

THE LONG-RUN PERFORMANCE OF CROSS-BORDER MERGERS AND ACQUISITIONS: EVIDENCE TO SUPPORT THE INTERNALIZATION THEORY

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Abstract

Our study contributes to improving the understanding of cross-border M&As in two domains: evaluation of the long-term financial performance of acquiring firms in cross-border M&As and detection of the determinants of their long-term success. Our results show no sustained gains or losses during the post-acquisition period for Canadian acquirers. In contrast to their performance in domestic M&As, Canadian firms carrying out crossborder M&As do generate enough value to keep up with stock-market requirements, relative to their risk level as determined by the Fama & French three-factor model and the level of returns generated by peer firms in their main industrial sector. Our findings agree with the internalization theory and suggest that acquiring firms engaged in cross-border M&As can indeed realize efficiency gains and create long-term value for their shareholders, but only under certain conditions: namely, when they possess high levels of R&D and a strong combination of R&D and intangibles.

Keywords: mergers & acquisitions, cross-border, internalization theory, long-run performance

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Introduction

Cross-border mergers and acquisitions (M&As) have become increasingly popular in recent years. According to the 2004 world investment report published by the United Nations Commission on Trade and Development (UNCTAD), the total world value of cross-border M&As peaked at over one trillion US\$ in the year 2000. In 2000, Canada ranked eighth in cross-border M&A value, with a total of close to \$40 billion in deals, which represents an annual compounded growth of 28.9% over the last decade, outstripping growth both in the U.S. (19.1%) and on a global scale (22.5%).¹ In addition to generating efficiency gains, cross-border M&As may enable firms to meet international competition and to generate value in foreign markets through the use of

their intangible assets (e.g., trademarks, specialized labour and technologies). Despite the growth in cross-border M&A activity, researchers are struck by the lack of studies examining their impact on the wealth of shareholders. Our study helps fill a void by evaluating the long-term financial performance of acquiring firms and by identifying factors that determine their long-term success. Our specific aim is to test the internalization theory. Do shareholders increase their wealth when their corporate managers carry out cross-border M&As? What key factors determine the long-term success of the acquiring firm's financial performance in a cross-border M&A? This study will attempt to answer these questions. Our sample contains 551 cross-border M&As initiated by Canadian firms. The temporal horizon of these events is spread over eleven years, i.e. from 1990 to 2000 inclusively. Several methodologies are used to ensure the robustness of the results. Our paper is organized as follows: the first section presents the conceptual framework of our study; the second presents the data and methodologies we used; and subsequent sections present our empirical results and conclusions.

Conceptual Framework

The first conceptual framework of our study involves multinational firms. According to this theory, cross-border M&As may help create value for acquiring

¹ Contrary to what is seen in the U.S., ownership of Canadian firms tends to be concentrated in the hands of large, and often family-linked, shareholders. According to Rao and Lee-Sing (1996), most Canadian firms are owned by either one shareholder or by a small group of shareholders controlling, directly or indirectly, more than 50 percent of the company's voting shares. Moreover, the size of Canadian firms is, on average, smaller. Agency problems between managers and shareholders are less of an issue in Canada. The Canadian corporate environment seems to offer firms more of the flexibility they need to engage in cross-border M&As and also to adjust quickly to changes in the global economy.

firms if such firms tap into their expertise and know-how on international markets (internalization theory of Buckley and Casson, 1976, and of Rugman, 1981); benefit from financial market imperfections which lower investment and operating costs, such as exchange rates (Aliber, 1970, 1978); and reduce their risk of business failure through greater income diversification (Agmon and Lessard, 1977; French and Poterba, 1991). Conversely, for agency and hubris theorists, such operations may destroy value. From this perspective, M&As are a way for managers to expand their empire, and, thus, their remuneration or non-cash benefits, which are often associated with the size of the firms managed (Jensen and Meckling, 1976). Furthermore, some managers may carry out M&As to entrench themselves in the firm. Even if such projects are not profitable from a financial perspective, these managers invest in areas that make their specific skills indispensable, in order to obtain higher remuneration and to diminish the likelihood of being replaced (Shleifer and Vishny, 1989).

According to the hubris theory, too much confidence, pride, and arrogance on the part of some decision-makers may lead them to overestimate synergistic gains and to place excess value on the target firm (Roll, 1986; Hayward and Hambrick, 1997). The results of scientific studies on domestic M&As tend to indicate that the lion's share of potential gains will go to the target rather than the acquiring firms (Jensen and Ruback, 1983; Bhagat, Shleifer and Vishny, 1990; and Eckbo and Thorburn, 2000). Generally, the latter firms either realize no gains or show a significant reduction in value. Given the current M&A trend, this phenomenon is a true enigma. Yet, despite the growing increase in such events, relatively few researchers have looked into the financial performance of cross-border M&As. The results of U.S. studies on the short-term financial performance of cross-border M&As are contradictory. Specifically, studies by Doukas and Travlos (1988), Kang (1993), Markides and Ittner (1994) and Markides and Oyon (1998) reveal that cross-border M&As generate significant announcement gains, but, according to Cakici et al. (1996), Seth et al. (2000) and Eckbo and Thorburn (2000), this is not the case.

These studies identify a few specific factors that shape this type of M&A: the level of intangible asset internalization; entry into a new country and new industry; relative strength of the dollar of the acquiring firm's country; the level of economic development and taxation in the target country. International acquisitions are very complex operations and their impact on acquiring firms will depend on a combination of factors which are very difficult to assess at the time of announcement. In this context, financial markets are only partially efficient. Studies on long-term financial performance are aimed at evaluating the extent to which the short-term losses or gains reported by financial markets when the M&A is announced are later maintained. In theory, the market

value of these firms should not be seen to fluctuate abnormally, considering their respective risk or compared to similar firms that have not carried out an M&A. Several U.S. studies have examined the long-term financial performance of acquiring firms engaged in domestic M&As. The long-term returns are estimated with stock market data covering the three-to-five years after the M&A's announcement. Although the results obtained are contradictory, they tend to demonstrate that efficiency and synergistic gains are not always fully realized. Jensen and Ruback (1983) and Agrawal, Jaffe and Mandelker (1992) suggest that acquiring firms sustain losses, while Loderer and Martin (1992), Loughran and Vihj (1997), and Mitchell and Stafford (2000) obtain virtually no abnormal returns. Furthermore, Franks, Harris, and Titman (1991) and Rau and Vermaelen (1998) obtain different results depending on the methodologies used or the subsets considered.

There are a few unpublished studies dealing with the long-run performance of cross-border M&As. Black et al. (2001) report negative abnormal returns over both a three- and five-year post-acquisition period for bidders in cross-border deals. Conn et al. (2003) establish a difference between public and private targets. According to this study, cross-border acquisitions of public targets result in negative abnormal returns while M&As involving private targets show no significant long-run abnormal returns. There does not seem to be a clear consensus on what impact cross-border M&As may have on the wealth of the acquiring firm's shareholders or on key factors determining the financial performance of such operations. It would appear that research in this area is at an exploratory stage.

Internalization Theory

In their recent paper, Markides and Oyon (2005, page 4) define Internalization theory and deplore the lack of empirical evidence to support it: "According to internalization theory (e.g. Buckley and Casson, 1976; Caves, 1971; Coase, 1937; Dunning, 1973; Hymer, 1976; Rugman, 1981; Teece, 1985; Williamson, 1975), firms invest abroad in order to exploit tangible and intangible firm-specific assets, the markets for which are characterized by high transaction costs.

By exploiting these special advantages abroad, a firm could overcome the liability of foreignness and create value. The predictions of this theory have not gone untested. Unfortunately, the empirical evidence does not provide consistent support for the theory." Kang and Johansson (2001, page 5) state that: "Enterprises increasingly seek to exploit intangible assets – technology, human resources, brand names – through geographical diversification and acquisition of complementary assets in other countries." And on page 30: And on page 35: "There has been little analysis of the performance effects of cross-border M&As or comparing the effects of cross-border mergers to those of greenfield investments abroad.

Different factors, particularly the quest for global-level efficiency and the desire to merge intangible assets, are now driving a large share of M&As. Recent research shows that intangibles such as technological capacity may have an important influence on merger outcomes. The possession or lack of firm-specific intangible assets – including human and managerial resources, research capacity and technology, and product marks and brand names – can affect the performance of companies undertaking mergers. Geographic and cross-industry diversifications tend to increase firm value in the presence of intangible assets but decrease firm value in their absence (Morck and Yeung, 2001). In addition, the full efficiency effects of M&As across international borders can only be assessed in the longer term.” Our study aims at filling part of this void by testing the internalization theory as a possible longrun driver of performance for acquiring firms.

Data and Methodology

Our data set of cross-border Canadian M&As is obtained from the Securities Data Corporation (SDC) Worldwide M&A database run by Thomson Financial. The stock market returns are obtained from the Canadian Financial Markets Research Center (CFMRC) database. This organization provides the historical daily and monthly returns for firms listed on the Toronto Stock Exchange (TSX). Two market indices are also calculated: an equally weighted index and a value weighted index. Both indices contain all the common shares listed on the TSX issued by Canadian-based firms. Our accounting data are obtained from the Stock Guide database, a monthly publication of accounting data and financial ratios taken from the latest financial reports of firms listed on the TSX. This database also lists the market value and the number of outstanding shares as of the end of the last fiscal period. We have used the product of the latter two data as a substitute for firm size.

Our study involves 551 cross-border M&As carried out by 178 Canadian acquiring firms and completed during the period from January 1990 to January 2000 inclusively. We did not eliminate overlaps. Eliminating overlaps would have resulted in reducing our sample to 126 events. It would have represented a tremendous loss of information. Keeping only nonoverlapped events would have meant keeping, for most cases, the last transaction of a series or the unique transaction of a particular firm during the time span observed. We argue that this would have created a selection bias. Furthermore, we hold that we measure the true effect of cross-border M&A activity by selecting all transactions. But, as a result, we cannot maintain that our sample returns are independently distributed. Consequently, we have recourse to the latest methodologies to confront this problem. Event periods begin on the effective date and end 60 months later. All industries are

represented except for two government-regulated sectors: financial services and utilities.

We note a 43% concentration of events in the industrial products sector, while the rest are distributed quite uniformly across the other industries. The transactions in our sample are distributed uniformly across the years from 1990 to 2000. We note no clustering that might indicate any strong cross-correlations between the returns in our sample.

In our sample, 47% of the transactions involved the acquisition or exchange of shares and 53%, the acquisition of the target’s assets. Of the share transactions, 58% consisted in takeovers (mergers and acquisitions of major interest) and 42%, in partial participations. Furthermore, the Thomson Financial database listed only two events from our sample as a tender offer. With regard to the target-firm managers’ reactions to M&A announcements, 99.6% were qualified as friendly or neutral. Furthermore, 45% of the transactions were paid for in cash only, 5% in stock only and 9% in both cash and stock. In 41% of the cases, the mode of payment was categorized under “other mode of payments.” Our sample features M&As carried out in 52 countries, with a heavy concentration in the United States (58%). The United Kingdom follows with 10%, France with 4%, and Australia with 3%. All other events are dissipated across the remaining 48 countries.

Long-run performance

While the methodology of short-term event studies is relatively old (Fama et al., 1969), well known and mastered by accounting and finance researchers, the same is not true for long-term studies. In their methodological works, Kothari and Warner (1997), Barber and Lyon (1996, 1997a), Lyon, Barber and Tsai (1999), and Mitchell and Stafford (2000) specifically question the validity of the usual parametric tests for detecting abnormal long-term returns. According to Barber and Lyon (1997a), the results obtained through these methods are very sensitive to financial performance calculation and benchmark methods. Lyon, Barber and Tsai (1999) recommend using and comparing several methods to ensure robust results. We evaluate annual abnormal returns for up to five years after the M&A’s announcement. We use two methodologies to calculate the long-term financial performance of our sample firms. First, we use the control firm in the event-time approach proposed by Barber and Lyon (1997a) and Lyon, Barber and Tsai (1999). We calculate annual abnormal returns using the Buy-and-Hold Abnormal Returns (BHAR) method over a period of five years, counting from the month when the transaction is said to be effective. As recommended by these authors, we use the size and the book-to-market (BM) ratio to select and match similar firms. We also use the industry as an additional criterion to obtain more precision in our matching.

As proposed by Brock, Lakonishok and LeBaron (1992) and Ikenberry, Lakonishok and Vermaelen (1995), we perform an empirical bootstrap of abnormal returns generated by this method to determine the level of statistical significance. Moreover, in accordance with Jaffe (1974), Mandelker (1974), Fama (1998) and Mitchell and Stafford (2000), we use the calendar-time/FF3FM to minimize any problems related to the possible cross-sectional dependence of the returns.

Determinants of long-run performance

In a recent meta-analysis, King et al. (2004) conclude that “empirical research has not consistently identified antecedents for predicting post-acquisition performance” and that “there is very little overlap across studies in the variables used to explain post-acquisition performance.” Using the two methodologies described above, we shall try to address these questions. Our financial factors are taken from the latest financial reports before the M&A announcement. Our main objective is to test the internalization theory using the level of research and development expenses (R&D) and intangible assets as proxies for expertise and know-how.

The empirical studies of Morck and Yeung (1992) and of Markides and Oyon (1998) reveal that acquiring firms with high levels of intangible assets generate value for their shareholders in cross-border M&As. These results are in accordance with the internalization theory of Buckley and Casson (1976) and Rugman (1981).

Methodologies

We use two methodologies to evaluate long-term abnormal returns: first, the control firm in event-time approach; second, the calendar-time/FF3FM. We divide our sample into two subgroups of high and low R&D and know-how, using the median as the cut-off point. Level of R&D is the ratio of research expenses to total revenue. Level of know-how incorporates the intangible assets in the numerator of the preceding ratio.

Event-time/Control-firm method

Using the BHAR method, we calculate annual abnormal returns over five years following the month in which the transaction took effect. We consider only years/firms for which no returns are missing.

For each of the firms/months in our sample, we select, from our control group, a similar firm in terms of industry, size, and BM ratio. We use the monthly return obtained by the firm whose BM ratio is closest to that of a sample firm and whose size is $\pm 30\%$ that of a sample firm operating in the same industry. Unlike Barber and Lyon (1997a), who only use size and BM ratio to select control firms, we add the industry criterion to increase the precision of our matches. For a specific industry, when our control group does not contain a firm whose size is within our

prescribed range, we select, from among all firms in the industry, the firm whose BM ratio is closest to that of our sample firm. We perform the bootstrap procedure proposed by Brock, Lakonishok and LeBaron (1992) and Ikenberry, Lakonishok and Vermaelen (1995) to evaluate statistically any abnormal returns arising from the control-firm method. To create our control-firm group, we first collect the monthly returns (from January 1990 to December 2000) on all the shares of TSX-listed firms whose size values and BM ratios are found in the Stock Guide database. We then remove from this control group all firms having carried out M&As (cross-border or domestic) during the twelve months preceding as well as the 60 months following the announcement of the event. As a result, our control group contains 49,695 firms/monthly returns that are not affected by M&A activities. We create 1,000 portfolios by randomly selecting 1,000 firms/monthly returns from among the firms of our control group.

We apply the control-firm method to determine the mean abnormal returns of each of the 1,000 pseudo-samples that we randomly created. We reject the null hypothesis stating that BHARs are nil when results are below or above the critical percentiles of the bootstrap. For instance, for a 5% level of significance, we use the 2.5th and 97.5th percentiles as critical values.

Calendar-Time/Fama & French three-factor model

For each calendar month in the period from January 1990 to December 2000, we calculate the abnormal returns of all sample firms having announced an M&A in the 60 preceding months. The calendar-time portfolio return and market return are calculated on an equally weighted basis. We use the following regression to detect abnormal returns:

$$R_{pt} - R_{ft} = a + b_p(R_{mt} - R_{ft}) + s_pSMB_t + h_pHML_t$$

where $R_{pt} - R_{ft}$ is the monthly excess return of the calendar-time portfolio over the risk free rate; $R_{mt} - R_{ft}$ is the excess return required by the market over the risk free rate, as used in the CAPM; SMB (Small Minus Big), the excess return required for small firms; and HML (High Minus Low), the excess return required for value firms (high BM ratios).

The intercept “a” indicates the monthly average abnormal return of our M&A sample.

We use weighted least squares regressions to control for the heteroskedasticity potentially induced by the fact that the number of firms in our monthly portfolios varies over time. Our weights are the reciprocal of the square root of the number of firms in each month. We only consider portfolios composed of at least five firms. In order to account for size and BM peculiarities in Canada, b, s and h factors were estimated using all TSX returns for the period from 1990 to 2000. Following Fama and French (1992, 1993), we sorted all stocks into 6 portfolios and ranked them based on their size and BM ratios.

The stocks were subsequently sorted into two size groups and three BM subgroups. Firms above median size were designated "big" and firms below median, "small." Firms in the bottom 30% in terms of BM ratio were designated "low" and those in the top 30% were designated "high." The SMB factor (Small minus Big) represents the average excess return of small firms over big firms.

The HML factor (High minus Low) represents the average excess return of value firms (high BM ratios) over glamour firms (low BM ratios). In order to validate our parameters, for every month from January 1990 to December 2000, we formed 25 portfolios using the size and BM ratios of all TSX firms for which we found values in the Stock Guide database. For every month, we ranked and sorted all firms into five groups based on size and into five subgroups based on BM ratio. For every month, we ran 25 regressions of the FF3FM. We used 91-day Canadian Government Treasury Bills as a proxy for the risk free rate (Rf). The market return is the equally weighted value of all stocks quoted on the TSX. The SMB and HML factors that we used are significant drivers of excess returns for Canadian firms.

Appendix A shows the P-values that we obtained for all coefficients. Beta coefficients are systematically significant, whereas SMB and HML factors are mostly significant, except when shifting from small to big firms for "s" coefficients and when shifting from low to high BM ratios for "h" coefficients. Fama and French (1992, 1993) note the same phenomenon in their seminal study.

Results

Long-Run Abnormal Returns

Table I presents the results obtained by using the control firm method. When compared to similar firms within their industry, our group of acquiring firms does not generate any abnormal returns over the five-year period following a cross-border M&A. Using our bootstrap as a benchmark for the distribution of "normal" returns, we observe that none of the BHARs is significant. As a whole, Canadian acquiring firms involved in cross-border M&As do no better nor worse than their peers. This result is in itself interesting since long-term studies on domestic M&As tend to validate the opposite. Looking at the abnormal returns year by year after the acquisition, we have strong evidence that, on the whole, cross-border M&As do not destroy or create abnormal value during the postacquisition period. This is to say that Canadian acquirers are keeping up to par with their competitors and with the market in general, given the risk that they bear as measured by the FF3FM.

Determinants of Long-Term Performance

Subgroup analysis

We apply both the event-time/control-firm and the calendar-time/FF3FM methods to test for any

significant differences between R&D and know-how subgroups. Under the control firm method, we perform a bootstrap of all differences between every pseudo-sample produced by our previous bootstrap.

From 1,000 pseudo-samples, we generate a distribution of 499,500 differences which we use to test the difference between our subgroups. To test for differences under the calendar-time method, we regress the difference in returns of the two subgroups on the FF3FM. Overall, the event-time/control-firm method tends to discriminate more precisely between the subgroups than the calendar-time/FF3FM approach. In the first case, abnormal returns represent deviations from peer firms while, in the latter case, they represent deviations from the expected market return indicated by the FF3FM risk factors.

Level of R&D expense

Our results are in accordance with the internalization theory of Buckley and Casson (1976) and Rugman (1981). Research spending in Canada is a good proxy to forecast the relative success of cross-border M&As. Table III shows our results. For our low R&D group, the control-firm approach shows significant negative monthly BHARs, starting 24 months post-acquisition and continuing through 60 months. Our high R&D subgroup shows very significant positive abnormal returns after 48 to 60 months. Moreover, our test of the difference between the BHARs of these two groups shows significant positive abnormal returns in favour of the high R&D group. The FF3FM approach does not show any significant alphas. High levels of R&D expenses as compared to total revenue are an indicator of the firm's efforts to develop its expertise and know-how. Although not recorded in the assets of the firm, R&D spending is intangible capital that firms engaging in cross-border M&As can profit from abroad. It is an asset whose potential is recognized by the financial market.

Level of know-how

From table IV, we observe that low know-how firms show significant negative BHARs over the 24-to-48-month post-acquisition period. Alphas generated for this group by the FF3FM approach are also negative over the 24-to-60-month period. High know-how firms show positive BHARs during all post-acquisition years, although only the first 12-month BHAR is statistically significant. Differences between high and low know-how firms are systematically positive with high percentiles. Values for 12 and 24 months are significant at the 10% level, while the 48-month deviation is significant at the 5% level.

This variable includes the intangible assets of the firm. Intangible assets include patents and trademarks, but also goodwill from previous acquisitions. Goodwill can be defined as intangible assets acquired from another firm, which, by definition, will include the know-how, expertise, and reputation acquired from that firm. Consequently, know-how as we define

it serves as a broader proxy for expertise and know-how than does R&D spending. In sum, our know-how factor also supports the internalization theory.

Table I. Control-Firm Method

	Buy-and-Hold Abnormal Returns (BHAR)				
	12 months	24 months	36 months	48 months	60 months
Sample Firms					
Average	0.0486	-0.1136	-0.2975	-0.2560	0.1622
Percentile	0.645	0.131	0.081	0.126	0.442
N ²	551	427	301	194	118
Bootstrap					
Median	0.0176	0.1187	0.1257	0.0858	0.2270
Mean	0.0145	0.0935	0.2134	0.0473	0.2230
Standard Deviation	0.0874	0.2828	0.4867	0.3330	0.4327
Skewness	-0.1195	-2.2770	1.6916	-1.2644	0.1640
Kurtosis	3.1836	12.1531	7.5884	6.2282	3.8943
Prob. - Jarque-Bera	0.1508	0.0000	0.0000	0.0000	0.0000
Minimum	-0.3759	-1.4512	-0.9674	-1.7110	-1.5024
Maximum	0.2893	0.7788	2.9488	0.9293	2.2786
Lower bound (0,025)	-0.1656	-0.8422	-0.5127	-0.8241	-0.6067
Upper bound (97,5)	0.1844	0.5239	1.6855	0.5825	1.1062

Note: N². Table II shows the results obtained by using the calendar-time/FF3FM. We do not obtain any significant alphas except for the period of 24 months, where the alpha is only significant at the 10% level. This methodology accounts for possible covariances between the returns. The results confirm our BHAR approach but is in contrast with the recent Canadian study of André et al. (2004).

Table II. Calendar-Time/Fama & French Portfolio Method

	12 months	24 months	36 months	48 months	60 months
Alpha	-0.0005	-0.0007	-0.0006	-0.0003	-0.0002
t-statistic	-1.015	-1.800	-1.655	-0.870	-0.741
P-value	0.312	0.075*	0.101	0.386	0.460
Adj. R square	0.498	0.584	0.587	0.483	0.480
Nb of months	118	117	117	116	116

* Coefficient is significant at the 0.10 level (2-tailed)

** Coefficient is significant at the 0.05 level (2-tailed)

*** Coefficient is significant at the 0.01 level (2-tailed)

Table III. Level of R&D Expense of Acquiring Firm

LOW R&D (1)		12 months	24 months	36 months	48 months	60 months
Control Firm	BHAR	-0.0203	-0.3696	-0.7855	-1.1644	-1.2354
	Percentile	0.338	0.036*	0.006**	0.013**	0.000***
	Nb of firms	336	255	173	103	58
CT-FF3FM	Alpha	-0.0001	-0.0008	-0.0007	-0.0006	-0.0006
	t-statistic	-0.078	-1.524	-1.43	-1.268	-1.201
	P-value	0.938	0.130	0.156	0.208	0.232
	Adj. R Square	0.290	0.382	0.387	0.389	0.388
	Nb of months	115	116	116	116	116
HIGH R&D (2)						
Control Firm	BHAR	0.1616	0.2600	0.3512	0.7683	1.5511
	Percentile	0.960*	0.758	0.772	0.997***	0.997***
	Nb of firms	213	170	126	89	58
CT-FF3FM	Alpha	0.0003	0.0005	0.0004	0.0005	0.0010
	t-statistic	0.218	0.487	0.481	0.522	0.667
	P-value	0.828	0.627	0.631	0.603	0.507
	Adj. R Square	0.351	0.295	0.275	0.260	0.252
	Nb of months	104	109	110	110	110
DIFFERENCE (2 - 1)						
Control Firm	BHAR	0.1819	0.6297	1.1367	1.9327	2.7870
	Percentile	0.929	0.963*	0.949	0.999***	0.999***
	Nb of firms	213	170	126	89	58
CT-FF3FM	Alpha	-0.0001	0.0007	0.0004	0.0004	0.0005
	t-statistic	-0.045	0.862	0.560	0.553	0.640
	P-value	0.964	0.391	0.577	0.582	0.523
	Adj. R Square	0.090	0.046	0.078	0.071	0.070
	Nb of months	103	105	107	107	107

* Coefficient is significant at the 0.10 level (2-tailed)

** Coefficient is significant at the 0.05 level (2-tailed)

*** Coefficient is significant at the 0.01 level (2-tailed)

² Two facts explain the reduction of the number of observations through time : the lack of monthly returns for certain securities and the fact that the cumulative returns of events having occurred in 1997 or thereafter are calculated for a period of less than 5 years. For example, the cumulative returns of acquisitions having occurred in 1999 are only included in averages for the first two post-acquisition years.

Table IV. Level of Know-How of Acquiring Firm

LOW KNOW-HOW (1)		12 months	24 months	36 months	48 months	60 months
Control Firm	BHAR	-0.0579	-0.3874	-0.6880	-0.7798	-0.2597
	Percentile	0.197	0.034*	0.008**	0.032*	0.121
	Nb of firms	280	219	169	98	62
CT-FF3FM	Alpha	-0.0010	-0.0012	-0.0012	-0.0012	-0.0012
	t-statistic	-1.127	-1.798	-1.834	-1.775	-1.784
	P-value	0.263	0.075*	0.069*	0.079*	0.077*
	Adj. R Square	0.432	0.454	0.439	0.448	0.446
	Nb of months	99	111	111	111	111
HIGH KNOW-HOW (2)						
Control Firm	BHAR	0.1586	0.1747	0.2024	0.2787	0.6294
	Percentile	0.956*	0.615	0.602	0.772	0.852
	Nb of firms	271	208	132	96	56
CT-FF3FM	Alpha	-0.0010	-0.0004	0.0001	0.0001	0.0000
	t-statistic	-1.090	-0.646	0.215	0.202	0.377
	P-value	0.278	0.519	0.830	0.840	0.707
	Adj. R Square	0.408	0.414	0.267	0.258	0.255
	Nb of months	116	113	111	111	111
DIFFERENCE (2 - 1)						
Control Firm	BHAR	0.2165	0.5621	0.8903	1.0584	0.8890
	Percentile	0.960*	0.954*	0.919	0.979**	0.929
CT-FF3FM	Alpha	-0.0006	0.0007	0.0009	0.0008	0.0009
	t-statistic	-0.623	1.083	1.451	1.430	1.665
	P-value	0.535	0.281	0.150	0.156	0.099*
	Adj. R Square	0.075	0.169	0.173	0.186	0.190
	Nb of months	97	109	109	109	109

* Coefficient is significant at the 0.10 level (2-tailed)

** Coefficient is significant at the 0.05 level (2-tailed)

*** Coefficient is significant at the 0.01 level (2-tailed)

Multivariate analysis

We perform a multivariate analysis to test the joint impact of our variables on the long-run performance of cross-border M&As. We perform five logit regressions using BHARs after 12 to 60 months as dependent variables. We convert our continuous observations into dichotomic variables. Zero values represent negative BHARs and values of one represent positive BHARs. Our independent variables are also dichotomics, using the median as the cut-off point. They include the following control variables:

BM Ratio - According to Rau and Vermaelen (1998), the post-acquisition performance of value firms (high BM ratio) is better than that of glamour firms (low BM ratio). The performance extrapolation hypothesis states that both the market and management tend to over-extrapolate the acquiring firm's past performance when assessing the benefits of an acquisition. This overvaluation for glamour firms turns into low marks on post-acquisition performance, once the market becomes aware of the error. The opposite reasoning applies to value firms. More recently, André et al. (2004) also have found that Canadian glamour acquirers perform more poorly than their value counterparts.

Method of Payment - Acquisitions fully paid in cash or with a mix of cash and stocks are classified as cash payment, otherwise they are considered non cash payment. Loughran and Vijh (1997) conclude that the cash payment method has a positive impact on the value of acquiring firms; acquirers tend to pay in

shares when their stock is overvalued. In Canada, Eckbo and Thorburn (2000) find no significant form of payment effect while André et al. (2004) confirm the results of Loughran and Vijh (1997).

Related Industries - This variable captures the similarities between the acquirer and the target. Firms are said to be similar when the target firm operates in the same industry as the acquiring firm. We use the first two numbers of the SIC codes from the Thomson Financial database to identify the industries. According to Markides and Ittner (1994), horizontal cross-border M&As positively influence the abnormal returns generated by U.S. acquiring firms. In the André et al. (2004) study, related firms' M&As tend to underperform those of conglomerate ones.

Size of Acquiring Firm - We measure the size of the acquiring firm by the magnitude of its revenue, using the natural logarithm of total revenues. Following Markides and Ittner (1994), we use this variable to identify the impact of the acquiring firm's size on the abnormal returns generated.

Target Country's Level of Development - This variable refers to the economic development level of the target countries. We divide our M&A sample based on whether the target firm is in a developing country or in a developed country. The level of development of countries is drawn from the World Investment Report, (UN, 2001). According to Doukas and Travlos (1988), the economic disparity between developed and developing countries can have an impact on postacquisition value: Firms from the developed world acquiring targets in less developed

countries would be able to generate value from the market imperfections (both in capitalization and production) which are found in these countries.

Table V presents the frequencies for all variables and the number of valid observations.

Table VI shows the correlations between all variables. Correlations between independent variables are somewhat low and should not invalidate our results. Furthermore, we note that although R&D and know-how measure very similar constructs and both include a measure of the level of R&D expense, they show very low coefficients of correlation.

Our multivariate analysis shows that the levels of R&D expense and know-how carried by the acquiring firms are dominant drivers of their long-run performance. Despite some isolated occurrences, none of the control variables have a significant impact.

Conclusion

This study evaluates the stock market performance of Canadian acquiring firms involved in crossborder M&As during the period from 1990 to 2000. We test the internalization theory as a possible long-run driver of performance for acquiring firms. We use a sample of 551 events. We employ the latest methodologies to avoid statistical biases, and our results converge. Despite a possible period of reduction in value in the first years after the effective date of the transaction, our study reveals that Canadian firms carrying out cross-border M&As do not generate significant abnormal returns in the five-year period after the announcement month.

Canadian firms having carried out cross-border M&As are able to generate sufficient value to keep up with the requirements of the stock market, given their risk level as determined by the Fama & French three-factor model (FF3FM) and the level of return generated by their peers within their main industrial sector.

We have identified factors of long-term success for cross-border M&As. Our results suggest that acquiring firms engaged in cross-border M&As are able to realize efficiency gains and create value for their shareholders, under certain conditions: namely when they possess high levels of R&D and a strong combination of R&D and intangibles.

Our results are in accordance with the internalization theory of Buckley and Casson (1976) and Rugman (1981). Cross-border M&As help create value for acquiring firms by tapping into their expertise and know-how on international markets.

This study has tested the internalization theory using proxies of R&D and intangibles from the acquiring firms' financial statements. Internalization involves exploiting not just intangible assets but also tangible assets that are associated with technological know-how, brand reputation and effective management. This constitutes a limit to our study.

A future study could test the reverse internalization theory by using the level of intangible assets claimed by target firms, in order to verify how long-run performance is affected by the absorption of such assets by acquirers.

Table V. Frequencies

	BHAR 12 months	BHAR 24 months	BHAR 36 months	BHAR 48 months	BHAR 60 months	BM Ratio	Cash Payment	Related Industries	Size of Acq. Firm	Developing Target Country	R&D Expense	Know- How
0	245	198	141	83	48	295	257	265	283	475	336	280
1	306	229	160	111	70	254	294	286	264	76	213	271
Valid observations	551	427	301	194	118	549	551	551	547	551	549	551
Missing	0	124	250	357	433	2	0	0	4	0	2	0
Total	551	551	551	551	551	551	551	551	551	551	551	551

Table VI. Correlation Matrix

	BHAR 12 months	BHAR 24 months	BHAR 36 months	BHAR 48 months	BHAR 60 months	BM Ratio	Cash Payment	Related Industries	Size of Acq. Firm	Developing Target Country	R&D Expense
BM Ratio	-0.078	-0.105*	-0.200**	-0.211**	-0.104						
Cash Payment	0.057	0.065	0.057	0.022	-0.039	0.014					
Related Industries	0.052	0.108*	0.025	-0.019	-0.041	-0.010	0.076				
Size of Acquiring Firm	-0.127**	-0.103*	-0.132*	-0.154*	-0.132	0.231**	-0.032	-0.008			
Developing Target Country	-0.055	-0.017	-0.055	0.007	-0.083	0.009	-0.006	0.132**	-0.061		
R&D Expense	-0.018	0.108*	0.141*	0.136	0.175	-0.232**	-0.110**	0.066	-0.059	0.167**	
Know-How	0.033	0.079	0.172**	0.231**	0.061	-0.215**	-0.150**	-0.194**	-0.050	-0.193**	0.036

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Table VII presents the results from the logit regressions. Our proxies for expertise and know-how, produce mainly positive and significant results. The coefficients for R&D are significant at the 5% level for periods of 24, 36 and 60 months, while the know-how factor shows significance for the 24-36-and- 48 month periods. These factors determine positive post-acquisition performance very early after the transactions and remain significant throughout.

Table VII. Logit Regressions

Dependent variable		BHAR 12 months	BHAR 24 months	BHAR 36 months	BHAR 48 months	BHAR 60 months
Constant	Coefficient	0.361	-0.392	-0.280	-0.078	0.710
	t-statistic	1.396	-1.331	-0.783	-0.157	1.085
	P-value	0.163	0.183	0.433	0.875	0.278
BM Ratio	Coefficient	-0.1975	-0.1188	-0.4460	-0.4875	-0.3651
	t-statistic	-1.045	-0.538	-1.667	-1.448	-0.800
	P-value	0.296	0.590	0.096*	0.148	0.424
Cash Payment	Coefficient	0.1926	0.2965	0.3112	0.1156	-0.0744
	t-statistic	1.077	1.435	1.218	0.349	-0.175
	P-value	0.281	0.151	0.223	0.727	0.861
Related Industries	Coefficient	0.2564	0.4931	0.2357	-0.0792	-0.3382
	t-Statistic	1.423	2.374	0.928	-0.247	-0.783
	P-Value	0.155	0.018**	0.354	0.805	0.434
Size of Acquiring Firm	Coefficient	-0.4845	-0.3290	-0.3209	-0.3086	-0.4698
	t-statistic	-2.691	-1.560	-1.225	-0.906	-1.126
	P-value	0.007***	0.119	0.221	0.365	0.260
Developing Target Country	Coefficient	-0.3604	-0.2806	-0.4844	0.0894	-0.7590
	t-statistic	-1.361	-0.935	-1.335	0.201	-1.449
	P-value	0.173	0.350	0.182	0.841	0.148
R&D Expense	Coefficient	-0.1083	0.4495	0.5488	0.4932	0.8389
	t-statistic	-0.574	2.085	2.135	1.504	1.989
	P-value	0.566	0.037**	0.033**	0.133	0.047**
Know-How	Coefficient	0.1012	0.4145	0.6607	0.9220	-0.1159
	t-statistic	0.538	1.911	2.485	2.769	-0.255
	P-value	0.590	0.056*	0.013**	0.006***	0.799
Log Likelihood	Ratio	15.924	20.393	25.639	19.171	8.888
	P-value	0.026	0.005	0.001	0.008	0.261
N	Dep = 0	242	196	139	81	48
	Dep = 1	303	226	157	108	68
	Total	545	422	296	189	116

* Coefficient is significant at the 0.10 level (2-tailed)

** Coefficient is significant at the 0.05 level (2-tailed)

*** Coefficient is significant at the 0.01 level (2-tailed)

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Appendix A. Fama & French Three Factor Model

Test on Canadian Stock Market

Size	BM Ratio				
	Low	2	3	4	High
	P-Value(a)				
Small	0.557	0.442	0.192	0.028**	0.002***
2	0.154	0.780	0.833	0.253	0.869
3	0.954	0.000***	0.030**	0.099*	0.234
4	0.109	0.037**	0.000***	0.000***	0.044**
Big	0.515	0.454	0.117	0.355	0.901
	P-Value(b)				
Small	0.000***	0.000***	0.000***	0.000***	0.000***
2	0.000***	0.000***	0.000***	0.000***	0.000***
3	0.000***	0.000***	0.000***	0.000***	0.000***
4	0.000***	0.000***	0.000***	0.000***	0.000***
Big	0.000***	0.000***	0.000***	0.000***	0.000***
	P-Value(s)				
Small	0.136	0.011**	0.182	0.023**	0.033**
2	0.258	0.018**	0.008***	0.017**	0.002***
3	0.103	0.048**	0.113	0.473	0.885
4	0.02**	0.124	0.000***	0.009***	0.003***
Big	0.000***	0.000***	0.000***	0.000***	0.000***
	P-Value(h)				
Small	0.261	0.408	0.802	0.825	0.000***
2	0.000***	0.028**	0.631	0.010**	0.000***
3	0.000***	0.033**	0.100	0.001***	0.000***
4	0.000***	0.209	0.619	0.039**	0.000***
Big	0.000***	0.006***	0.188	0.002***	0.000***
	N				
Small	97	92	81	108	118
2	118	114	116	119	122
3	121	120	122	120	111
4	121	120	121	118	99
Big	121	121	121	119	74
	R ²				
Small	0,33	0,36	0,57	0,31	0,49
2	0,36	0,48	0,43	0,60	0,52
3	0,62	0,60	0,48	0,54	0,47
4	0,60	0,56	0,62	0,53	0,53
Big	0,66	0,58	0,56	0,57	0,57
* Coefficient is significant at the 0.10 level (2-tailed)					
** Coefficient is significant at the 0.05 level (2-tailed)					
*** Coefficient is significant at the 0.01 level (2-tailed)					