

# THE Value of U.S. Listing

Does a U.S. listing improve stock performance in the long run?

BY USHA R. MITTOO

U.S. exchanges became the “hot” places for foreign listing in the 1990s. The number of foreign listings on the major U.S. exchanges surged from less than 200 in 1990 to over 750 in 2000, increasing about 400%, whereas listings on most other stock exchanges declined during this period. Canadian firms also joined this global trend: the number of Canadian listings in the U.S. more than doubled in the 1990s compared to the 1980s. On the NYSE alone, Canadian representation jumped from 24 in 1989 to over 70 by the end of year 2000, an increase of about 200%. These listings represent a broad range of industries including technology, communication, transportation, financial and resource sectors.

What makes U.S. exchanges such an attractive place for listing? This question has generated a lot of debate among practitioners and academics. Traditionally, firms listed in the U.S. primarily to raise cheap capital and to enhance liquidity. These reasons were less important in the 1990s, especially for the Canadian firms. With the implementation of the Rule 144A and the Canada-U.S. Multijurisdictional Disclosure System (MJDS) in the 1990s, most Canadian firms can access U.S. capital markets without a U.S. listing. Moreover, trading costs on Canadian exchanges have also declined significantly with the introduction of decimal stock trading in recent years. Thus, many doubt if a U.S. listing adds any value to the firm. Others argue that a U.S. listing is an essential cost of doing business in the increasingly globalized world markets and the recent surge in U.S. listings is

driven primarily by business reasons. A U.S. listing enhances the visibility and profile of a company and signals to the market that it has become a global player. Firms in certain industries are also likely to get better valuations by listing on U.S. exchanges. For high-tech firms, NASDAQ was the place to be in the 1990s to get analysts’ attention and, consequently, higher share prices. Dual citizenship on U.S. exchanges is also good for conducting business in the U.S. For some firms, following their industry peers to U.S. destinations may not be a matter of choice but a question of survival.

Whatever the reasons for a U.S. listing, the main question is whether it adds shareholder value. A recent study examines this issue in a sample of 108 Canadian stocks that listed in the U.S. between 1991 and 1998.<sup>1</sup> This study measures both short-run effects of U.S. listing on share price and liquidity as well as the long-term return performance of stocks during three years after the listing. It also investigates whether the benefits of U.S. listing have changed over time by comparing the results in the pre- and post-1990 listed Canadian stocks. The study reveals some interesting findings.

## Impact on Return Performance

Does a U.S. listing enhance return performance? To answer this question, we need an appropriate benchmark to measure performance: ideally, the performance of a Canadian stock that cross-lists in the U.S. should be benchmarked against that of a similar domestically listed Canadian stock. This is not an easy task because

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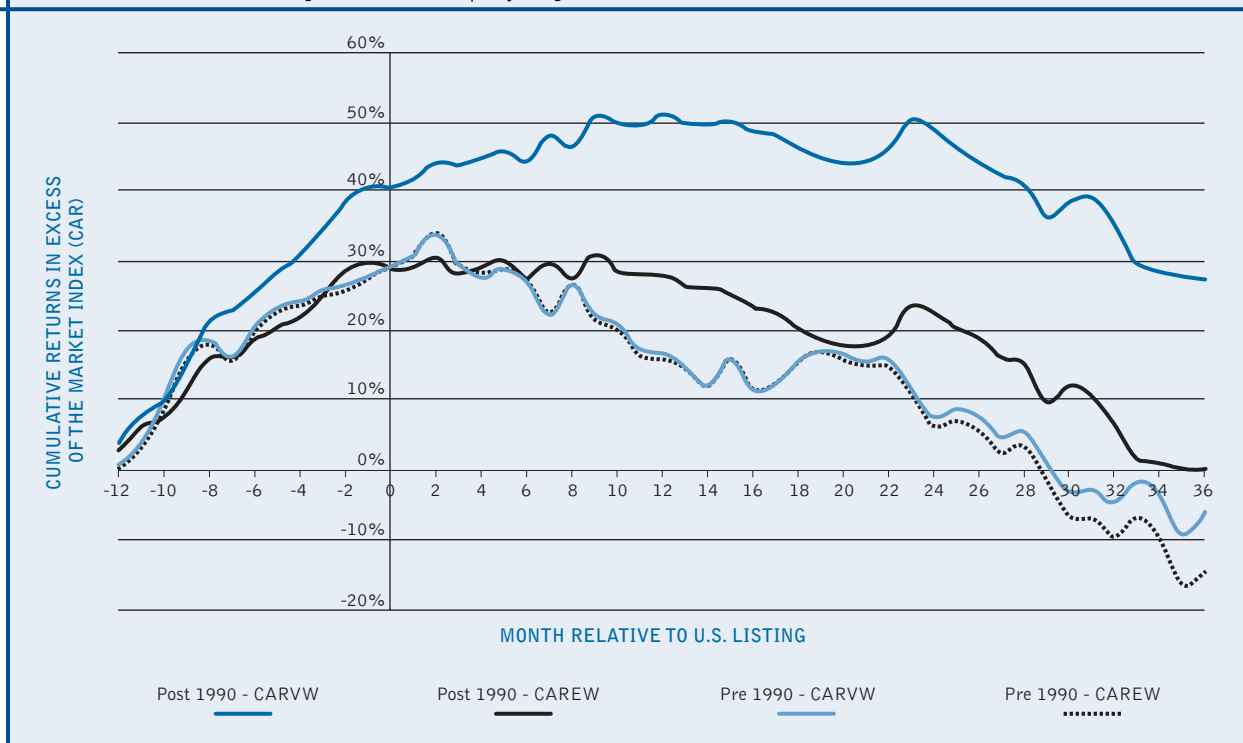
interlisted Canadian firms are generally much larger than their domestic-listed counterparts. A reasonable alternative is to benchmark performance against a broad Canadian market index. Two such indexes commonly employed for this purpose are Canadian value-weighted (VW) and equally-weighted (EW) market indexes. However, there is one important difference between the two in measuring performance. Since the VW index places a higher weight on large-cap stocks, the U.S.-interlisted Canadian stocks form a larger percentage of this index. The EW index, on the other hand, places equal weight on all stocks whether large or small and thus reflects more the performance of domestic-listed Canadian stocks.

Figure 1 shows the performance of interlisted Canadian stocks relative to the VW and EW indexes. It charts monthly cumulative returns in excess of the market indexes (CARs) for these stocks from 12 months prior to 36 months after the U.S. listing; stocks listed before and after 1990 are shown separately. Three observations are noteworthy from this chart. First, firms list in the U.S. after a strong market performance but experience a steady decline in performance

after listing. A typical firm outperforms the market index by about 30% to 40% in the year prior to listing. While the pre-listing run-up in prices is similar for all stocks whether they are listed prior to or after 1990, the post-listing decline is more severe for stocks that interlisted before 1990. The pre-1990 listed stocks not only lose all the excess returns earned prior to listing but end up with negative cumulative excess returns in the magnitude of -6% to -15% three years after listing. Second, the short-run return performance is positive but appears to have declined over time. Stocks listed in the U.S. prior to 1990 experience abnormal returns of about 1.5% in the month of listing while those listed after 1990 experience insignificant gains. Finally, the post-listing decline is generally more severe when the EW index rather than the VW index is employed for benchmarking. For example, the cumulative excess returns for the post-1990 listed stocks during the three years after U.S. listing are about -28% with the EW index, but only -13% when the VW index is employed. Thus, inclusion of the interlisted Canadian stocks in the benchmark significantly affects the measurement of the long-run performance.

Figure 1

**IMPACT OF U.S. LISTING ON RETURN PERFORMANCE**  
Relative to Canadian value-weighted (VW) and equally-weighted (EW) indexes.



## Canadian and U.S. Market-Adjusted Return Performance

A limitation of evaluating stock performance against the Canadian market index is that it does not account for the change in the stock's riskiness, which is also likely to accompany the U.S. listing. After U.S. listing, a Canadian stock's sensitivity to the U.S. market factors is likely to increase, while its sensitivity to the Canadian market factors is likely to decrease.<sup>2</sup> Thus, an appropriate benchmark should incorporate both the Canadian and U.S. market factors. This analysis is presented in Table I. Abnormal returns for a stock in this table are computed using a two-factor asset pricing model including both the Canadian and U.S. market risk factors. The change in market risk (beta) is measured with both VW and EW indexes. There is an insignificant effect on the Canadian and U.S. market betas in both pre-1990 and post-1990 samples when the VW index is employed. Also, only Canadian beta is significant in the pre-listing period in this case.<sup>3</sup>

The patterns of risk-adjusted return performance in Table I are largely the same as observed in Figure I in the market-adjusted case. Firms list in the U.S. after a strong performance but suffer a severe post-listing decline during the three years subsequent to the U.S. listing. The pattern of a more severe post-listing decline in stocks interlisted before 1990 compared to those listed after 1990 is also similar to that observed in Figure I. The differences in the short-term return performance between pre- and post-1990 samples, on the other hand, are even more dramatic using risk-adjusted performance measures. As shown in Table I, the stocks interlisted prior to 1990 earn positive abnormal returns of about 4.6% in the month of listing; those listed after 1990 lose 0.2% during their listing month when the VW index is used. The differences are even more pronounced when the EW index is employed. These results are not surprising since the positive price effect accompanying the U.S. listings is likely to be related to the degree of segmentation between the Canadian and U.S. stock markets. Since the Canadian market became increasingly integrated with the U.S. markets in the 1990s, this effect is expected to decline.

There is also substantial variation in the long-run performance of the U.S. interlisted stocks across firms and over time. For example, resource stocks listed in the U.S.

RISK-ADJUSTED RETURN PERFORMANCE USING CANADIAN AND U.S. MARKET FACTORS		
Risk-Adjusted Abnormal Returns	Sample	
	Post-1990 (N= 87)	Pre-1990 (N= 41)
<b>Before U.S. Listing (One Year)</b>		
Monthly Abnormal Returns (VW)	3.4% (6.02)***	2.2% (2.18)**
Monthly Abnormal Returns (EW)	2.8% (5.03)***	2.4% (2.47)**
<b>Month of Listing</b>		
Monthly Abnormal Returns (VW)	-0.17% (-2.16)**	4.6% (0.86)
Monthly Abnormal Returns (EW)	-0.57% (-2.27)**	5.3% (0.86)
<b>After U.S. Listing (Three years)</b>		
Monthly Abnormal Returns (VW)	-0.40% (-5.6)***	-0.88% (-2.7)***
Monthly Abnormal Returns (EW)	-0.35% (-4.7)***	-1.2% (-3.3)***

\*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Table 1

prior to 1990 experience positive abnormal returns, but those listed after 1990 experience significantly negative abnormal returns in the long-run. The opposite is true for the non-resource stocks. A similar pattern emerges when the long-run performance of the NYSE/AMEX and NASDAQ-listed stocks is compared. The NYSE/AMEX stocks listed prior to 1990 experience insignificant negative effect in the long-run compared to those listing after 1990. The opposite pattern holds for the NASDAQ-listed stocks; the stocks listed on the NASDAQ-prior to 1990 experience a more pronounced negative impact (about -1% per month) compared to those listed after 1990 (about -0.2% per month). Since firms tend to follow their industry peers in selecting the U.S. destination of listing, the time variation in the performance of NYSE/AMEX and NASDAQ-listed stocks could partly reflect the differences in their industries.

## Impact on Stock Liquidity

Enhancing stock liquidity is cited as the number one reason for listing in the U.S. by most Canadian managers and equity analysts. A U.S. listing provides access to large U.S. institutional investors and broadens the shareholder base. Trading on larger and deeper U.S. stock markets also lowers trading costs for investors.

Several previous studies have shown that Canadian

firms listing in the U.S. in the 1980s experienced a significant increase in trading volume and decline in effective bid-ask spreads after listing.<sup>4</sup> Table 2 presents the liquidity effects for a sample of 53 pre-1990 listed stocks examined by Foerster and Karolyi (1993, 1998). The liquidity gains are dramatic for this sample. The average monthly trading volume in these stocks almost doubles after the U.S. listing, while the spreads decline by about 11% after accounting for the changes in price, volume, and trade size, using a cross-sectional regression analysis. The results are very similar for the TSE market-adjusted volume. This is not the case, however, for the stocks that interlisted in the U.S. after 1990: their liquidity gains are much less impressive. As Table 2 shows, the average trading volume in these stocks increases only by about 40% after U.S. listing while the decline in the effective spreads is insignificant, less than 4% after allowing for the changes in price, volume, and trade size.

The average effect on trading volume is misleading because it conceals a large cross-sectional variation across stocks. As earlier research (Mittoo, 1997) shows, there are some big “winners” and “losers” of trading volume after the U.S. listing. About one-third of stocks are big winners as their trading volume jumps by over 150% after the U.S. listing. For roughly another third, trading volume actually declines after the U.S. listing, with some experiencing declines of over 25%. These differences do not appear to be driven by differences in industry or the U.S. exchange of listing. This pattern of significant cross-sectional variation is observed in all stocks whether they are listed prior to or after 1990.<sup>5</sup> However, the percentage of big “winners” in the pre-1990 sample is higher, while the number of big “losers” is lower compared to that in the post-1990 sample. These results show that the positive effect on liquidity has declined over time. Interestingly, the average effective spreads on the TSE prior to U.S. listing also declined from 1.12% in the pre-1990 sample to 0.85% in the post-1990 sample, a decline of about 25%. This could be the result of the initiatives—such as decimal trading—undertaken by the TSE in the 1990s to compete with the U.S. markets.

There is also a strong positive relation between short-term price effects and liquidity gains. Firms with larger trading-volume gains also experience significant

EFFECT OF U.S. LISTING ON LIQUIDITY		
	Sample	
	Post-1990 (N= 94)	Pre-1990 (N= 53 <sup>1</sup> )
<b>Before U.S. Listing</b>		
<b>Average Trading Volume (Months -1 to -3)</b>		
Trading Volume (no. of shares traded)	2,242,556	880,763
Trading Volume (as % of TSE volume)	0.15%	0.21%
Average Effective Spread <sup>2</sup> (Days -30 to -1)	0.85%	1.12%
<b>After the U.S. Listing</b>		
<b>Average Trading Volume (Months + 3 to +6)</b>		
Total Trading Volume (TSE and U.S.)	3,190,721	1,846,206
Total Trading Volume (as % of TSE volume)	0.22%	0.41%
Average Effective Spread <sup>2</sup> (Days 0 to +29)	0.80%	1.18%
<b>Effect of U.S. Listing (% Change) on:</b>		
Total Trading Volume	+42.3%	+98.05%
Total Trading Volume (as % of TSE volume)	+46.7%	+92.8%
% Decline in Average Effective Spread (after controlling for changes in price, volume, and trade size)	-3.74%	-10.53% ***
<small>*, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.  <sup>1</sup> Based on Foerster and Karolyi (1993, 1998)  <sup>2</sup> Effective spread = + (Price - Midpoint)/Midpoint, where Midpoint = (bid + ask)/2</small>		

Table 2

declines in effective spreads and increases in share prices in the month of listing. Differences based on the U.S. exchange of listing, whether it's a resource or non-resource firm, or whether listings are accompanied by capital raising or not are less important.

### Implications for Managers and Investors

Two main findings of this study may be relevant to managers and investors. First, listing in the U.S. is no guarantee that it will be accompanied by an increase in share price or liquidity even in the short-run. The price and liquidity gains enjoyed by Canadian stocks accompanying their U.S. listings in the 1970s and 1980s declined significantly in the 1990s. This is expected as Canadian markets become increasingly integrated with U.S. markets and Canadian exchanges become more competitive with U.S. exchanges. More importantly,

there is significant cross-sectional variation in the liquidity gains of U.S. listing across stocks. While some firms experience large increases in trading volume and share price after U.S. listing, others have modest gains, and some even experience declines in volumes and share price. Liquidity is the major determinant of share price increase around U.S. listing; those experiencing liquidity gains also experience an increase in share price and a decline in trading costs.

Second, the long-run performance of U.S. listings is significantly different from that in the short-run. Firms normally list in the U.S. after significantly outperforming the market index by about 30% to 40% in one year prior to listing. However, it is a different story after the listing as they underperform their domestic-listed peers during the three years subsequent to listing.

Surprisingly, these results hold for all U.S. listings irrespective of whether these occurred before or after 1990. The long-run performance differs both in cross-section and over time. The determinants of long-run performance appear to be different from that of the short-run. More research is needed to identify these factors.

Why firms underperform after the U.S. listing is puzzling, but several explanations are plausible. It could be simply that since firms choose to interlist after a dramatic runup in share price, the firms' performance is expected to decline after listing based on the average life cycle of firm performance. Alternatively, firms may be overlooking certain important costs of listing that may be significant in the long-run. In a recent survey, European managers cited the costs of road shows and public relations as the major costs of U.S. listing. Practitioners also warn that the U.S. listing could be a double-edged sword, and the increased attention from U.S. analysts has its upside and downside as they choose the market's flavour of the month.<sup>6</sup> Finally, long-term performance is generally difficult to measure, and the tests did not control for the variation in risk premia and other compounding factors associated with the 1990s. Thus, it is plausible that lower long-run returns could also reflect a lower cost of capital for firms after U.S. listing.

No matter what the explanation, one implication is clear. The U.S. listing may not be value-enhancing for many firms, especially in the long-run. Each firm needs to carefully evaluate its decision to list in the U.S., tak-

ing into account all relevant costs and benefits both in the short-run and the long-run. It may be useful to evaluate the listing decision in a capital budgeting framework considering effects on all aspects of the business including financing, marketing, and investing.<sup>7</sup> ■

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## Endnotes

1. This paper was presented at the conference on the Future of Stock Exchanges in a Globalized World, organized by the University of Toronto Capital Market Institute in Toronto, August 15-17, 2002, and is published in *Journal of Banking and Finance*, 2003, 1629-1661.
2. For a survey of literature on changes in risk exposures around U.S. listings, see "Why Do Companies List Shares Abroad? A Survey of the Evidence and its Managerial Implications" by A. Karolyi (1998), New York University Salomon Bros. Center Monograph, Vol. 7, no. 1, New York, N.Y. Typically, foreign companies listing in the U.S. experience a decline in their home market beta and an increase in U.S. market beta. These changes vary across firms from different geographical regions and are generally less significant for the Canadian companies. Another recent study "The Effects of Market Segmentation and Investor Recognition on Asset Prices: Evidence from Foreign Stocks Listing in the United States," by S.R. Foerster and G.A. Karolyi, *Journal of Finance*, 1999, 981-1014, also examines the risk changes around U.S. listing using a two-asset pricing model and local and global market indexes.
3. There is significant difference in the risk changes between the pre- and post-1990 sample when the EW indexes are used. For the post-1990 sample, both Canadian and U.S. beta are significant in the pre-listing period and the U.S. market beta is even higher than the Canadian beta. After U.S. listing, there is a significant decline in Canadian beta and an increase in the U.S. market beta. In contrast, in the pre-1990 sample, only Canadian beta is significant in the pre-listing period and there is insignificant effect on risk after U.S. listing. These differences are also consistent with the increasing integration in the Canadian and U.S. markets in the 1990s.
4. For previous Canadian studies on liquidity effects of U.S. listing see "International Listing of Stocks: The Case of Canada and U.S.," by S. Foerster and A. Karolyi, *Journal of International Business Studies*, 1993, 763-784; "Cross-Country Listing and Trading Volume: Evidence from the Toronto and Vancouver Stock Exchanges," by U. Mittoo, *Journal of International Financial Management and Accounting*, 1997, 147-174, and "Multimarket Trading and Liquidity: A Transactions Data Analysis of Canada-U.S. Interlisting," by S. Foerster and A. Karolyi, *Journal of International Finance Markets, Institutions, and Money*, 1998, 393-412.
5. The pre-1990 analysis is based on a sample of 55 stocks examined in Mittoo (1997) and measures changes in average monthly trading volume from one year prior to one year after U.S. listing.
6. See "Interlisting has its up and downside," *The Financial Post*, March 25, 1995, and "Southern Exposure," *The Financial Post*, April 6, 1996.
7. See "Evaluating the Foreign Listing Decision in a Capital Budgeting Framework" by U. Mittoo, *Managerial Finance*, 1994, 22-33.