰ *Ibid.* at 819.

²⁰¹ S. 1314, 99th Cong., 1st Sess. (1985); H.R. 2783, 99th Cong., 1st Sess. (1985).

²⁰² 17 C.F.R. § 240.19c-4 (1990). Rule 19c-4 prohibited any recapitalization, distribution or other action that would have "the effect of nullifying, restricting or disparately reducing the per share voting rights of holders of an outstanding class or classes of common stock" registered under the Securities Act of 1933. 17 C.F.R. § 240.19c-4(a) (1990). Issuers were permitted to effect an initial public offering of subordinate voting shares, or to create and issue in a registered public offering a class of subordinate voting shares (with shareholder approval). 17 C.F.R. § 240.19c-4(d)(1) and (2) (1990). The D.C. Circuit Court of Appeals later struck down rule 19c-4 on the ground that it represented an unauthorized attempt by the SEC to regulate internal corporate governance matters through the mechanism of federal securities regulation. *Business Roundtable v. SEC*, 905 F.2d 406 (D.C. Cir. 1990).

²⁰³ "SEC Approves New Voting Rights Rule, Adopts Rule Streamlining SRO Regulation" (1994) 26 Sec. Reg. & L. Rep. 1708. The Chairman of the SEC at the time of the announcement was Arthur Levitt, who nine years earlier had supported a universal one share, one vote rule as Chairman of Amex: Karmel, *supra* note 189 at 820.

Congressional debates and press releases relating to the proposed legislation,²⁰⁴ and by the NYSE itself in describing its reluctance to change its rules.²⁰⁵

I do not assert that the NYSE's policy change on dual class capital structures – developed over the period from 1983 to 1994 – was instigated by a hot issue market (although a hot issue market did occur at the beginning of that period²⁰⁶). This episode does, however, illustrate that listing standards – in this case, qualitative continued listing standards as opposed to the quantitative original listing standards that are my focus – are a competitive tool for exchanges, and that exchanges are willing to consume reputational capital by relaxing listing standards in response to competitive pressures.

4. Other Exchanges and the Internet Bubble

Examples abound of other exchanges, large and small, jumping on the technology company bandwagon in the late 1990s and 2000. One report catalogued these actions:

- Amsterdam Exchanges listed the shares of World Online International NV, an Internet service provider that was immediately after its IPO embroiled in various scandals relating to pre-IPO events that severely depressed its stock price.²⁰⁷
- Amsterdam Exchanges reduced its original listing standards for technology companies (reducing minimum requirements relating to capitalization and

²⁰⁴ Quoted in Karmel, *supra* note 189 at 819 n.67.

²⁰⁵ See *supra* note 197 and *supra* note 203.

²⁰⁶ See Figure 1.

²⁰⁷ See Neal E. Boudette & John Carreyrou, "Dutch Investors Take Out Rage on Web IPO - Traders Blast Chairwoman Who Sold Her Shares; World Online Sells Off" *Wall Street Journal* (10 April 2000) A26; Neal E. Boudette & John Carreyrou, "The Meteoric Rise and Precipitous Fall of a European Internet Star" *Wall Street Journal* (14 April 2000) B1; John Carreyrou & Helen de Graaf, "Demands, Threats Marked IPO Of World Online, ABN Concedes" *Wall Street Journal* (27 April 2000) A22; Neal E. Boudette, "Ills Deepen for World Online's Ventures" *Wall Street Journal* (2 May 2000) A21; Neal E. Boudette, "Microsoft Aide Picked to Run World Online After IPO Mess" *Wall Street Journal* (11 May 2000) A18; and Neal E. Boudette, "World Online's Founder Played a Role in Failed Firms – IPO Prospectus for Dutch Concern Didn't Note Links" *Wall Street Journal* (16 May 2000) A21.

operating history) – a spokesperson for Amsterdam Exchanges was quoted as saying “The problem is that New Economy companies were going to other exchanges.”²⁰⁸

- The Paris Bourse waived its operating history and minimum public float requirements to permit LibertySurf Groupe SA, a Internet service provider, to list on that exchange.²⁰⁹
- The LSE was reported to have waived its listing rules to allow FreeServe PLC, an Internet service provider spun off from its parent Dixons Group PLC, to join the Official List.²¹⁰

²⁰⁸ John Carreyrou, “Troubled Offering is Warning Signal to Europe’s Major Stock Exchanges” *Wall Street Journal* (10 April 2000) A26. The same author quotes an unnamed investment banker as saying that institutional investors “encouraged the exchanges to loosen their rules in their hunger to make a killing on these dot-com offerings.” John Carreyrou, “Listing Rules Spark Criticism – Holders Group Says Rush to Receive Web Shares Breeds Lower Standards – World Online’s Troubled IPO Services as Warning to Bourses” *Wall Street Journal Europe* (10 April 2000) 15.

²⁰⁹ *Ibid.*

²¹⁰ *Ibid.*

VI. ALTERNATIVES

I have argued that the TSX's actions in introducing new original listing standards for technology companies was driven by its shareholders' desire to exploit a hot issue market dominated by noise traders, in order to capture the listing and trading revenues associated with technology company IPOs and the benefits to TSX specialists of operating in a market of largely uninformed retail investors. I have also argued that this is an instance in which the outcome of the market for regulation was not efficient because of the gross inefficiency affecting the IPO market being regulated, which the TSX's actions did nothing to ameliorate.

What alternatives were open to the TSX, and remain open to the TSX in advance of the next hot issue market?²¹¹ There were, and remain, three avenues open to the TSX: eliminating listing standards, transferring the responsibility for setting listing standards to an independent entity, and establishing a separate market segment for companies that do not meet its existing listing standards. I will briefly consider each of these in turn.

First, we could decide that exchanges no longer play a meaningful certification role and eliminate quantitative and qualitative original listing standards – the criteria for listing would be limited to the ability to complete an initial public offering (either at the time of the listing, in the case of firms that list in connection with their IPO, or at some time in the past, in the case of firms that are already reporting issuers but wish to become listed), and compliance with the exchange's ongoing qualitative listing requirements (i.e. those relating to firm governance, disclosure, pre-approval of transactions, etc.).

²¹¹ Arguably, that market has already arrived in the form of the exploding Canadian income trust IPO market. That market is the subject of a current research project by the Capital Markets Institute at the University of Toronto with research results expected in mid-2003.

For the reasons I outline in Part II, defending my interest in this subject notwithstanding what appears to be widespread academic indifference to it, I do not see this as a feasible option. I think that Chemmanur and Fulghieri's observation that quantitative original listing standards impose an upper bound on the variance of the intrinsic values of IPO firms²¹² is important. Listing on a stock exchange that applies quantitative original listing standards narrows in a useful way the universe of investment opportunities which retail and institutional investors must consider.

The second alternative is that the TSX could divest its responsibility for setting quantitative original listing standards, as it divested its former responsibility for regulating trading activity.²¹³ I have already noted that responsibility for listing standards in the UK was transferred in 2000 from the LSE to the FSA, prompted by the proposed demutualization of the LSE and its associated transformation into a for-profit entity.²¹⁴ The concern that motivated the UK development was the precise sort of conflict of interest that I have alleged in this paper. Under the UK model, the FSA, in its capacity as the UK Listing Authority, sets the criteria for admission to listing. The LSE and other exchanges then set their own criteria for acceptance for trading. The transfer of authority therefore disaggregates the concepts of listing and trading, and raises new issues about the appropriate relationship between the two sets of rules. The FSA's discussion of the transfer highlights the fact that exchanges like the LSE might decide to impose

²¹² Chemmanur & Fulghieri, *supra* note 16 at 272.

²¹³ See note 35 and accompanying text.

²¹⁴ See notes 92 and 93 and accompanying text. See also Financial Services Authority, *Consultation Paper 37: The Transfer of the UK Listing Authority to the FSA* (London: Financial Services Authority, 1999).

no additional requirements for acceptance for trading, in which case concerns relating to investor protection and compliance with EU directives will arise under the listing standards.²¹⁵

There are two candidates to replace the TSX as the body responsible for setting original listing standards. First, the function could be devolved to RS Inc., to be exercised by RS Inc. along with its regulation of trading activity. However, the expertise within RS Inc. is focussed in market monitoring and enforcement, not in determining the appropriate demarcations between stock exchanges or stock exchange segments. The other candidate is the OSC, presently charged with primary responsibility for oversight of the TSX.

I make no claim that the expertise within the OSC is greater than that in the TSX with respect to the quantitative original listing standards. With appropriate personnel transfers and consultation, there is no reason to believe that it would, after a transitional period, be any less capable in this respect than the TSX. The advantage of the transfer would lie in eliminating the conflict of interest inherent in the TSX serving as a gatekeeper to the public secondary markets at the same time as it competes for trading volumes and liquidity with the NYSE and Nasdaq, and the incentives that the TSX's fee structure, like the fee structures of most exchanges, creates. Recall that in 2000 the TSX and TSX Venture were not under common ownership, so that the TSX's loss – in the form of foregone technology company IPO listings had it not lowered its original listing requirements – would have been TSX Venture's gain to the extent that technology companies that did not qualify for listing on the TSX elected to list on TSX Venture. If listing policy was set by the OSC or some other independent body, these distributional concerns would be irrelevant, as they should be from a social welfare perspective.

²¹⁵ Financial Services Authority, *Consultation Paper 37: The Transfer of the UK Listing Authority to the FSA* (London: Financial Services Authority, 1999) at 10. See also European Commission, *Directive 2001/34/EC on the admission of securities to official stock exchange listing and on information to be published on those securities* (28 May 2001).

The final alternative is creating a separate market for smaller, growth-oriented companies who may graduate to the senior exchange. The obvious model is the Nasdaq SmallCap market, which is a liquid, active market for firms that do not meet the listing criteria for the Nasdaq National Market. European exchanges have a long and overwhelmingly negative experience with feeder markets, however. Rasch documents the creation, initial successes and then failures of junior markets created in the UK, France, the Netherlands, Italy and Germany in the late 1980s and early 1990s.²¹⁶ More recently, the LSE established the AIM, and the Frankfurt Stock Exchange established the Neuer Markt. Following the pattern identified by Rasch, the Neuer Markt declined dramatically beginning in 2000, sparking demands for *increased* listing standards, and was closed in late 2002.²¹⁷ The AIM, however, has thrived over the same period, apparently by focusing on the smallest offerings.²¹⁸

Rasch presents the following generalizable hypotheses to explain the failure of these small company markets in the early 1990s: design flaws (including insufficient differentiation between senior and junior markets, insufficient cost advantages for the junior markets, and the junior markets' status as transitional markets from which the most successful companies graduate (taking liquidity with them)), the rise of asset allocation and passive investment strategies leading to the concentration of volume in "standard" stocks, and a "vicious circle" of

²¹⁶ Sebastian Rasch, "Special Stock Market Segments for Small Company Shares in Europe – What Went Wrong?" (Discussion Paper No. 94-13, Centre for European Economic Research, 1994).

²¹⁷ A series of Wall Street Journal articles neatly traces the rise and fall of the Neuer Markt and the perception of its listing and trading rules. See Vanessa Fuhrmans, "Playing By the Rules: How the Neuer Markt Gets Respect" *Wall Street Journal* (21 August 2000) C1; Neal Bondette & Alfred Kueppers, "Frustrated Neuer Markt Members Push for Tightening Listing Rules" *Wall Street Journal* (11 July 2001) C12; Alfred Kueppers, "Deutsche Boerse Plans Slate of Rules in 2002 for Neuer Markt" *Wall Street Journal* (30 August 2001) A6; Neal E. Boudette, "Neuer Markt's Battered Image May be Poised for a Recovery" *Wall Street Journal* (13 March 2002) C11; Silvia Acarelli & G. Thomas Sims, "German Exchange Unplugs Neuer Markt: Planned Closure Symbolizes End of Europe's Tech Craze; Its Equity Culture Too?" *Wall Street Journal* (27 September 2002) A12; and Brian M. Carney, "Teutonic Tailspin: A German Market's Rise and Fall" *Wall Street Journal* (1 October 2002) A20.

²¹⁸ See Silvia Acarelli, "Tiny Offerings on London's AIM Can Work Well Despite a Time of Overall Investor Skittishness" *Wall Street Journal* (11 September 2001) ____.

illiquidity in which the high transaction costs associated with illiquid stocks led to low trading volume and a low demand for company research. There are also significant issues relating to economies of scale associated with small exchanges.²¹⁹

Some have argued that the TSX should create a junior trading market rather than lowering its listing standards for small and medium-sized enterprises.²²⁰ In a separate work, I critically assess these recommendations in light of the European experience and the seemingly contrary experience of the Nasdaq SmallCap market, a feeder market that has persisted through various market cycles. It is not at all clear from the experience of the European exchanges that establishing a separate growth market would have been viable in theory or in practice as an alternative to the TSX's decision to include growth-oriented technology companies in its primary group of listed companies. Such a decision would, however, have insulated incumbent listed companies from the bulk of the negative externalities associated with lowering listing standards.

²¹⁹ See, for example, Markku Malkamaki, "Economies of Scale and Implicit Mergers in Stock Exchange Activities" (working paper, 16 March 2000), arguing that there are significant scale economies with respect to the processing of trades but that there are not equally clear scale advantages related to activities involving company-specific information.

²²⁰ See Patricia Johnston, *Nothing Ventured: Investing in Canada's Winners* (Toronto: Toronto Stock Exchange, 1980) at 58, MacIntosh, *supra* note 77 at 138, and Daniels et al., *supra* note 66 at 12.

VII. CONCLUSION

In this paper I argue that the TSX acted against the public interest in order to allow its shareholders and participating organizations to profit from the hot issue market for technology IPOs in the late 1990s and 2000. Far from tempering the inefficiency of the IPO market for technology companies during this period, the TSX compromised its reputational capital in order to exploit that inefficiency. In doing so, the TSX followed a pattern seen in the actions of other exchanges in connection with hot issue markets. Exchanges periodically relax their listing standards in order to capture the increased revenues associated with trading patterns during hot issue markets. Many exchanges in addition to the TSX did so in the 1999 and 2000. The issue is whether this is an appropriate basis for decisions relating to listing standards by organizations that have traditionally played a gatekeeping role in public equity markets.

If there is to be any continuing role for original listing standards as a screening and signalling device, exchanges must address the inherent conflict of interest that I have identified. The solution to this conflict is not obvious, but the most promising alternatives are to either transfer responsibility for listing standards to an independent third party without a stake in exchange revenues, or to create separate market segments for companies that do not meet the exchange's traditional listing standards. The latter alternative requires further study, since it has succeeded in the U.S. in the Nasdaq National Market / SmallCap Market model, yet failed repeatedly in Europe and elsewhere in the U.S.

APPENDIX A

OVERVIEW OF ORIGINAL LISTING STANDARDS

The following table summarizes the original listing standards of each of the TSX, CDNX, Nasdaq and the NYSE that would be relevant to a Canadian technology company doing an IPO. The table does not reflect all of the available combinations of factors, but focuses on those standards most likely to be met by an issuer that would use the TSX's technology company original listing standards: an issuer with a short operating history, few tangible assets and little or no revenues and/or earnings.

Item	TSX ¹	CDNX ²	Nasdaq – National ³	Nasdaq- SmallCap ⁴	NYSE – Earnings	NYSE – Cash Flow	NYSE – Market Cap.
Transactional Requirements							
Minimum Market Value of Listed Securities	• \$50 million	• n/a	• n/a	• n/a	• n/a	• n/a	• n/a
Minimum Price	• n/a	• n/a	• US\$5 bid	• US\$4 bid	• n/a ⁵	• n/a ⁶	• n/a ⁶
Corporate / Business Requirements							
Management	• evidence that company has required management expertise and resources to develop the business	• n/a	• n/a	• n/a	• n/a	• n/a	• n/a

¹ Technology Company standards.

² Technology Issuer Tier 1 standards.

³ National Market Entry Standard 3 standards. NATIONAL ASSOCIATION OF SECURITIES DEALERS, INC. MANUAL Rule 4420(c).

⁴ “Market Capitalization” standards. NATIONAL ASSOCIATION OF SECURITIES DEALERS, INC. MANUAL Rule 4310.

⁵ There is no minimum price requirement specified in the original listing criteria, but a security may be delisted if the average closing price of the security is less than US\$1.00 over a period of thirty consecutive trading days. NYSE LISTED COMPANY MANUAL § 802.01C.

Item	TSX¹	CDNX²	Nasdaq – National³	Nasdaq- SmallCap⁴	NYSE – Earnings	NYSE – Cash Flow	NYSE – Market Cap.
Development of Business	<ul style="list-style-type: none"> evidence that products and services at advanced stage of development or comm. 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a
Sponsorship or Affiliation	<ul style="list-style-type: none"> sponsorship by Exchange participating organization required 	<ul style="list-style-type: none"> sponsorship by Exchange member required 	<ul style="list-style-type: none"> must have at least 4 market makers 	<ul style="list-style-type: none"> must have at least 3 market makers 	<ul style="list-style-type: none"> n/a⁶ 	<ul style="list-style-type: none"> n/a⁹ 	<ul style="list-style-type: none"> n/a⁹
Operating History	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a
Financial Requirements							
Shareholders' Equity	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a
Treasury Funds	<ul style="list-style-type: none"> minimum \$10 million 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a
Future Funding	<ul style="list-style-type: none"> adequate for one year, supported by CFO's forecast 	<ul style="list-style-type: none"> adequate Financial Resources⁷ for at least 18 months 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a

⁶ Sponsorship by a NYSE member firm is only required if the issuer cannot provide documentation demonstrating that it meets the minimum distribution requirements because of the use of bearer shares in its home jurisdiction. NYSE LISTED COMPANY MANUAL § 103.03.

⁷ "Financial Resources" means "the ability of an Issuer to pay from its cash flow, all general and administrative expenses and costs reasonably required pursuant to its business plan." CANADIAN VENTURE EXCHANGE CORPORATE FINANCE MANUAL, Policy 2.1 § 1.3.

Item	TSX ¹	CDNX ²	Nasdaq – National ³	Nasdaq-SmallCap ⁴	NYSE – Earnings	NYSE – Cash Flow	NYSE – Market Cap.
Pre-Tax Income	• n/a	• n/a	• n/a	• n/a	<ul style="list-style-type: none"> • aggregate of at least US\$100 million over last three years • at least US\$25 million in each of last two years 	• n/a	• n/a
Cash Flow⁸	• n/a	• n/a	• n/a	• n/a	• n/a	<ul style="list-style-type: none"> • aggregate of at least US\$100 million over last three years • at least US\$25 million in each of last two years 	• n/a
Revenue	• n/a	• \$200,000 pre-tax earnings in last year or in last two of three	• n/a	• n/a	• n/a	• minimum US\$200 million in last 12 months	• minimum US\$100 million in most recent fiscal year
Distribution Requirements							
Market Capitalization	• n/a	• n/a	• minimum US\$75 million	• minimum US\$50 million	• n/a	• minimum US\$500 million	• minimum US\$1 billion

⁸ These figures must be demonstrated “from the operating activity section of its cash flow statement” and excludes changes in operating assets and liabilities. NYSE LISTED COMPANY MANUAL § 103.1B(II).

Item	TSX¹	CDNX²	Nasdaq – National³	Nasdaq-SmallCap⁴	NYSE – Earnings	NYSE – Cash Flow	NYSE – Market Cap.
Public Float	<ul style="list-style-type: none"> • minimum \$10 million represented by at least 1 million freely-tradable shares held by at least 300 public board lot⁹ holders 	<ul style="list-style-type: none"> • minimum \$1 million represented by at least 1 million freely-tradable shares held by at least 300 public board lot holders • public float must represent at least 20% of issued and outstanding shares 	<ul style="list-style-type: none"> • minimum US\$20 million, represented by at least 1.1 million freely-tradable shares held by at least 400 public round lot¹⁰ holders 	<ul style="list-style-type: none"> • minimum US\$5 million, represented by at least 1 million freely-tradable shares held by at least 300 public round lot holders 	<ul style="list-style-type: none"> • minimum US\$100 million world-wide, represented by at least 2.5 million public shares held by at least 5,000 public round lot holders world-wide¹¹¹² 	<ul style="list-style-type: none"> • minimum US\$100 million world-wide, represented by at least 2.5 million public shares held by at least 5,000 public round lot holders world-wide 	<ul style="list-style-type: none"> • minimum US\$100 million world-wide, represented by at least 2.5 million public shares held by at least 5,000 public round lot holders world-wide

⁹ A board lot for TSX and CDNX purposes is 1000 or more shares for shares selling for less than \$0.10, 500 or more shares for shares selling for between \$0.10 and \$1.00, and 100 or more shares for shares selling for over \$1.00. TORONTO STOCK EXCHANGE COMPANY MANUAL ¶ 825-104 and CANADIAN VENTURE EXCHANGE CORPORATE FINANCE MANUAL, Policy 1.1 § 1.

¹⁰ A round lot for Nasdaq and NYSE purposes is 100 or more shares.

¹¹ Note also that the NYSE requires “a broad, liquid market for the company’s shares in its country of origin” as a prerequisite to the use of these alternate listing standards. This would seem to preclude a Canadian issuer from obtaining a listing on the NYSE in connection with a cross-border IPO, but the common shares of Celestica Inc. were listed in this manner in June 1998. Celestica Inc. Prospectus dated June 29, 1998 (on file with author).

¹² NYSE LISTED COMPANY MANUAL § 103.01B.

APPENDIX B

TSX TECHNOLOGY COMPANY IPO LISTINGS JANUARY 1, 1998 – DECEMBER 31, 2001

Issuer ¹	Date	Nature of Business	Cross-Border / US Listing ²	Discretionary TSX Listing
Sierra Systems Group Inc.	April 8, 1998	Information technology	N	N
Salter Street Films Limited	May 8, 1998	Film production and distribution	N	N
Celestica Inc.	June 29, 1998	Circuits manufacturing	Y / NYSE	N
Financial Models Company Inc.	July 8, 1998	Software services / marketing	N	N
TECSYS Inc.	July 15, 1998	Software development / marketing	N	Y ³
Research and Development Company Listing Standards Introduced				
Tundra Semiconductor Corp.	January 26, 1999	Computer communications	N	Y ⁴
AnorMed Inc.	February 25, 1999	Biotechnology	N	N
VERSUS Technologies Inc.	March 5, 1999	Electronic trading services	N	Y ⁵

¹ OCI:Communications Inc. ceased operations since it was listed on and its disclosure documents are no longer available so has not been included.

² “NNM” means Nasdaq National Market.

³ TECSYS Inc. had negative earnings and pre-tax cash flow in the fiscal year prior to its IPO, disqualifying it under the “profitable companies” test; there was no forecast, disqualifying it under the “companies forecasting profitability” test; and the prospectus stated that capital resources were sufficient for only twelve months, disqualifying it under the “research and development companies” test.

⁴ Tundra Semiconductor Corp. had negative earnings and pre-tax cash flow in the fiscal year prior to its IPO, disqualifying it under the “profitable companies” test; there was no forecast, disqualifying it under the “companies forecasting profitability” test; and the prospectus stated that capital resources were sufficient for “the foreseeable future”, which does not demonstrate compliance with the “research and development companies” test.

Issuer¹	Date	Nature of Business	Cross-Border / US Listing²	Discretionary TSX Listing
Sierra Wireless Inc.	May 6, 1999	Data communications	N	N
AD OPT Technologies Inc.	June 8, 1999	Software development / marketing	N	N
CDI Education Corporation	June 16, 1999	Education information / technology	N	N
Virtual Prototypes Inc.	July 12, 1999	Computer development	N	N
Creo Products Inc.	July 28, 1999	Software development / marketing	Y / NNM	N
The Xenos Group Inc.	August 3, 1999	Software development / marketing	N	Y ⁶
Chapters Online Inc.	September 14, 1999	Online book retail	N	Y ⁷
724 Solutions Inc.	January 27, 2000	Internet development / marketing	Y / NNM	Y ⁸
GT Group Telecom Inc.	March 9, 2000	Telecommunications	Y / NNM	Y ⁹

⁵ VERSUS Technologies Inc. had negative earnings and pre-tax cash flow in the fiscal year prior to its IPO, disqualifying it under the “profitable companies” test; there was no forecast, disqualifying it under the “companies forecasting profitability” test; and the prospectus stated that capital resources were sufficient for only twelve months, disqualifying it under the “research and development companies” test.

⁶ The Xenos Group Inc. had negative earnings in the fiscal year prior to its IPO, disqualifying it under the “profitable companies” test; there was no forecast, disqualifying it under the “companies forecasting profitability” test; and the prospectus stated that capital resources were sufficient “to address its short term liquidity requirements”, which does not demonstrate compliance with the “research and development companies” test.

⁷ Chapters Online Inc. had negative earnings and pre-tax cash flow in the fiscal year prior to its IPO, disqualifying it under the “profitable companies” test; there was no forecast, disqualifying it under the “companies forecasting profitability” test; and it had less than two years of operating history, disqualifying it under the “research and development companies” test.

⁸ 724 Solutions Inc. had negative earnings and pre-tax cash flow in the fiscal year prior to its IPO, disqualifying it under the “profitable companies” test; there was no forecast, disqualifying it under the “companies forecasting profitability” test; and the prospectus stated that capital resources were sufficient for only twelve months, disqualifying it under the “research and development companies” test.

⁹ GT Group Telecom Inc. had negative earnings and pre-tax cash flow in the fiscal year prior to its IPO, disqualifying it under the “profitable companies” test; there was no forecast, disqualifying it under the “companies forecasting profitability” test; and the prospectus stated that capital resources were sufficient “to fully fund our business plan” without specifying the duration of the business plan, which does not demonstrate compliance with the “research and development companies” test.

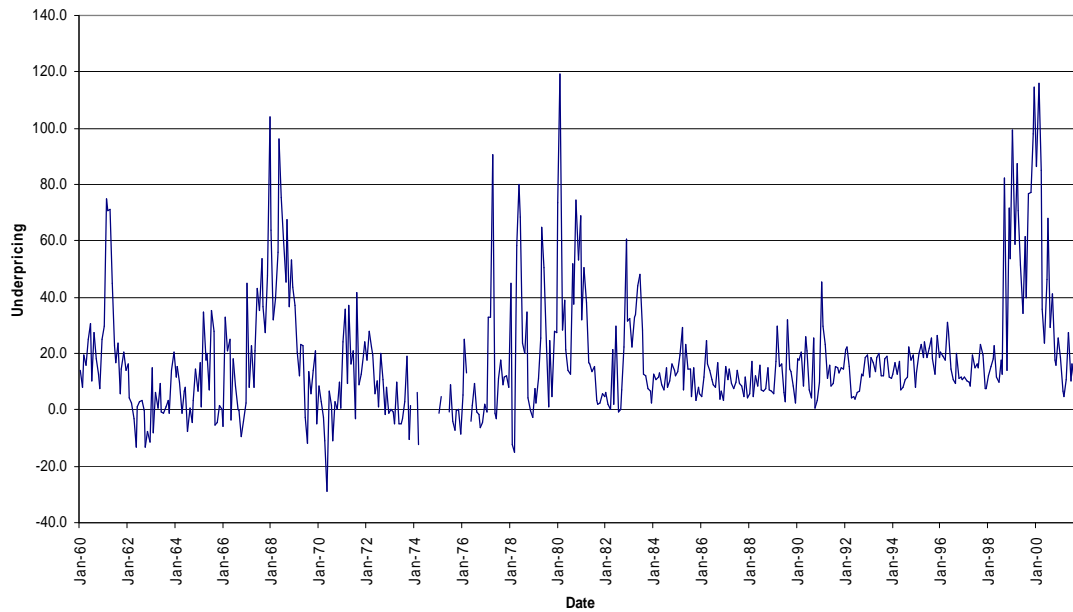
Issuer¹	Date	Nature of Business	Cross-Border / US Listing²	Discretionary TSX Listing
Maxxcom Inc.	March 10, 2000	Communications services	N	N
BridgePoint International Inc.	March 31, 2000	Internet supply / services	N	Y ¹⁰
OnX Incorporated	April 6, 2000	Internet commerce	N	N
360networks inc.	April 19, 2000	Fibre optic communications	Y / NNM	N
The NRG Group Inc.	April 25, 2000	Internet commerce	N	N
Neurochem Inc.	June 13, 2000	Biopharmaceutical	N	N
ART Advanced Research Technology	June 22, 2000	Medical technology / software	N	N
Technology Company Listing Standards Introduced				
EXFO Electro-Optical Engineering Inc.	June 28, 2000	Telecommunications instruments	Y / NNM	N
Chromos Molecular Systems Inc.	July 7, 2000	Medical technology / software	N	N
SMTC Manufacturing Corporation of Canada	July 20, 2000	Electronics software / services	Y / NNM	N
Dynetek Industries Ltd.	September 8, 2000	Fuel systems development / marketing	N	N
Coretec Inc.	September 13, 2000	Circuit boards manufacturing	N	N
Mediagrif Interactive Technologies Inc.	September 25, 2000	Internet commerce	N	N

¹⁰ BridgePoint International Inc. had negative earnings and pre-tax cash flow in the fiscal year prior to its IPO, disqualifying it under the “profitable companies” test; there was no forecast, disqualifying it under the “companies forecasting profitability” test; and the prospectus stated that (i) capital resources were sufficient “to fully fund our business plan” without specifying the duration of the business plan, and (ii) BridgePoint was a “development stage” company until a date within two years of the date of the prospectus, which does not demonstrate compliance with the “research and development companies” test.

Issuer¹	Date	Nature of Business	Cross-Border / US Listing²	Discretionary TSX Listing
Stuart Energy Systems Corporation	September 27, 2000	Hydrolysis fuel systems development	N	N
Ecopia BioSciences Inc.	September 29, 2000	Biotechnology	N	N
CryoCath Technologies Inc.	October 24, 2000	Medical equipment	N	N
Hydrogenics Corporation	October 25, 2000	Fuel systems development / marketing	Y / NNM	N
Electrofuel Inc.	November 1, 2000	Battery technology	N	N
ConjuChem Inc.	November 20, 2000	Biotechnology	N	N
Glycodesign Inc.	November 20, 2000	Biopharmaceutical	N	N
Imagic TV Inc.	November 20, 2000	Software development / marketing	Y / NNM	N
Nexia Biotechnologies Inc.	December 8, 2000	Biotechnology	N	N
MindReady Solutions Inc.	December 11, 2000	Communications services	N	N

Figure 1
U.S. "Hot Issue" Markets – 1960-2001
(Data from Jay Ritter)

U.S. IPO Underpricing - 1960-2001



U.S. IPO Volume - 1960-2001

