

International Cross-Listing and the Bonding Hypothesis

*Michael R. King, Bank of Canada and Dan Segal, University of Toronto**

With more than 180 listings in 2003, Canada has the largest number of cross-listed shares on U.S. stock exchanges. Canadian firms cross-list using an ordinary listing, meet all the same filing and disclosure requirements as a U.S. firm, and are subject to supervision and enforcement by the Securities and Exchange Commission. Studies of cross-listing find a positive price effect associated with this act, linked to the greater liquidity and better investor recognition of firms traded on a U.S. stock exchange. These positive effects lead to a lower cost of equity, providing a strong motivation for firms to cross-list.

Recent research suggests an alternative motivation for cross-listing that is based on investor protection. Coffee (1999) suggests that a foreign firm from a jurisdiction featuring potentially weaker investor protection can increase its valuation by bonding itself to the U.S. securities regime through cross-listing (the “bonding hypothesis”). The cross-listed firm signals its desire to respect the rights of shareholders by listing in a jurisdiction with more intense scrutiny, tougher regulation, and better enforcement. This added protection makes investors more willing to buy the shares of a foreign firm that has tied its hands in this way, thus raising its valuation. Siegel (forthcoming) qualifies this hypothesis, and concludes that bonding operates through a reputational mechanism, not through the courts. Reese and Weisbach (2002), Doidge, Karolyi, and Stulz (2004) and Doidge (forthcoming) find support for the bonding hypothesis, using cross-country data that include Canada.

This paper provides an alternative test of the bonding hypothesis using a sample of Canadian

and U.S. firms. Because bonding cannot be observed directly, researchers have designed proxies that attempt to capture this effect indirectly. Here we use a proxy for bonding based on share turnover in the U.S. market.

It is a stylized fact that cross-listing leads to an increase in trading volumes in both the domestic and foreign markets. If this increase in trading volumes is absent, then firms that incur the costs required to cross-list would not experience the benefits of a lower cost of equity and higher returns. Failure to generate significant share turnover in the U.S. market may signal that bonding has not occurred, indicating that U.S. investors do not believe that their minority rights will be respected by this firm. This hypothesis is examined here.

Methodology

The impact of cross-listing on a firm’s valuation is tested through a series of regressions, where the dependent variable is a measure of the valuation of a firm’s equity. The book-to-market ratio is used in one specification and the earnings-to-price ratio in a second specification. Explanatory variables consist of company-specific variables and a set of dummy variables that capture remaining systematic effects. Company-specific variables include firm size, profitability, cost of equity, past sales growth, share turnover, and industry membership. A dummy variable is used to identify the nationality of the firm, while a second dummy identifies whether the Canadian firm is cross-listed or not.

Given that many factors affect investor protection, some of which cannot be quantified, this study uses a dummy-variable approach to capture systematic effects of differences in investor protection indirectly through the choice of sample and the inclusion of control variables in each

* This article summarizes a recently published Bank of Canada working paper (King and Segal 2004).

regression. We examine a large sample of Canadian firms listed exclusively on the Toronto Stock Exchange (TSX), U.S. firms listed on U.S. exchanges, and Canadian firms cross-listed on both the TSX and a U.S. stock exchange over this period.

Outline of Findings

The first set of regressions compares the relative valuation of all three categories of firms. After company-specific and market-specific factors are controlled for, the results indicate that Canadian firms are valued at a discount to U.S. firms. This discount exists despite controlling for the size, profitability, cost of equity, sales growth, and industry membership of these firms. Cross-listing mitigates this discount, and leads to valuations that are closer to or on a par with U.S. firms.

The second set of regressions looks at the relative valuation of cross-listed Canadian firms and Canadian firms listed only on the TSX. The results support the general finding that cross-listed Canadian firms have a higher valuation than other Canadian firms. This result is consistent with the bonding hypothesis, because it suggests that the cross-listed firms, which are exposed to the scrutiny of the U.S. markets, have a higher valuation, despite controlling for firm size, profitability, industry membership, and growth opportunities. These regressions do not prove the bonding hypothesis, however, since the effect could be caused by other factors that are not controlled for directly in these regressions.

A key part of the cross-listing story revolves around share turnover. In line with the studies reviewed in Karolyi (1998), higher valuations are associated with greater share turnover for all firms that cross-list. This finding, however, does not say anything about the location of share turnover, which is important for stock exchanges that compete to attract the secondary trading in a firm's shares. An examination of the share turnover of cross-listed Canadian firms shows a wide divergence in where the trading in these firms actually takes place. Not all Canadian firms that cross-list attract trading on U.S. stock markets. Instead, many of these firms continue to be traded predominantly on the home market.

We argue that the relative amount of trading on the U.S. stock market is a proxy of the degree of reputational bonding to the U.S. regulatory regime, since it indicates the degree of investor confidence that shareholder rights will be respected. We split the sample of cross-listed Canadian firms into two groups based on the ratio of U.S. share turnover to Canadian share turnover, and re-estimate our regressions. The results show a different picture from previous studies of cross-listing. The cross-listed firms that attract a higher share of trading on U.S. exchanges receive an increase in valuation over and above the impact of higher share turnover. Cross-listed Canadian firms that continue to trade predominantly on the TSX do see some benefit if their overall share turnover increases. This result is consistent with previous studies of firms cross-listing on two exchanges within the same country. In some cases, however, Canadian firms cross-list in the United States but do not see an increase in share turnover. These firms are valued similarly to other non-cross-listed firms.

Conclusions

This paper attempts to identify the mechanism by which the bonding hypothesis affects valuation, and is the first to argue that bonding may be proxied by the location of share trading. Cross-listed Canadian firms that succeed in attracting share turnover in the United States realize the benefits from cross-listing in terms of an increase in valuation. When firms cross-list but continue to trade predominantly at home, these benefits are limited. These results are consistent with the bonding hypothesis that suggests that investors in U.S. markets do not value all cross-listed firms similarly, but rather reward some and withhold the benefits from others. Future research will explore why some cross-listed Canadian firms attract U.S. sponsorship while others do not.

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. Forthcoming. "U.S. Cross-listings and the Private Benefits of Control: Evidence from Dual-Class Firms." *Journal of Financial Economics*.
- Doidge, C., G.A. Karolyi, and R.M. Stulz. 2004. "Why Are Foreign Firms Listed in the U.S. Worth More?" *Journal of Financial Economics* 71: 205–38.
- Karolyi, G.A. 1998. "Why Do Companies List Shares Abroad?: A Survey of the Evidence and Its Managerial Implications." *Financial Markets, Institutions & Instruments* 7: 1–60.
- King, M. and D. Segal. 2004. "International Cross-Listing and the Bonding Hypothesis." Bank of Canada Working Paper No. 2004–17.
- Reese, W.A. and M.S. Weisbach. 2002. "Protection of Minority Shareholder Interests, Cross-Listings in the United States, and Subsequent Equity Offerings." *Journal of Financial Economics* 66: 65–104.
- Siegel, J. Forthcoming. "Can Foreign Firms Bond Themselves Effectively by Renting U.S. Securities Laws?" *Journal of Financial Economics*.