

GOING South

Which Canadian firms benefit most from cross-listing on a U.S. stock exchange?

BY MICHAEL R. KING AND DAN SEGAL

What are the long-term effects of a U.S. listing on a Canadian firm's valuation? And why do some Canadian firms benefit more than others from cross-listing? We address these questions by looking at the valuations of Canadian firms that were cross-listed on the New York Stock Exchange, the Nasdaq, and the American Stock Exchange at some time between 1988 and 2005. We compare two leading explanations from the extensive body of academic literature on this topic as summarized by King and Mittoo (2007). One explanation associates the higher valuations with the widening of the cross-listed firm's shareholder base and an improvement in its information environment, known as the investor recognition hypothesis. A competing explanation argues that a U.S. listing provides better de facto or de jure protection of minority shareholders due to the greater scrutiny and monitoring in U.S. capital markets, known as the bonding hypothesis. Determining the source of the gains is important, as it may suggest different strategies that managers should pursue to get the most value from a U.S. listing.

We show that the ownership structure of the Canadian firm determines which of these two effects matters most. For Canadian firms with a single share class, attracting and maintaining a wider U.S. investor base is crucial to maintaining higher valuations over time. This effect is less important for Canadian firms with dual-class shares, where the greater protection offered to minority shareholders is more important.

CROSS-LISTING AND VALUATIONS

Figure 1 highlights the impact of cross-listing on a firm's valuation. The figure shows the change over time in the Tobin's q ratio of 148 Canadian firms that cross-listed on a U.S. exchange for the first time between 1988 and 2005. The figure is shown in event time, where year 0 is the point in time when the shares begin trading on the New York Stock Exchange, the Nasdaq, or the American Stock Exchange. The solid line shows the average Tobin's q ratio over the five years before and after cross-listing, while the dotted line shows the median Tobin's q ratio. Tobin's q is a commonly used valuation measure that shows the market (or replacement) value of a firm's assets divided by the book value. Higher ratios imply that the market assigns a premium to future earnings and growth opportunities. Notice that both the average and median ratios peak in the year prior to cross-listing ($t=-1$), then decline in

Change in Tobin's Q Around Cross-Listing

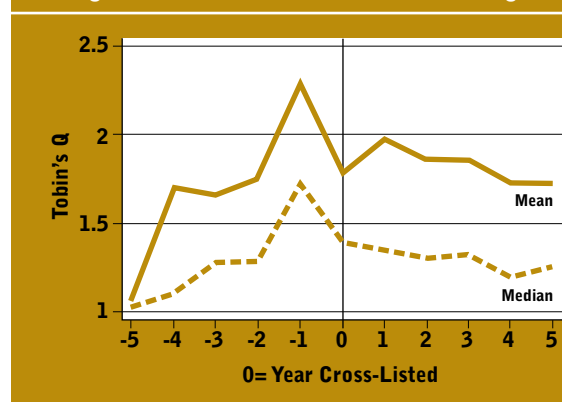


FIGURE 1

Michael R. King is assistant chief, International Department at the Bank of Canada. Dan Segal is an associate professor of Accounting, Joseph L. Rotman School of Management, University of Toronto.

subsequent years. While an announcement effect of cross-listing may explain part of the run-up prior to the event, the rise in valuations begins several years prior to cross-listing, consistent with Canadian firms listing on a U.S. exchange following a period of strong performance. What is striking is that most firms experience a steady decline in valuations beginning in the year of cross-listing, although the valuations remain higher than they were historically.

TWO EXPLANATIONS FOR HIGHER VALUATIONS

In an earlier study of Canadian firms, Foerster and Karolyi (1999) attribute part of the increase in a cross-listed firm's valuation to the broadening of its U.S. investor base and the greater visibility of the firm, as predicted by the investor recognition hypothesis. These authors argue that investors have incomplete information when making the decision to invest, because they do not know about the firm. An increase in the number of investors aware of a firm lowers the expected return on the firm's stock, resulting in a contemporaneous increase in valuation. This explanation provides a rationale to cross-list on a U.S. stock exchange for Canadian firms that are either neglected or have a low number of U.S. investors—the action would increase their overall shareholder base. Indeed, surveys of managers confirm that one of the reasons behind their decision to cross-list is to broaden their shareholder base by attracting U.S. investors.

Coffee (1999) and Stulz (1999) suggest that a foreign firm from a country featuring potentially weaker investor protection can increase its valuation by bonding itself to the U.S. securities regime through cross-listing. The bonding hypothesis suggests that companies with poor protection of minority shareholders signal their desire to respect the rights of shareholders by listing in a jurisdiction with higher scrutiny by reputational intermediaries, tougher regulation, and better enforcement. Greater monitoring of controlling shareholders provides better investor protection and higher stock returns following cross-listing. Doidge (2004) and King and Segal (forthcoming) provide support for the bonding hypothesis in studies of foreign firms with dual-class shares that list on U.S. exchanges. The prosecution of Conrad Black provides a stark example of this investor protection in action.

SHORTCOMINGS OF EXISTING STUDIES

While the academic literature provides support for both hypotheses, there are two issues that have not yet been resolved. First, the investor recognition hypothesis predicts a permanent increase in valuation from cross-listing based

on the assumption that investors continue to hold the shares over time. Anecdotal evidence suggests that many of these foreign-listed shares eventually flow back to the home market. A number of studies show a post-listing decline in valuations within a year of cross-listing. Mittoo (2003), for example, finds that Canadian cross-listed firms outperform the market by 30 to 40% in the year prior to listing, but underperform the market by 13 to 30% over the three years subsequent to listing. The picture of diminishing valuations over time in Figure 1 is consistent with these findings.

Second, there is little evidence on the link between the investor recognition hypothesis and the bonding hypothesis, as prior studies have examined these explanations in isolation. In other words, the design of existing studies has not allowed researchers to disentangle these two effects. Both are related to an improvement in the information environment of a firm, but the former is based on developing a wider U.S. shareholder base while the latter is based on the greater scrutiny and investor protection offered by U.S. securities laws. Managers need to know which of these effects is the source of the gains so that they can plan their investor relations strategy accordingly.

Canada provides an ideal setting to test these two explanations. Canadian firms make up the single largest group of foreign firms listed on U.S. stock exchanges. Canada and the U.S. share the same legal, regulatory, and market institutions, which offer similar levels of shareholder protection. At the same time, the ownership structure of Canadian firms is very different relative to the typical American firm. A significant number of the largest Canadian firms (close to 20%) have dual-class shares, which creates a more acute agency conflict between controlling and minority shareholders (King and Santor, forthcoming). Studies of the U.S. and abroad consistently show that the use of dual-class shares is associated with lower valuations, as minority investors discount future earnings more heavily. By looking at Canadian firms with dual-class shares, we can see whether a U.S. listing has a different impact on their valuations relative to Canadian firms with a one-share-one-vote structure.

We collect annual financial statement data from 1988 to 2005 for 1,265 Canadian firms, of which 287 are cross-listed on a U.S. stock exchange. We exclude financial firms and small firms with a market capitalization less than C\$10 million to make our sample comparable with other studies. Firms that delist due to a takeover, bankruptcy, or other reason are present in our sample until the year of delisting. We find that manufacturing and service

Descriptive Statistics

Tobin's q is computed as (total assets + market value of equity - book value of equity) / total assets. Total assets are in U.S. dollars in millions, converted using the fiscal year-end exchange rate. Market value is total shares outstanding times price at calendar year-end. Sales growth is the two-year average growth rate in sales. If two-year data is not available, one-year growth in sales is used. Return on assets (ROA) is earning before interest and taxes / total assets. Leverage is total debt / total assets. Foreign sales is the percentage of total sales outside of Canada. A t-test is used to test whether the difference between the averages is statistically significant, where *, **, *** identify significance at the 1%, 5%, and 10% levels, respectively.

	Average of non-cross-listed firms	Average of cross-listed firms	Difference and statistical significance
Tobin's q ratio	1.526	1.787	0.260***
Total assets, book value (US\$ millions)	395.5	2,015.8	1,620.3***
Market value of equity (US\$ millions)	291.6	2,536.4	2,244.8***
Past 2-year sales growth	0.330	0.314	-0.015
Return on assets (ROA)	-0.005	-0.024	-0.019***
Financial leverage	0.258	0.251	-0.006
Foreign sales as % of total sales	0.019	0.410	0.391***

firms make up 43% of the sample, followed by natural resource firms at 28%, high technology firms at 22%, and transportation and utility stocks at 7%.

Table 1 provides a comparison of the cross-listed and non-cross-listed firms. Consistent with previous studies, cross-listed firms have significantly higher Tobin's q ratio; the average ratio for the cross-listed firms is 1.787, or 17% higher than the average for the non-cross-listed firms of 1.526. Cross-listed firms are much larger than non-cross-listed firms, with total assets that are five times larger on average, and market value of equity that is eight times larger. Both types of firms have similar past sales growth. Non-cross-listed firms have statistically higher return on assets (ROA) than cross-listed firms. Leverage is comparable across samples. Finally, cross-listed firms have much higher foreign sales.

WHICH FIRMS CROSS-LIST?

A significant problem facing cross-listing studies is the concern that only the most attractive Canadian firms choose to list on a U.S. stock exchange, creating a problem known as selection bias. If only the best Canadian firms are pursuing U.S. listings, we would naturally expect their valuations to be higher.

We use our sample to predict which Canadian firms are more likely to cross-list on a U.S. stock exchange. Consistent with prior research, larger firms and firms with higher foreign sales are more likely to list on a U.S. stock exchange. Canadian firms with higher leverage and ROA, however, are less likely to cross-list. Interestingly, past sales growth is not a good predictor of cross-listing. Among firms with dual-class shares, firms with large growth opportunities are more likely to cross-list, consistent with theory.

IMPACT ON VALUATION

Having identified which firms are likely to cross-list, we next want to examine why some firms benefit more than others from this decision in terms of higher valuations. Table 2 addresses this question. It shows the results of panel regressions on Tobin's q, where the regressions control for a number of observable firm characteristics. The sample is 287 Canadian firms that cross-listed, as well as close to 1,000 Canadian firms that are exclusively listed on the Toronto Stock Exchange. In all the different specifications, we find that larger firms and more leveraged firms exhibit lower Tobin's q ratios, while firms with higher past sales growth have higher Tobin's q ratios. Past profitability—proxied by ROA—is not statistically related to Tobin's q ratios, likely because investors are forward-looking. Finally, firms with dual-class shares are valued at a discount relative to firms with a one-share-one-vote structure, as seen by the negative coefficient on the dual-class dummy variable.

Column 1 of Table 2 highlights the well-documented relationship between cross-listing and a firm's valuation. We include a dummy variable set to 1 for firms that are cross-listed on a U.S. exchange, and zero otherwise. The positive and significant coefficient on the cross-list dummy indicates that cross-listed firms enjoy a higher valuation than non-cross-listed firms on average. Column 2 tests for the impact of investor recognition on Tobin's q. It repeats the regression from column 1 but adds a variable measuring the raw number of U.S. investors that hold the stock. The positive coefficient on this variable suggests that cross-listed firms that attract the average number of U.S. investors have Tobin's q ratios that are 16% higher on average

relative to non-cross-listed firms. The fact that the cross-list dummy is no longer statistically significant suggests that controlling for the increase in the number of U.S. investors explains much of the unexplained valuation premium from pursuing a U.S. listing. Put differently, the higher valuation for cross-listed companies is attributed primarily to increased investor recognition. Cross-listed firms that do not succeed in attracting U.S. investors to hold their stock exhibit the same valuations as non-cross-listed companies.

Column 3 of Table 2 examines how the effects vary for firms with dual-class shares. By using two interaction terms, we can disentangle greater U.S. investor recognition from greater protection of minority shareholders. A higher number of U.S. investors is still associated with higher Tobin's q ratios for the average cross-listed firm. The positive and significant coefficient on the variable identifying cross-listed firms with dual-class shares (Dual-class + cross-list dummy) suggests these firms have higher valuations on average than dual-class firms that are only listed on a Canadian exchange. The negative and significant interaction term identifying the number of U.S. investors in dual-class firms (number of U.S. investors x dual-class) implies that the benefit of increased investor recognition is lower for dual-class firms relative to other cross-listed firms, although the net effect is still positive. This finding is consistent with U.S. investors assigning a lower valuation to foreign firms with dual-class shares. Finally, the combined variables that measure the overall impact of investor recognition on the valuation of dual-class firms suggest that even dual-class firms that have few or no U.S. investors still exhibit higher valuations, consistent with a bonding effect.

The results in Table 2 suggest that cross-listed firms with dual-class shares trade at a premium relative to dual-class firms that are not cross-listed. The cross-listed dual-class firms benefit even when they fail to widen their U.S. shareholder base, even though cross-listed firms with a single-share class do not. Cross-listed firms with dual-class shares exhibit a valuation premium whether they attract U.S. investors or not, suggesting that minority shareholders are willing to pay more for these shares, due to greater monitoring of controlling shareholders.

In conclusion, this study examines the longer-term impact of investor recognition and bonding on the valuation of Canadian firms that cross-list on a U.S. exchange. We show that the typical Canadian firm with a one-share-one-vote structure that lists on a U.S. stock exchange can expect higher valuations only if the Canadian firm succeeds in attracting and maintaining a wider U.S. shareholder base. We also show that Canadian firms with dual-class shares

Cross-Sectional Impact of Investor Recognition on Tobin's Q

TABLE 2

This table reports results of panel regressions with firm random effects that estimate the impact of cross-listing on Tobin's q, controlling for the decision to cross-list. Dual-class is a dummy equal to 1 for firms with two or more share classes with different voting rights. Cross-list dummy is the predicted probability of cross-listing. The number of U.S. investors is based on 13F filings. Dual-class + cross-list dummy identifies dual-class firms that have a U.S. listing. Industry and year dummies are included but not shown. The *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Variable	1	2	3
Constant	3.228***	3.310***	3.321***
Log of assets	-0.290***	-0.323***	-0.323***
Past sales growth	0.101***	0.105***	0.104***
Leverage	-0.214***	-0.186**	-0.194**
ROA	0.103	0.078	0.068
Dual-class dummy	-0.210***	-0.174***	-0.261***
Cross-list dummy	0.200**	0.012	-0.054
Number of U.S. investors		0.150***	0.163***
Dual-class + cross-list dummy			0.474**
Number of U.S. investors x dual-class			-0.112**
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	7,070	7,070	7,070
Overall R2	0.169	0.204	0.206

benefit relatively more from a U.S. listing and the premium from cross-listing does not depend on whether these firms succeed or not in expanding their U.S. shareholder base. ■

REFERENCES

- Coffee, J. C. 1999. "The Future as History: The Prospects for Global Convergence in Corporate Governance and Its Implications." *Northwestern University Law Review* 93:641-708.
- Doidge, C. 2004. "U.S. Cross-listings and the Private Benefits of Control: Evidence from Dual-class Companies." *Journal of Financial Economics* 72: 519-553.
- Foerster, S. R. and G. A. Karolyi. 1999. "The Effects of Market Segmentation and Investor Recognition on Asset Prices: Evidence from Foreign Stocks Listing in the United States." *Journal of Finance* 54:981-1013.
- King, M. R. and E. Santor. Forthcoming. "Family values: Ownership structure, performance and capital structure of Canadian firms." *Journal of Banking and Finance*.
- King, M. R. and D. Segal. Forthcoming. The Long-Term Effects of Cross-Listing, Investor Recognition, and Ownership Structure on Valuation. *Review of Financial Studies*.
- King, M. R. and Mittoo, U. R. 2007. "What Companies Need to Know About International Cross-Listing." *Journal of Applied Corporate Finance* 19(4): 2-16.
- Mittoo, U. R. 2003. "Globalization and the Value of U.S. Listings: Revisiting Canadian Evidence." *Journal of Banking and Finance* 27:1629 - 61.
- Stulz, R. M. 1999. "Globalization, Corporate Finance, and the Cost of Capital." *Journal of Applied Corporate Finance* 26:3-28.