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Comments
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I. Introduction

The proposition that a competitive market for corporate control effectively limits managerial divergence from shareholder wealth maximization implies that corporate takeovers are beneficial to shareholders of *both* firms involved in the transaction. However, while there is substantial evidence that shareholders of target firms on average realize large capital gains from corporate takeovers, the evidence on the profitability of takeovers for shareholders of bidder firms is mixed. Studies measuring abnormal stock price behavior around takeover events in the U.S. report average bidder firm performance that ranges from significantly positive in all-cash tender offers and horizontal mergers in the 1960s, to significantly negative in all-stock exchange mergers in the 1980s. Gains to bidders are generally found to be lower the greater the degree of observed competition for the target, whether from incumbent management or from rival bids.[1] Furthermore, there is some evidence, particularly from studies examining corporate earnings, of a declining average bidder firm performance over the two-to-five year period following merger announcements which some authors argue should be attributed to the merger itself.[2]

While the empirical evidence is consistent with the proposition that competition among bidder firms grants most (if not all) of the rents from merger activity to target shareholders, it is also widely recognized that standard event-study methods tend to produce attenuated estimates of the total returns to bidder firms. This attenuation bias arises when public knowledge of the acquiring firm's prior merger activity leads to partial anticipation of future merger bids. Furthermore, when the target firm is small relative to the bidder, as is typical in studies sampling U.S. mergers,[3] the power of the event-study methodology to register a given dollar gain is also relatively weak. Third, some

[1] See Jensen and Ruback (1983), Roll (1986), and Jarrell, Brickley and Netter (1988) for extensive reviews of the evidence prior to 1988. More recent large-sample evidence, see, e.g., Jarrell and Poulsen (1989), Loderer and Martin (1990), Schwert (1996), and Betton and Eckbo (1999).

[2] See, e.g., Ravenscraft and Scherer (1987, 1989).

[3] In the "Large Merger Series" of the Federal Trade Commission's Statistical Report on Mergers and Acquisitions, a typical sample source prior to 1985, the bidder firm is on average more than ten times the size of the target (measured by the value of total equity).

takeover announcements have a high ex ante probability of triggering negative regulatory response or target management resistance. In the presence of such triggering events, the abnormal return at the initial acquisition announcement understates the total gains from a successful takeover.

As a result of these econometric difficulties, the question of the true magnitude of the gains to bidder firms remains an important, but largely unresolved empirical issue. We address this issue using a sample exceeding 1,800 domestic and foreign (all U.S.) successful acquisitions in Canada over the period 1964-1983, prior to the introduction of substantive Canadian antitrust laws governing acquisitions. This sample presents an interesting laboratory for examining the performance of two distinct groups of bidders (foreign and domestic) operating in the *same* (Canadian) corporate control market, and it increases our knowledge of the general performance of U.S. bidder firms. Also, comparisons of the performance of the two sets of bidders to a great extent control for changes over time in the underlying structure of the corporate control market. This is relevant in terms of separating, e.g., the effect of bidder size (which varies across the two bidder groups) from the effect of increased competition in the takeover market (which affects both bidder groups equally). In studies of U.S. domestic acquisitions, it has been shown that bidder gains are largest in the 1960s and for the smallest bidder firms (e.g., Jarrell and Poulsen (1989) and Loderer and Martin (1990)), but it is not clear whether size *per se* or the generally less competitive acquisition market in the 1960s is the main explanation for the positive bidder returns during this time period. Competition in the U.S. market for corporate control generally increased in the 1970s with the introduction of mandatory disclosure rules and a minimum (20-day) waiting period for public tender offers as well as with the emergence of investment-bank brokered takeover deals.[4]

We begin by reporting new evidence that successful domestic bidders on average earn significantly positive abnormal stock returns over the month of the first press-announcement of the acquisition as well as over the two-day announcement period itself. This finding is robust with respect to alternative estimation procedures, and it is also to some extent supported by performance measures based on accounting returns. In contrast, the average performance of U.S. bidders

[4]Jarrell and Bradley (1980) and Eckbo and Langohr (1989) examine the effects of the introduction of disclosure rules on takeover premiums.

in Canada is indistinguishable from zero and significantly lower than the average performance of domestic bidders.

The paper discusses several potential explanations for the superior announcement returns of domestic bidders. First, we present new evidence on the effects of foreign direct investment controls in effect during the second half of our sample period. After 1972, foreign bidders in our sample were required to seek prior government approval before acquiring Canadian target firms. This approval procedure imposes costs on foreign bidders if it delays the acquisition process or reduces the foreign bidder's bargaining power with the target firm. Interestingly, we show that Canadian bidders outperform U.S. foreign bidders also in the sample period *before* the foreign review process existed, and that foreign bidders exempted from the review process earn insignificant abnormal returns as well. Thus, the foreign direct investment review procedure does not explain our finding of superior performance of domestic acquirors. Second, it is possible that domestic bidders, perhaps due to a superior knowledge of Canadian markets, are in a better position than foreign bidders to exploit economic synergies following the takeover. Determining the source of synergy gains requires data on acquisition-induced changes in the firms' organizational structure, financing- and production/investment strategy, which is generally unavailable. However, an examination of horizontal versus conglomerate acquisitions fails to support the hypothesis that the superior domestic bidder performance is limited to horizontal cases.

Third, we stratify our sample according to the payment method in the acquisition (all-cash, all-stock, or a mix of cash and stock). As reviewed by Hirshleifer (1995), a number of theories suggest that the bidder's choice of payment method reflects private information about the bidder's own stand-alone value or the value of the target's resources under the bidder's control. The evidence discussed here suggests that the valuation impact of the payment method is significantly different in Canada than in the U.S.. In particular, all-stock offers (as well as mixed cash-stock bids) generate significantly positive average announcement effects in Canada, which contrasts with the significantly negative market reaction documented by Travlos (1987) for all-stock mergers in the U.S.. As reviewed by Eckbo and Masulis (1995), there is substantial evidence that U.S. equity

markets are characterized by adverse selection, which tends to cause a negative market reaction to the average equity issue. Moreover, there is much less evidence of a similar negative market reaction to equity issues internationally, including Canada. Thus, the superior domestic bidder performance possibly reflects a lower degree of adverse selection associated with the implicit equity issue in a Canadian domestic all-stock acquisition.

Fourth, we discuss issues related to relative size and partial anticipation of acquisition activity on our performance estimates. We show that the smallest Canadian bidders have the greatest average announcement returns. With the average U.S. bidder being eight times the size of the average domestic bidder, the insignificant abnormal returns to U.S. bidders is in part a reflection of relatively low precision in the abnormal return estimates for relatively large firms. Finally, we document a surprisingly similar acquisition frequency in the samples of domestic and foreign bidders. Moreover, following Malatesta and Thompson (1985, 1986), we perform structural tests for evidence of partial anticipation effects in the data. However, we find no support for the hypothesis that an attenuation bias due to partial anticipation of acquisition activity helps explain the relatively poor U.S. bidder performance in Canada.

The rest of the paper is organized as follows. Section II describes the data selection procedure and provides evidence on the sample-wide average profitability of bidder firms using both abnormal stock returns and abnormal earnings. Section III analyzes whether foreign investment controls, industry competition, and the payment method explain the superior performance by domestic bidders. A discussion of potential statistical effects of acquisition frequency and relative bidder size on the estimates of abnormal stock returns is given in section IV, while section V concludes the paper.

II. Average gains to domestic and foreign bidders

In this section we present estimates of average monthly and daily abnormal stock price performance around the acquisition announcement, as well as annual abnormal earnings. In order to gauge the sensitivity of the conclusions to the method of estimation, we show results using both percentage

returns and dollar values, different estimation periods relative to (before and after) the event, as well as alternative specifications of the return generating process.

A. Sample selection

Our sample of domestic acquisitions is compiled by Eckbo (1986), while the foreign acquisitions are sampled here from the Merger Register of the Canadian Department of Consumer and Corporate Affairs (which is also the original data source for the sample of domestic cases in Eckbo (1986)). The Merger Register contains a total of 9,294 merger and acquisition bids announced between January 1945 and December 1983, of which 7,559 were announced after January 1, 1964. The Register records all mergers in industries subject to the 1910 Combines Investigation Act, given the merger is announced in the news media, including newspapers, trade journals, and business magazines in Canada, the United States and Britain.

The following characterizes the sample selection:

(1) The merger bid occurs between January 1964 and December 1982, is successful (i.e., accepted by target shareholders), and the date of the first press announcement of the acquisition is listed in the Merger Register.

(2) Either the target firm is listed on the Toronto Stock Exchange (TSE) or the bidder firm is listed on the TSE or on the New York Stock Exchange (NYSE), and there is sufficient (as defined below) stock return data to perform the event study analysis.

Hostile takeovers were almost non-existent over the sample period, and none of the sample acquisitions elicited a hostile reaction by target management. The sample period ends prior to the introduction of civil antitrust laws governing corporate combinations in Canada. During the sample period, neither domestic nor U.S. bidders faced a threat of antitrust interference in the Canadian corporate control market.

For TSE-listed firms, stock return data are taken from the University of Laval monthly returns tape and the University of Western Ontario daily returns tape. Stock return data for NYSE-listed

bidders are from the University of Chicago CRSP files. As shown in Table 1, of the population of 7,559 acquisition bids reported in the Merger Register over the sample period, a total of 1,846 acquisitions are included in the sample. Of the target firms in these acquisitions, all are Canadian firms, and 345 are listed on the TSE. Moreover, there are 394 NYSE-listed (foreign) and 1,261 TSE-listed (domestic) bidders in the sample.

B. Average abnormal stock returns

Table 2 and Figure 1 show monthly abnormal stock returns to the TSE- and NYSE-listed bidder firms and the TSE-listed target firms over the 25-month period -12 through 12 relative to the month of the first press announcement of the acquisition. The abnormal returns are computed using the market model in excess return form:

$$r_{jt} - r_{ft} = \alpha_j + \beta_j(r_{mt} - r_{ft}) + \epsilon_{jt}, \tag{1}$$

where r_{jt} is the continuously compounded rate of return on security j over month t, r_{ft} is the continuously compounded rate of return on (U.S. or Canadian) Treasury bills which mature at the end of month t,[5] r_{mt} is the continuously compounded rate of return on the value-weighted portfolio of all stocks traded in the market over month t;[6] and ϵ_{jt} is assumed to be a normally, identically distributed, serially uncorrelated zero mean disturbance term.

In order to account for the possibility that the merger event itself changes the regression constant α_j and/or the systematic risk β_j, two sets of coefficients are estimated under this procedure, one based on data before the merger event and one based on data after the event. The first set of coefficients, (α_j^b, β_j^b), is estimated using a maximum of 48 and a minimum of 24 monthly returns drawn from relative month -60 through month -13. The second set of coefficients, (α_j^a, β_j^a), is estimated using a maximum of 48 and a minimum of 24 monthly returns drawn from relative month 13 through month 60. Month zero is the month of the first press-announcement of the

[5]The U.S. risk-free rate was derived from the T-bills on the CRSP bond tape, while the Canadian rate was derived using information published by the Bank of Canada.

[6]The U.S. market is provided by CRSP, while the Canadian market was derived using the firms on the Laval tape.

merger. Abnormal return over event month τ is then computed as

$$\hat{\gamma}_{j\tau} = \begin{cases} r_{j\tau} - [r_{f\tau} + \hat{\alpha}_j^b + \hat{\beta}_j^b(r_{m\tau} - r_{f\tau})] & \text{for -12} \leq \tau \leq 0 \\ \\ r_{j\tau} - [r_{f\tau} + \hat{\alpha}_j^a + \hat{\beta}_j^a(r_{m\tau} - r_{f\tau})] & \text{for } 1 \leq \tau \leq 12, \end{cases} \tag{2}$$

where superscript carets denote OLS-estimates. Thus, in Table 2, a pre-event benchmark is used to estimate abnormal returns up through month 0, while a post-event benchmark is used to estimate performance after month 0. If a firm has insufficient data to perform the regression in the 'after' period, the 'before' coefficients (α_j^b, β_j^b) are used to predict returns up through month 2. Similarly, when there is insufficient data to perform the regression in the 'before' period, the 'after' coefficients (α_j^a, β_j^a) are used to predict backwards through month -2.

Table 2 reports the average abnormal return for month τ relative to the event $(\frac{1}{N_\tau}\sum_{j=1}^{N_\tau}\hat{\gamma}_{j\tau}$, where N_τ is the number of firms in the sample having valid abnormal returns in month τ), and the cumulative average abnormal return. A Z-statistic, which in large samples has a standard normal distribution provided the merger events are independent, is used to infer statistical significance. The Z-statistic for the average abnormal return is computed as

$$Z_\tau \equiv \frac{1}{\sqrt{N}_\tau}\sum_{j=1}^{N_\tau}\frac{\hat{\gamma}_{j\tau}}{\hat{\sigma}_{\gamma_j}} \overset{a}{\sim} N(0,1).$$

As in Theil (1971, pp.122-123), an unbiased estimate of the standard deviation σ_{γ_j} is given by

$$\hat{\sigma}_{\gamma_j} \equiv \hat{\sigma}_{\epsilon_j}[R_{m\tau}(R_m'R_m)^{-1}R_{m\tau}' + 1]^{\frac{1}{2}},$$

where $R_{m\tau}$ is the vector of observations on the independent variables in period τ, R_m is the matrix of observations on the independent variables used in the estimation period, and $\hat{\sigma}_{\epsilon_j}$ is the OLS estimate of the standard error of the regression disturbances over the estimation period.[7]

A visual impression of the cumulative average abnormal return for each subsample is presented

[7] In the bottom two rows of Table 2, Z-value for the average abnormal returns cumulated over L event months τ_1 through τ_2 is given by

$$Z_{\tau_1\tau_2} \equiv \frac{1}{\sqrt{L}}\sum_{\tau=\tau_1}^{\tau_2} Z_\tau.$$

This Z-statistic presumes that the monthly average abnormal returns are serially independent as well.

in Figure 1. The 332 targets listed on the TSE earn on average cumulative abnormal returns of 11.40% over the 12 months prior to and including the month of the acquisition announcement, with a significant 3.59% over the announcement month itself (Z=6.25). The 1261 domestic bidder firms listed on the TSE earn on average 3.64% over the period from month -12 through month 0, with a significant 1.27% in the announcement month (Z=4.51). Figure 1 also confirms the positive average share price development for domestic bidders up through the announcement month. In contrast, the 390 foreign bidders listed in the NYSE show no significant average abnormal returns over any of the event periods. In particular, over the year following the acquisition, cumulative abnormal returns to NYSE bidders average -3.72% with an insignificant Z-value of -1.53.

Table 3 provides information on the robustness of the announcement period abnormal return estimates from Table 2 with respect to the choice of estimation period and the use of monthly versus daily stock returns. In Table 3, and throughout the rest of the paper, the month 0 abnormal return is estimated by adding a dummy variable d_{jt} to equation (1), where d_{jt} takes on a value of one in the announcement month and zero otherwise:

$$r_{jt} - r_{ft} = \alpha_j + \beta_j(r_{mt} - r_{ft}) + \gamma_j d_{jt} + \epsilon_{jt}. \tag{3}$$

In this model, the event parameter γ_j directly isolates the component of the firm's return which is due to the acquisition. Since there is only one acquisition event per regression, the event dummy d_{jt} and the excess return on the market are uncorrelated. Consequently, the estimate of γ_j from equation (3) is identical to that obtained from a two-step procedure such as in equation (2).[8] The month-zero estimates reported in Panel I and II of Table 3 differ from the corresponding month-zero estimate in Table 2 only because the estimation of γ_j in Table 3 does not mix data from the pre- and post-event period.

Panel I of Table 3 reports the average estimate of γ_j when the estimation period is month -60 through -13. The average announcement-month abnormal return to TSE-listed bidders is 1.13% or $6.89 million, both of which are statistically significant at the 1% level or higher. Using a

[8] The estimate of the standard error of γ_{jn} is now provided directly by the OLS regression routine.

post-event estimation period (panel II) yields a slightly higher event parameter: on average 1.81% or $9.48 million. The abnormal returns to NYSE-listed bidders remain insignificant regardless of the estimation. Finally, Panel III of Table 3 reports abnormal return estimates using *daily* return data. In these regressions, the risk-free rate is excluded and the event-dummy d_{jt} takes on a value of one for the two-day announcement period (day -1 and day 0). As shown, TSE-listed bidders realize a statistically significant average two-day announcement period abnormal return ($2\hat{\gamma}$) of 0.81%, or $0.64 million, with Z-values of 4.23 and 3.40, respectively. The two-day announcement period abnormal return for NYSE-listed bidders is an insignificant 0.08%. In sum, the finding of significantly positive average abnormal stock returns to TSE-listed bidders and insignificant gains to NYSE-listed bidders in Canada appears robust.

C. Average abnormal changes in earnings (EBIT)

Table 4 reports estimates of average abnormal earnings changes around acquisition events using the following conditional market model:

$$\Delta E_{jt} = \alpha_{ej} + \beta_{ej}\Delta E_{mt} + \gamma_{ejn}d_{jtn} + \epsilon_{ejt} \tag{4}$$

where ΔE_{jt} is firm j's change in earnings before interest and taxes (EBIT) recorded by Compustat over year t (where information on EBIT for Canadian bidders is found in the Canadian section of the U.S. Compustat tape as well as in a separate Compustat file for Canadian firms), E_{mt} is the equal-weighted average EBIT across all Compustat firms in year t (where E_{mt} is constructed using U.S. companies only for the U.S. bidders in the sample, and Canadian firms only for the domestic bidders in the sample), ΔE_{mt} is the change in E_{mt} over year t, and ϵ_{ejt} is a mean zero error term.

The estimation period is year -6 through year -2 (where year 0 is the year of the acquisition) plus the *single* year n used to define the dummy variable d_{jtn}, $n = -1, 0, 1, 2, 3$, which takes on a value of one in year n and zero otherwise. Thus, in order to avoid overparameterization, the five γ_{ejn}-coefficients are estimated using five separate regressions, always using the pre-acquisition period -6 through -2 as the comparison period. The market model is estimated using the first

difference (as above), and the rate of change, $100 \times (E_{jt} - E_{j,t-1})/E_{j,t-1}$, in earnings from period $t-1$ to t. When the regression uses the rate of change in earnings, data from year -7 is added in order to create an observation for year -6. Earnings data for target firms ends in year 0. The regression is run only once for a given firm over a given estimation period; i.e., the estimated value of, e.g., γ_{j0} covers the cumulative effect of *all* acquisitions undertaken by firm j over that year. The table uses the sample of bidders and targets with a complete set of earnings data available on the S&P Compustat files for years -7 through year 0. Some firms have missing data for one or more of the event-years 1 through 3, thus the sample sizes underlying the estimation of the event parameter for these years are somewhat smaller.

As shown in Table 4, the estimated values of β are all highly significant, indicating that individual firm earnings are highly correlated with the general earnings of the market. Moreover, there is a significant difference in the average abnormal earnings change coefficients $\hat{\gamma}_e$ for years $n = -1$ and $n = 0$ for TSE-listed and NYSE-listed bidders when expressed in percentage terms. For example, TSE-listed bidders experience significantly positive abnormal earnings changes in year -1 and year 0 of 12.30% and 21.37%. The corresponding abnormal earnings changes for NYSE-listed bidders is a significant -8.23% and -17.56%, respectively. When measuring abnormal earnings in dollar terms, however, TSE-listed bidders outperform NYSE-listed bidders in year -1 but not in the announcement year. From panel III we also see that TSE-listed targets on average experience large positive abnormal earnings changes over years -1 and 0 of 56.32% and 49.76%, respectively, with a significantly positive dollar-value abnormal earnings change in year 0. Thus, domestic acquisitions tend to occur after a period of superior earnings performance, while foreign bidders tend to make a bid after a period of abnormally low (negative) changes in earnings.

Turning to the post-acquisition event parameters in Table 4,$(n = 1, 2, 3)$, the results show that the generally positive pre-acquisition abnormal earnings performance of TSE-listed bidders is typically followed by a continued positive drift except in year +3. NYSE-listed bidders tend to continue the negative pre-acquisition abnormal earnings performance throughout the post-acquisition event period, with the exception of year 3 when the average dollar-value abnormal earnings is a significant

$12.43 million.

Overall, the results indicate that TSE-listed bidders show superior earnings performance as well as superior stock price performance relative to NYSE-listed bidders in Canada. We now turn to an examination of various possible explanations for this differential performance. For this purpose, the analysis focuses in particular on the announcement-month abnormal return estimated from equation (3).

III. Economic hypotheses for the superior domestic bidder gains

In this section we examine three factors that potentially drive our evidence of superior gains to domestic bidders. The first is the effect of foreign direct investment controls. As described below, in the second half of our sample period, the "playing field" was not entirely even for foreign and domestic bidders acquiring Canadian targets, potentially increasing acquisition costs for foreign bidders. The second factor concerns a potential advantage to domestic bidders in terms of horizontal product market relationships with the respective targets. The third factor concerns the valuation effects of stock as payment method in acquisitions. Most of the sample transactions are stock deals (the bidder and target exchange shares), and there is substantial extant evidence that bidder gains in U.S. acquisitions are lower in all-stock than in all-cash transactions.

A. Foreign direct investment controls

Between 1974 and 1984 (i.e., over the latter half of our sample period), acquisitions of Canadian firms by foreign bidders were regulated under the 1973 Foreign Investment Review (FIR) Act, enforced by the Foreign Investment Review Agency (FIRA). Under Section 2(2) of the FIR Act, a foreign bidder were required to disclose plans to expand, modernize, relocate or close existing target facilities, and the extent of Canadian participation on both ownership and control of the merged firm. On the basis of the disclosed information, FIRA would determine (possibly after negotiations with the bidder) whether the acquisitions would provide "significant benefits" to Canada.

The FIR Act was in part motivated by the Gray Report (1972) which lists several poten-

tially "undesirable impacts" of foreign direct investments in Canada, allegedly restricting Canadian sovereignty over its industrial policy. For a vivid account of the events which led to the FIR Act, and the international (in particular, the U.S.) reaction to the resulting unilateral trade restriction, see Clarkson (1982). FIRA considers Canadian participation as a key consideration in determining "significant benefits" for industries already dominated by foreign ownership. A further positive consideration is avoidance of bankruptcy. "Small" acquisitions (i.e., targets with less than 250,000 dollars in assets, less than 3 million in revenues, and less than 100 employees) do not have to meet the significant-benefit test, only a "no detriment" test. The power of FIRA to review foreign acquisitions was eventually curtailed in 1985.

According to FIRA annual reports, approximately 2,100 foreign acquisition attempts were reviewed between 1974 and 1984, with an approval rate of 90%. Since the source of our merger sample is the Merger Register, there are no disapproved FIRA cases in our data base. Of the 394 foreign acquisition in the sample, 172 were reviewed (and approved) by FIRA while the remaining 222 were not subject to review (200 cases took place before the 1974-introduction of the FIR Act while 22 cases were exempted in 1976 and 1977). The 172 approved FIRA cases are distributed evenly over the 1974-1983 period.

The hypothesis of interest is that compliance with the requirements under the FIR Act transferred some or all of the expected rents from the acquisition to target shareholders, or to other Canadian interests protected by FIRA in its bilateral negotiations with the bidder firm. In testing this hypothesis, recall that since our sample is restricted to foreign bidders listed on the NYSE, we tend to pick up the *largest* foreign acquisitions (measured in terms of the asset size of the bidder) reviewed by FIRA. The largest foreign acquisitions tend to be the most politically controversial, which further strengthens FIRA's bargaining power. Thus, if FIRA has succeeded in extracting a significant portion of the gains to successful foreign bidders, it is more likely reflected in the sample used here than in a randomly selected sample of FIRA cases. Thus, if anything, our sample is biased towards finding evidence which supports the conclusion that FIRA has successfully extracted rents from foreign acquirors.

Table 5 provide some direct evidence on this issue. NYSE-listed bidder firms earn negative but insignificant abnormal stock returns regardless of whether or not the case was reviewed by FIRA. Moreover, TSE-listed bidders continue to show significantly positive announcement-month abnormal returns both before and during FIRA's review activity. In sum, there is no apparent effect of FIRA's activities on the average U.S. bidder in our sample. In particular, the results reject the hypothesis that FIRA's review activity has made the NYSE-listed bidders in Canada worse off. Notice also that TSE-listed bidders earn lower abnormal returns during the 13-month period -12 through 0 during the period with FIRA review (-2.16% versus 4.38% before 1974). Similarly, there is no evidence of an increase in the gains to TSE-listed targets during the period with FIRA reviews. Thus, if FIRA succeeded in transferring rents from the NYSE-listed foreign bidders to Canadian interests, there is no evidence in Table 5 that domestic bidders or targets benefited from such a transfer.

The proposition that FIRA effectively helps target shareholders extract a larger share of the total merger gains can also be examined using samples of target firms in foreign acquisitions before and after FIRA was established. Only 10 of the 172 mergers reviewed by FIRA involve a TSE-listed target firm present in the data base. Although not included in Table 5, the cumulative average abnormal return for these 10 targets turns out to be 13.3% over the -12,0 interval, compared to 10.3% for the remaining targets involved in acquisitions not reviewed by FIRA. We cannot reject the hypothesis that these two cumulative average abnormal returns are equal. Overall, there is no evidence that the enforcement of the FIR Act has affected either the level or distribution of merger gains between the two parties directly involved in the transaction.

B. Industry competition

Intuitively, synergistic gains are more likely to occur when there is a horizontal relationship between the bidder and target firms. Thus, it is possible that domestic bidders tend to outperform foreign acquirors because purely domestic acquisitions tend to involve more closely related bidder and target firms. Table 6 sheds some light on this issue by showing average abnormal returns for

horizontal versus non-horizontal acquisitions in our sample for which product market information could be identified from Moody's manuals or the Standard & Poor's directories. A relationship is defined as horizontal if the target and bidder firms operate in the same major two-digit or four-digit Standard Industrial Classification (SIC) industry, respectively. As seen from the table, there is little indication that a horizontal relationship between the bidder and the target increases the average gains to bidders.[9] The largest, significant abnormal returns occur in the "2-digit non-horizontal" category for TSE-listed bidders, while there is no evidence of significantly positive gains to NYSE-listed bidders, horizontal or otherwise.[10]

C. The payment method

Several studies report that takeover premiums and merger-induced abnormal returns are systematically related to the payment method. Huang and Walkling (1987), Franks, Harris and Mayer (1988), and Eckbo and Langohr (1989) show that gains to target firms in the U.S., England, and France, respectively, are significantly higher in all-cash offers than in takeovers in which the bidder and target firms exchange common stock. Studying merger bids in the U.S., Travlos (1987) reports significantly negative two-day announcement period average abnormal stock returns to bidder firms in all-stock mergers, while the corresponding bidder firm performance in all-cash mergers is zero or positive. Moreover, Eckbo, Giammarino and Heinkel (1990) present evidence that bidder gains in Canada are on average greatest when the bidder offers a mix of cash and stock.

The literature focuses in particular on taxes and information asymmetries to explain these empirical regularities. The tax codes in the countries represented by the above studies generally award a tax–deferred status to a pure exchange merger while requiring capital gains taxes to be paid immediately in an all–cash purchase.[11] Thus, it is frequently hypothesized that the bidder must raise the offer premium in an all–cash offer in order to compensate target shareholders for the

[9] While not shown in Table 6, a similar conclusion emerges when examining abnormal returns to targets.

[10] Eckbo (1992) examines the effect of merger announcements on the equity values of product market *rivals* of the target firms in Canadian and U.S. domestic horizontal mergers and rejects the hypothesis that merger gains are the result of increased market power.

[11] The payment method may also dictate the bidder's accounting treatment of the acquisition, thus affecting depreciation tax shields and accounting-based managerial compensation schemes. [see, e.g., Carleton, Guilkey, Harris and Stewart (1983)]. For a general discussion of tax arguments, see Gilson, Scholes, and Wolfson (1988).

tax penalty associated with this particular method of payment. However, while tax considerations are certain to play a role in the bidder's choice of payment method, tax arguments do not appear to explain the relatively large premium in all-cash offers. Furthermore, Franks, Harris and Mayer (1988) report that a superior target performance in all-cash offers is found in UK takeovers that took place *before* the introduction of capital gains taxes on such transactions.

Asymmetric information also plays a role in the choice of the medium of exchange in takeovers. As a simple illustration, suppose the true bidder value is common knowledge while the true target value is private information (known by the target only). The bidder knows the distribution over possible target values including its maximum, t^*, and suppose the bidder's strategy is to bid t^* in order to guarantee success. Then, if the bidder pays with cash, the expected value of the bid is

$$t^* - E(t|\text{ accept}) > 0, \tag{5}$$

which we label "the expected overpayment cost of cash". Alternatively, suppose the bidder offers payment in the form of securities in the combined firm (all-stock offer). Let z^* denote the fraction of the equity in the combined firm offered to the target that guarantees target acceptance:

$$z^*(b + t^*) = t^* \longrightarrow z^* = \frac{t^*}{b + t^*}, \tag{6}$$

where b is the known bidder value. The expected value to the bidder of this all-stock offer is

$$z^*[b + E(t|\text{ accept})] - E(t|\text{ accept}) = \frac{b(t^* - E(t|\text{ accept})}{b + t^*} > 0, \tag{7}$$

which we label "the expected overpayment cost of stock". Comparing the two expected overpayment costs in (5) and (7), since $\frac{b}{b+t^*} < 1$, the bidder strictly prefers securities to cash as the method of payment. Intuitively, while the value of a cash offer does not depend on the true value of the target ex post, payment in bidder shares forces the target to share in the overpayment cost ex post. Of course, if we allow the true value of the *bidder* to be private information as well (two-sided information asymmetry), then the above preference for a stock offer is reversed provided the bidder

shares are sufficiently undervalued by the target.[12] Extending this intuition, Eckbo, Giammarino and Heinkel (1990) derive a fully separating equilibrium consistent with the use of a mix of cash and securities, and where the proportion of the total bid value paid in cash is a signal of the true bidder value. Thus, the difference between the average gains to bidders in the U.S. and Canadian samples studied here may to some extent reflect differences in the signaling effect of the payment method.

Table 7 shows the average abnormal returns to bidders across categories of payment methods for a subset of our domestic acquisitions. The abnormal return estimation follows our equation (3), i.e., γ_j is the abnormal return parameter for the announcement month. All-cash offers on average lead to an increase of 3.11% in the bidder's share value over the event month, which is marginally significant with a Z-value of 1.80 and with only 47.9% of the sample having positive abnormal return. The larger group of all-stock offers have statistically significant average abnormal return of 2.99% (Z-value 2.18, 65% positive). Moreover, the average bidder presenting a mixed offer gains a highly significant 5.10% abnormal return over the announcement month (Z-value of 4.61, 64.9% positive). The hypothesis that the average abnormal return in mixed offers is the same as in the all-cash or all-stock offers is rejected at the 1% level of significance.[13]

While we do not have data on the payment method in the sample of foreign acquisitions, the

[12] With two-sided information asymmetry, let $\hat{b}$ denote target belief about bidder value. In this case, the all-stock offer z^* which guarantees success is given by $z^*(\hat{b}+t^*)=t^*$, and the difference between the expected overpayment cost of an all-stock and an all-cash offer equals

$$t^* \frac{(b-\hat{b})-(t^*-E(t|\text{ accept})}{b+E(t|\text{ accept})}$$

which can be positive or negative depending on whether the target undervalues ($b-\hat{b}>0$) or overvalues ($b-\hat{b}<0$) the bidder shares. Hansen (1987), Fishman (1989) and Eckbo, Giammarino and Heinkel (1990) all define various tradeoffs between expected overpayment costs, undervaluation costs and, in the case of bids with a success-probability less than one, the cost of lost synergy gains, to derive signaling equilibria where the market reacts to the information concerning the bidders choice of payment method.

[13] Using a subsample of the cases in Table 7, Eckbo, Giammarino and Heinkel (1990) perform regression tests of the hypothesis that the incremental gain in mixed offers represents an average signaling gain or simply a larger average synergy revaluation in this particular offer category. Their model implies that the announcement effect (bidder abnormal return) is increasing and *convex* in the proportion of the bid that is paid in cash, i.e.,

$$\gamma_j \quad = \quad h_j(\frac{c_j}{\bar{t}}), \qquad h_j', h_j'' > 0,$$

where c_j is the cash payment, $\bar{t}$ is the average pre-bid target value, and the "$'$" and "$''$" denote first and second derivatives, respectively. Using cross-sectional regressions, they find no support for convexity.

results in Table 7 can be compared to extant evidence on the effect of the payment method on bidder gains in U.S. domestic takeovers. Travlos (1987) reports that average bidder returns in all-stock offers are small but negative, while average bidder returns in all-cash offers are positive. The negative impact of all-stock offers in the U.S. thus contrasts with the significantly positive effect of all-stock and mixed stock-cash offers reported in Table 7. One potential explanation for this difference is that the equity issue implicit in a stock offer suffers from an adverse selection problem of the type analyzed in Myers and Majluf (1984), and that the potential for adverse selection is greater for U.S. than for Canadian domestic bidder firms.[14] Adverse selection is a consequence of information asymmetry between the issuer and outside investors, and we expect merger negotiations to effectively resolve much of this asymmetry. Nevertheless, since the target is in Canada, it is possible that NYSE investors remain informationally disadvantaged relative to TSE investors when it comes to judging the true value of both the target and the bidder's offer.

IV. Econometric hypotheses for the superior domestic bidder gains

In this section we explore hypotheses concerning the *measurement* of bidder gains using announcement period stock returns. The precision of the estimate of a given dollar gain is lower the greater the normal variation in the bidder's (dollar) equity value. There is also a risk that announcement returns provide attenuated estimates of the economic value of the merger. The central question is whether the superior domestic bidder performance is an artifact of the econometric methodology.

A. Relative size of bidder

Asquith, Bruner and Mullins (1983) regress the merger-induced abnormal returns to bidder firms on the relative size of target to bidder and find a statistically significant, positive coefficient. This is consistent with a measurement problem for relatively large bidders: the greater the normal variation in the bidder's equity value, the more difficult it is to register a given bidder gain from the acquisition. Similarly, Loderer and Martin (1990) estimate cross-sectional models of bidder

[14] Consistent with this view, Eckbo and Verma (1992) report less negative market reaction to seasoned equity offer announcements in Canada than in the U.S..

returns that indicate that bidder returns are significantly higher when the offer value exceeds 30% of the acquiring firm's equity value, and significantly lower when the market value of the bidder's equity exceeds $150 million. They find evidence of significantly positive acquiring firm returns only in the smallest size category. Jarrell and Poulsen (1989) also find evidence that bidder abnormal returns tend to increase with the relative size of the target.

As shown earlier in Table 2, the average total equity value of the TSE-listed targets is approximately the same for both groups of bidders, while the total equity value of the average U.S. bidder is more than eight times the value of the average domestic bidder. Moreover, as shown in Table 8, of 1,226 TSE-listed bidders, 905 or 74% have an equity value of $100 mill. or less, while of 341 NYSE-listed bidders, only 61 or 18% of the bidders fall in this size category. Since the average target size is similar across the domestic and foreign bidders, a ranking of the bidders on bidder size is highly correlated with a ranking on the relative size of the target. Since relatively few of the target firms have publicly traded equity, we focus in Table 8 on the total equity value of bidders in order to maximize sample size.

The results in Table 8 for TSE-listed bidders show a tendency for bidder abnormal returns to decrease with increasing bidder size. For the 309 smallest bidders, with total equity values less than $10 million, the average abnormal return is 4.05% with a highly significant Z-value of 5.40. For bidder equity values exceeding $40 million (543 cases or 44% of the sample), the average abnormal returns are largely insignificant (with the exception of $60 < V_{j,t-1} \leq 70$). Notice also that when bidder gains are measured in terms of dollar values, seven of the eleven size groups (including the largest, where $V_{j,-1} >$ $100 mill.) indicate statistically significant bidder gains, with no clear relationship to bidder size. These results support the argument that estimates of a given dollar gain to bidder firms, particularly when measured as a percentage of equity, suffers an attenuation bias that increases with bidder equity size.

Turning to the NYSE-listed bidders in Table 8, there is little evidence of significant bidder gains regardless of the size group and whether one measures gains in percentage or dollar terms. There is slight evidence of positive gains in the very smallest size group ($V_{j,-1} <$$100 mill.), with an

average $\hat{\gamma}$ of 2.12% (Z-value 1.89) or \$1.69 mill. (Z-value 1.67). These results are as expected since even the smallest NYSE-listed bidders are large compared to the TSE-listed bidders, thus creating potentially serious measurement problems across all size groups.

B. Partial anticipation of acquisition activity

Since the market reacts to the *unanticipated* portion of the information in the acquisition announcement, partial anticipation of acquisition activity attenuates the announcement-effect. A number of approaches have been implemented that address this problem. For example, Schipper and Thompson (1983) focus on the announcement of entire acquisition *programs*. This announcement is arguably at the beginning of the process that leads the market to partially anticipate future takeover activity. Asquith, Bruner and Mullins (1983), Loderer and Martin (1990), and Song and Walkling (1998) focus in particular on initial acquisition announcements following a "dormant" period. Such announcements are also a priori less predictable. A third approach is to explicitly model the acquisition probability, as in Malatesta and Thompson (1985, 1986) and Eckbo, Maksimovic, and Williams (1990). Below we exploit the Malatesta-Thompson (henceforth MT) framework in order to shed light on the degree to which our sample acquisitions were partially anticipated.

Before invoking the MT-framework, note in Table 9 the actual frequency distribution of the total number of acquisitions (N_j) performed by our TSE-listed and NYSE-listed bidders over the twenty-year sample period. For domestic bidders, total acquisition activity is given by the total number of targets listed in the Merger Register for each bidder firm over the sample period (columns two and five). For NYSE-listed bidders, N_j is given by the number of targets announced in the *Wall Street Journal*. The average number of acquisitions per bidder is 6 for TSE-listed bidders and 9 for NYSE-listed bidders. Table 9 partitions N_j into ten subgroups, ranging from 1 to 25 (the sample maximum). The percentage of the bidders that fall into each of the ten groups is surprisingly similar across TSE-listed and NYSE-listed bidders. If the market's estimate of acquisition frequency reflects the distribution of N_j in Table 9, then it is difficult to argue that the degree of partial anticipation is significantly greater in the U.S. than in the domestic sample.

The MT-model implies that the event-parameter γ_j estimated from equation (3) provides an unbiased estimate of bidder j's total acquisition gain (v_j) even if the market assigns a positive probability q_j that an acquisition will be announced in each period. Specifically, the announcement-effect of an acquisition is given by $(1 - q_j)v_j$, while the market reduces the bidder's stock price by $-q_j v_j$ in the 'no acquisition' event. Market efficiency implies that the unconditional expected abnormal return across the two mutually exclusive events equals zero, i.e.,

$$[(1 - q_j)v_j|d_j = 1] + [-q_j v_j|d_j = 0] = -q_j v_j + (v_j|d_j = 1) = \alpha_j + \gamma_j d_j = 0, \tag{8}$$

where, as in equation (3), d_j is a zero-one conditioning variable for the event of an acquisition announcement. MT further assume that expected returns are generated by a one-factor model such as the CAPM, i.e.,

$$E(r_{jt}) - r_{ft} = \beta_j[E(r_{mt}) - r_{ft}]. \tag{9}$$

Adding (8) to the right-hand side of (9) yields our original conditional market model (3) with $\alpha_j = -qv$ and $\gamma_j = v$.

Our earlier conclusion that TSE-bidders on average outperform NYSE-bidders holds *a fortiori* under the MT-framework since γ_j is unbiased for v_j even if $q_j > 0$. Furthermore, it is interesting to compare the average values of α_j across the two categories of bidders in order to infer in which sample the market assigns the greatest prior probability of an acquisition event. As shown in Table 9, for NYSE-listed bidders seven of the ten estimated values of the average α_j are negative and significant at the 1% level. The average value of α_j for TSE-listed bidders is typically larger in absolute value and six of ten are significant at the 1% level.

The variation in the average estimate of γ_j across domestic and foreign bidders raises the question of whether differences in α_j reflects systematic differences in v_j or in q_j (or both). In order to address this question, we isolate the value of q and test the following hypothesis:

$$\mathrm{H}_0: \quad \frac{\alpha}{\gamma} = \frac{-\mathrm{qv}}{\mathrm{v}} = -\mathrm{q} = 0 \tag{10}$$

For the purpose of this test, we form the sample average $(1/N)\sum_j(\alpha_j/\gamma_j)$ which (under the cen-

tral limit theorem) is distributed asymptotically normal. Estimating the variance of α/γ cross-sectionally, a standard t-test rejects H_0 at the 1% level for each of the two bidder groups. However, we cannot reject the hypothesis that the value of q implied by α/γ is the same for domestic and foreign bidders. These conclusions hold whether measuring abnormal returns in percentage terms or in terms of dollar values. In sum, it appears that the market assigns a non-zero prior acquisition probability that is similar across our TSE-listed and NYSE-listed bidder firms.

V. Conclusions

The literature on corporate acquisitions indicates that gains to bidder firms in the U.S. are largely insignificant. While the evidence is consistent with the hypothesis that competition among bidder firms drives the rents from acquisition activity to the target shareholders, it is also widely recognized that measured bidder abnormal returns may contain an attenuation bias. The bias may arise when the bidder is large relative to the target (and therefore also relative to the dollar gain in the transaction), or when the market anticipates takeovers based on the bidder's record as a frequent acquiror. As a result, it is difficult to assess the true performance of U.S. bidders.

This paper addresses the controversy over the true gains to bidder firms by studying a large sample of domestic and foreign acquisitions in Canada. The foreign bidders are all U.S. firms listed on the NYSE. We find robust evidence that domestic bidders realize significantly positive announcement-month (and two-day announcement period) abnormal stock returns. At the same time, U.S. bidders in Canada earn statistically insignificant abnormal returns. This evidence is also corroborated by abnormal annual earnings data.

The paper performs several investigations into the possible source of the differential performance of the two categories of bidder firms. First, we test and reject the hypothesis that foreign direct investment controls in place during the second half of our sample period has reduced average gains to the NYSE-listed foreign bidders in our sample. Second, TSE-listed bidders that outperform their U.S. counterparts tend to undertake conglomerate rather than horizontal acquisitions. Thus, a relative product-market disadvantage to foreign bidders does not appear to explain the superior

domestic bidder performance. Third, we show that the market tend to react positively to domestic bids where the payment is in the form of bidder shares. This is in contrast to extant evidence for U.S. domestic acquisitions where all-stock offers on average are associated with a non-positive or even negative market reaction. The negative market reaction is consistent with adverse selection effects in U.S. issue markets, and our analysis raises the question of whether the greater announcement-returns to domestic all-cash offers is the result of lower adverse selection effects of Canadian targeted domestic equity issues.

Finally, we show that the most profitable domestic acquisitions are the ones where the bidder and targets have similar total equity sizes. The U.S. bidders in our sample are on average eight times the size of their Canadian counterparts, which suggests that the insignificant U.S. bidder performance in part reflects a measurement problem. We also document similar acquisition frequencies across domestic and U.S. bidders, and we fail to reject structural tests of the hypothesis that the market assigns similar prior acquisition probabilities to the NYSE-listed and the TSE-listed bidder in our sample.

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Table 1
The Annual Number of Domestic and Foreign Acquisitions in the Population and in the Sample, 1964-1983

Year of acquisition announcement	Acquisitions in population[1]	Acquisitions in sample[2]			
		Total	TSE-listed bidders	TSE-listed targets[3]	NYSE-listed bidders
1964	197	54	40	4	14
1965	224	57	41	5	14
1966	196	42	34	5	7
1967	212	62	40	10	18
1968	378	128	81	18	40
1969	471	113	87	14	21
1970	409	102	74	9	23
1971	380	114	91	16	15
1972	428	140	112	20	16
1973	354	143	105	29	21
1974	277	106	86	19	9
1975	265	98	67	22	21
1976	316	103	69	30	12
1977	394	145	75	47	41
1978	448	41	21	8	16
1979	510	106	55	26	32
1980	415	81	56	17	20
1981	498	95	68	19	15
1982	573	77	29	16	37
1983	614	39	30	11	2
1964-82	7,559	1,846	1,261	345	394

[1] The population is the Merger Register, compiled annually by Consumer and Corporate Affairs Canada, which covers reported mergers and acquisitions in industries subject to the Combines Investigation Act. The Merger Register contains a total of 9,294 cases over the period January 1945 through December 1983.

[2] The sample is drawn from the Merger Register over the period 1964-83 and requires that, at the time of the merger, either the target firm was listed on the Toronto Stock Exchange (TSE) or the bidder was listed on the TSE or the New York Stock Exchange (NYSE). Furthermore, a case was excluded if the Merger Register did not give the day of the press announcement, and if the firm did not satisfy the minimum data requirement for estimating abnormal stock returns, as described in the text.

[3] Of the 345 TSE listed targets, 166 were targets of TSE listed bidder firms and 48 were targets of NYSE listed bidder firms. The remaining 131 targets were acquired by bidders whose shares were not publicly traded.

Table 2

Monthly Average Abnormal Stock Returns to Canadian Targets and Domestic and Foreign (U.S.) Bidders. Total Sample, 1964-83.

Percent average monthly abnormal return over the year prior to and following the month of the first press announcement of the acquisition (month 0) where the abnormal return to firm j over month τ is computed as the excess return market model prediction error

$$\hat{\gamma}_{j\tau} = \begin{cases} r_{j\tau} - [r_{f\tau} + \hat{\alpha}_j^b + \hat{\beta}_j^b(r_{m\tau} - r_{f\tau})] & \text{for } -12 \leq \tau \leq 0 \\ j\tau - [r_{fr} + \hat{\alpha}_j^a + \hat{\beta}_j^a(\hat{r}_{m\tau} - r_{fr})] & \text{for } 1 \leq \tau \leq 12, \end{cases}$$

where $r_{j\tau}, r_{f\tau}$ and $r_{m\tau}$ are the continuously compounded rates of return to firm j, the risk-free asset and the value-weighted market index over event month τ, and the market model coefficients are estimated using a minimum of 24 and a maximum of 48 months from the before-event period -60 through -13 $(\hat{\alpha}_j^b, \hat{\beta}_j^b)$ or the after-event period 13 through 60 $(\hat{\alpha}_j^a, \hat{\beta}_j^a)$.[1]

	Bidders on the TSE[2] ($N = 1261$)			Bidders on the NYSE[3] ($N = 390$)			Targets on the TSE[4] ($N = 332$)		
Event month	Average $\hat{\gamma}_\tau$ (%)	Z_τ	Cumulative average (%)	Average $\hat{\gamma}_\tau$ (%)	Z_τ	Cumulative average (%)	Average $\hat{\gamma}_\tau$ (%)	Z_τ	Cumulative average (%)
-12	-0.45	-0.92	-0.45	-0.46	-1.26	-0.46	-0.41	-0.81	-0.41
-11	0.07	1.39	-0.38	0.79	1.84	0.33	0.09	0.36	-0.32
-10	0.61	2.57	0.23	0.11	0.56	0.43	0.49	1.30	0.18
-9	0.19	1.71	0.42	0.76	2.04	1.20	-0.27	-0.29	-0.09
-8	-0.41	-0.95	0.01	-0.61	-1.97	0.58	0.74	0.78	0.66
-7	-0.12	0.04	-0.11	0.41	0.79	0.99	-0.02	-1.19	0.64
-6	0.04	1.01	-0.07	0.21	0.78	1.20	-0.15	0.05	0.49
-5	0.63	2.07	0.55	-0.22	-0.52	0.98	-0.22	-0.09	0.27
-4	0.66	3.17	1.21	-0.71	-1.83	0.26	1.03	2.64	1.29
-3	0.28	0.54	1.49	-0.13	0.38	0.38	0.14	2.78	2.77
-2	0.43	2.09	1.93	0.39	1.53	0.52	1.18	2.46	3.95
-1	0.44	1.96	2.37	-0.11	-0.40	0.41	3.86	7.75	7.81
0	1.27	4.51	3.64	-0.19	-0.79	0.22	3.59	6.25	11.40
1	-0.18	-0.03	3.45	-0.40	-1.19	-0.17	-0.88	-1.59	10.51
2	0.12	0.83	3.57	0.17	0.39	-0.00	0.24	0.14	10.75
3	0.26	0.59	3.82	-0.49	-1.05	-0.49	2.70	2.05	13.45
4	0.79	2.94	4.62	-0.06	-0.12	-0.55	-1.28	-0.79	12.17
5	-0.45	-0.91	4.17	-0.13	0.47	-0.68	-0.40	-1.25	11.78
6	-0.31	-1.00	3.86	-0.46	-0.37	-1.13	0.08	0.66	11.86
7	0.03	0.73	3.89	-0.72	-1.72	-1.85	-1.42	-1.65	10.45
8	0.47	1.78	4.36	0.07	0.27	-1.79	0.03	-0.27	10.48
9	-0.25	-0.79	4.12	-0.59	-1.07	-2.38	0.73	1.14	11.21
10	-0.44	-0.57	3.67	-0.67	-1.16	-3.05	0.25	0.99	11.46
11	-0.77	-1.37	2.90	-0.05	-0.04	-3.09	0.21	0.73	11.67
12	0.11	0.61	3.01	-0.40	-0.20	-3.49	-1.80	-2.21	9.87
$[-12, -1]$		4.24	2.37		0.56	0.41		4.55	7.81
$[1, 12]$		0.81	-0.63		-1.53	-3.72		-0.59	-1.53

[1] The reported $Z_\tau-$ value of the average abnormal return is distributed approximately standard normal and is given by $Z_\tau \equiv (1/\sqrt{N_\tau}) \sum_j \hat{\gamma}_{j\tau}/\hat{\sigma}_{\gamma_j}$, where $\hat{\sigma}_{\gamma_\tau}$ is the estimated standard error of the abnormal return $\gamma_{j\tau}$ and N_τ is the total number of cases with valid (non-missing) abnormal returns in period τ.

[2] The average market value of total equity in month -12 is CAD$69 million.

[3] The average market value of total equity in month -12 is US$450 million.

[4] The average market value of total equity in month -12 is CAD$53 million.

Table 3

Announcement-Induced Average Abnormal Returns to Domestic and Foreign Bidders under Alternative Estimation Procedures. Total Sample 1964-83.

OLS-estimates of the abnormal return coefficient γ_j in the excess return market model

$$r_{jt} - r_{ft} = \alpha_j + \beta_j(r_{mt} - r_{ft}) + \gamma_j d_{jt} + \epsilon_{jt}$$

where r_{jt}, r_{ft} and r_{mt} are the continuously compounded rates of return to security j, the risk-free asset and the value-weighted market index over period t; d_{jt} takes on a value of one in the event period and zero otherwise; and ϵ_{jt} is a zero mean disturbance term. The event period is the month of the acquisition announcement when using monthly stock returns and the day of the announcement and the previous day when using daily stock returns. When using daily stock returns (Panel III), the risk-free rate r_{ft} is excluded from the regression. Furthermore, with daily data the total event period abnormal return is $2\hat{\gamma}_j$, which is the number reported in the table.

Sample	Sample size (N)	Average $\hat{\gamma}_j^1$	Percent positive	Percent significant (5%) positive	Percent significant (5%) negative	Z-value[2]
I. Monthly returns and pre-event estimation period (month -60 through month -13)[3]						
Bidders on TSE	1099	1.13%	52.0	5.5	2.5	3.30
	1097	$6.89 million	56.0	12.0	6.8	10.10
Bidders on NYSE	371	0.16%	50.0	2.6	2.7	0.12
	367	$-6.81 million	54.0	9.0	8.2	0.11
II. Monthly returns and post-event estimation period (month 13 through month 60)[3]						
Bidders on TSE	1227	1.81%	55.2	5.3	2.5	5.75
	1225	$9.48 million	52.0	7.3	3.4	7.17
Bidders on NYSE	343	0.87%	55.1	2.3	1.2	2.01
	340	$-0.23 million	59.4	3.2	3.5	1.87
III. Daily returns and post-event estimation period (day -1 through day 480)[4]						
Bidders on TSE	464	0.81%	53.7	7.1	2.2	4.23
	430	$0.64 million	53.3	6.1	3.0	3.40
Bidders on NYSE	385	0.08%	50.4	3.9	2.6	0.57

[1] Abnormal dollar returns are obtained by estimating γ_j after premultiplying the terms $(r_{jt} - r_{ft})$ and $(r_{mt} - r_{ft})$ with $V_{j,t-1}$, the prior end-of-period market value of total equity.

[2] $Z = (1/\sqrt{N}) \sum_j \hat{\gamma}_j / \hat{\sigma}_{\gamma_j} \overset{as}{\sim} N(0,1)$, where N is the sample size and $\hat{\sigma}_{\gamma_j}$ is the estimated standard error of γ_j.

[3] To be included, a firm must have a minimum of 24 valid returns over the 48-month period as well as a valid return in month 0. The dummy variable takes on a value of 1 in event month 0. The twelve months (-12 through -1) in the before-event estimation and (1 through 12) in the after-event estimation procedure are excluded.

[4] To be included, a firm must have 150 valid return observations drawn over the 480 trading-day estimation period. The average $\hat{\gamma}_j$ for the NYSE-listed bidders is reported in % terms only due to lack of access to the CRSP daily stock price file.

Table 4

Average Annual Abnormal Changes in Earnings to Canadian Targets and Domestic and Foreign (U.S.) Bidders in the Year Prior to through Three Years Following the Year of the Acquisition, 1964-83.

OLS-estimates of the abnormal earnings coefficients γ_{ejn} in the following market model:

$$\Delta E_{jt} = \alpha_{ej} + \beta_{ej}\Delta E_{mt} + \gamma_{ejn} d_{jtn} + \epsilon_{ejt}$$

where ΔE_{jt} is firm j's change in earnings before interest and taxes (EBIT) over year t, E_{mt} is the equal-weighted average EBIT across all firms on the S&P Compustat tape in year t, ΔE_{mt} is the change over year t in E_{mt}, and ϵ_{ejt} is a mean zero error term. The estimation period is year -6 through year -2 (where year 0 is the year of the merger) plus the single year n used to define the dummy variable d_{jtn}, $n = -1, 0, 1, 2, 3$, which takes on a value of one in year n and zero otherwise. Thus, the five γ_{ejn}-coefficients are estimated using five separate regressions, always using the pre-acquisition period -6 through -2 as the comparison period. The market model is estimated using the first difference (as above), and the rate of change, $100 \times (E_{jt} - E_{j,t-1})/E_{j,t-1}$, in earnings from period $t-1$ to t. Data on EBIT for the Canadian firms in the sample is drawn from the Canadian firms on the U.S. Compustat file and from a separate Compustat file for Canadian firms. The market EBIT is constructed using U.S. companies only for the sample of bidders listed on the NYSE, and Canadian companies only when regressing the model using Canadian firms. The regression is run only once for a given firm over a given estimation period; i.e., the estimated value of, e.g., γ_{j0} for a given firm in principle covers the cumulative effect of all mergers undertaken by that firm over that year. When the regression uses the rate of change in earnings, data from year -7 is added in order to create an observation for year -6. Earnings data for target firms ends in year 0.

Unit	$\hat{\alpha_e}$	$\hat{\beta_e}$	Average $\hat{\gamma}_{ejn}$ (Z-value and percent positive in parentheses)[1] Year $n=-1$	Year $n=0$	Year $n=1$	Year $n=2$	Year $n=3$
I. Bidder firms listed on the TSE ($N=303$)							
$ million	0.55 (18.20;72.3)	0.82 (16.04;67.3)	3.92 (20.27;61.7)	1.65 (14.34;62.0)	1.67 (11.98; 60.0)	0.30 (6.32; 55.3)	3.98 (13.01;56.0)
%	6.76 (20.71;75.2)	-1.48 (-10.94;62.0)	12.30 (17.32;53.1)	21.37 (20.34;53.5)	6.06 (7.10; 50.0)	6.45 (6.80; 49.7)	-13.34 (-11.56; 41.3)
II. Bidder firms listed on the NYSE ($N=215$)							
$ million	7.87 (16.85;75.8)	1.29 (13.79;74.9)	-12.72 (-11.58;56.7)	2.07 (5.32;55.4)	-0.25 (1.63; 54.0)	-4.65 (-3.06; 53.0)	12.43 (7.16; 56.2)
% (%)	11.93 (18.08;76.3)	1.86 (10.38;67.4)	-8.23 (-3.55;45.6)	-17.56 (-4.50;41.5)	-19.09 (-4.02; 39.5)	-25.45 (-5.30; 37.4)	-10.15 (-2.01; 37.0)
III. Target firms listed on the TSE ($N=79$)							
$ million	-1.09 (2.21;55.7)	0.39 (6.42;69.6)	-3.24 (-0.31;54.4)	8.32 (4.10;62.0)			
%	1.09 (3.97;64.6)	0.10 (4.50;62.0)	56.32 (3.66;55.7)	49.76 (4.06;61.0)			

[1] $Z=(1\sqrt{N})\sum_j \hat{\gamma}_{ej}/\hat{\sigma}_{\gamma_{ej}} \overset{as}{\sim} N(0,1)$, where N is the sample size and $\hat{\sigma}_{\gamma_{ej}}$ is the estimated standard error of γ_{ej}.The table uses the sample of bidders and targets with a complete set of earnings data available on the S&P Compustat files for years -7 through year 0. Some firms have missing data for one or more of the event-years 1 through 3, thus the sample sizes underlying the estimation of the event parameter for these years is somewhat smaller.

Table 5

Average Abnormal Returns to Canadian Targets and Domestic and Foreign (U.S.) Bidders Before and During FIRA's Merger Review Activity.[1]

OLS-estimates of the abnormal return coefficient γ_j in the excess return market model

$$r_{jt} - r_{ft} = \alpha_j + \beta_j(r_{mt} - r_{ft}) + \gamma_j d_{jt} + \epsilon_{jt}$$

where r_{jt}, r_{ft} and r_{mt} are the continuously compounded rates of return to security j, the risk-free asset and the value-weighted market index over period t; d_{jt} takes on a value of one in the event period and zero otherwise; and ϵ_{jt} is a zero mean disturbance term. The estimation period is month -60 through month -13, while the event period is either the 13-month period month -12 through month 0 (the announcement month) or the announcement month itself.

Sample	Sample size (N)	Event Period	Average[2] $\hat{\gamma}_j$	Percent positive	Z-value[3]
I. Foreign bidders listed on the NYSE					
NYSE-bidders not reviewed by FIRA	222	Month 0 only	-0.76% ($ -2.5 million)	51.1	-1.59
		Month -12 through 0	-0.84% ($ -8.2 million)	45.8	-0.37
NYSE-bidders reviewed by FIRA	172	Month 0 only	-0.73% ($ -8.8 million)	43.3	-1.64
		Month -12 through 0	0.29% ($ -1.1 million)	47.7	0.03
II. Domestic bidders listed on the TSE					
TSE-bidders before FIRA (1964-73)	586	Month 0 only	0.72% ($ 0.3 million)	53.0	2.10
		Month -12 through 0	4.38% ($ 4.5 million)	51.2	3.71
TSE-bidders during FIRA (1974-83)	513	Month 0 only	0.80% ($ 1.2 million)	52.6	2.07
		Month -12 through 0	-2.16 ($ 3.6 million)	47.5	-0.34
III. Domestic targets listed on the TSE[2]					
TSE-targets before FIRA (1964-73)	151	Month 0 only	6.17% ($ 0.4 million)	58.9	6.46
		Month -12 through 0	15.27% ($ 2.3 million)	55.4	5.07
TSE-targets during FIRA (1974-83)	262	Month 0 only	2.35% ($ 0.6 million)	57.8	4.02
		Month -12 through 0	7.61% ($ 5.3 million)	55.0	3.51

[1] A case is classified as 'reviewed by FIRA" according to information in FIRA annual reports. Of the 394 foreign bids in our sample, 172 were reviewed and approved by FIRA, while 222 were not subject to review. Of the 222 cases, 200 took place before the introduction of the FIR Act in 1974, and 22 cases were exempted from review in 1976 and 1977. From 1974-1983, FIRA reviewed a total of 2,127 cases of which 204 (or 10%) were disapproved. Since our sample is restricted to successful acquisitions, there are no disapproved cases in our data base.

[2] Abnormal dollar returns are obtained by estimating γ_j after premultiplying the terms $(r_{jt} - r_{ft})$ and $(r_{mt} - r_{ft})$ with $V_{j,t-1}$, the prior end-of-period market value of total equity. To be included, a firm must have a minimum of 24 valid returns over the 48-month period -60 through -13.

[3] $Z = (1/\sqrt{N}) \sum_j \hat{\gamma}_j / \hat{\sigma}_{\gamma_j} \overset{as}{\sim} N(0,1)$, where N is the sample size and $\hat{\sigma}_{\gamma_j}$ is the estimated standard error of γ_j.

Table 6

Average Abnormal Returns to Domestic (Canadian) and Foreign (U.S.) Bidders in Horizontal and Non-Horizontal Acquisitions, 1964-83.

OLS-estimates of the abnormal return coefficient γ_j in the excess return market model

$$r_{jt} - r_{ft} = \alpha_j + \beta_j(r_{mt} - r_{ft}) + \gamma_j d_{jt} + \epsilon_{jt}$$

where r_{jt}, r_{ft} and r_{mt} are the continuously compounded rates of return to security j, the risk-free asset and the value-weighted market index over period t; d_{jt} takes on a value of one in month 0 and zero otherwise; and ϵ_{jt} is a zero mean disturbance term. The estimation period is month 13 through month 60, excluding months 1 through 12. Total sample of bidder firms classified by whether or not the merging firms operate in the same 2-digit Standard Industrial Classification (SIC) industry ("2-digit horizontal") or in the same 4-digit SIC industry ("4-digit horizontal").[1]

(Z-values and percent positive in parentheses)

	Bidder firms listed on the TSE ($N = 491$)			Bidder firms listed on the NYSE ($N = 182$)		
Type of acquisition	No. of firms	Average $\hat{\gamma}_0$ (%)	Average $\hat{\gamma}_0$ ($ million)[2]	No. of firms	Average $\hat{\gamma}_0$ (%)	Average $\hat{\gamma}_0$ ($ million)[2]
2-digit horizontal	158	1.14 (1.37;55.1)	18.42 (1.54;51.3)	63	1.11 (1.09;57.1)	-22.33 (0.67;65.1)
4-digit horizontal	89	1.31 (0.92;57.1)	33.73 (1.48;52.4)	18	0.26 (-0.20;44.4)	-115.60 (-2.16;55.6)
2-digit non-horizontal	333	1.94 (2.84;55.9)	4.91 (2.35;52.9)	119	0.57 (1.07;52.9)	-1.51 (0.87;55.1)

[1] 4-digit SIC codes were collected from Moody's manuals and from the Standard & Poor's directories for as many firms as could be found. A given acquisition is included in this table only if at least one 4-digit SIC code could be identified for each of the bidder and target firms. $Z = (1/\sqrt{N}) \sum_j \hat{\gamma}_j / \hat{\sigma}_{\gamma_j} \overset{as}{\sim} N(0,1)$, where N is the sample size and $\hat{\sigma}_{\gamma_j}$ is the estimated standard error of γ_j.

[2] The dollar value of the estimated γ_j is obtained by running the regression after pre-multiplying the dependent variable and the market factor by $V_{j,t-1}$, the prior end-of-period market value of total equity.

Table 7
Average Abnormal Returns to Domestic (Canadian) Bidders Classified by the Payment Method, 1964-83.

OLS-estimates of the abnormal return coefficient γ_j in the excess return market model

$$r_{jt} - r_{ft} = \alpha_j + \beta_j(r_{mt} - r_{ft}) + \gamma_j d_{jt} + \epsilon_{jt}$$

where r_{jt}, r_{ft} and r_{mt} are the continuously compounded rates of return to security j, the risk-free asset and the value-weighted market index over period t; d_{jt} takes on a value of one in month 0 and zero otherwise; and ϵ_{jt} is a zero mean disturbance term. The estimation period is month 13 through month 60, plus month 0. Information on the payment method is from the Merger Register, the Financial Post data base, or the manuals of Moody's Corporation.
(Z-values and percent positive in parentheses)[1]

		Average $\hat{\gamma}_j$	
Payment method	Sample size	%	$ million
All-cash	N=90	3.11	1.17
		(1.80;47.9)	(1.93;60.4)
All-stock	N=268	2.99	2.93
		(2.18;65.0)	(2.21;61.7)
Cash and Stock	N=58	5.10	5.21
		(4.61;64.9)	(3.72;64.9)

[1] Abnormal dollar returns are obtained by estimating γ_j after premultiplying the terms $(r_{jt} - r_{ft})$ and $(r_{mt} - r_{ft})$ with $V_{j,t-1}$, the prior end-of-period market value of total equity. $Z = (1/\sqrt{N}) \sum_j (\hat{\gamma}_j / \hat{\sigma}_{\gamma_j}) \overset{as}{\sim} N(0,1)$ where N is the sample size and $\hat{\sigma}_{\gamma_j}$ is the OLS estimate of the standard deviation of γ_j.

Table 8

Average Monthly Abnormal Returns to Domestic and Foreign (U.S.) Bidders Classified by the Market Value of the Bidder's Total Equity, 1964-83.

OLS-estimates of the abnormal return coefficient γ in the excess return market model

$$r_{jt} - r_{ft} = a_j + \beta_j(r_{mt} - r_{ft}) + \gamma_j d_{jt} + \epsilon_{jt}$$

where r_{jt}, r_{ft} and r_{mt} are the continuously compounded rates of return to security j, the risk-free asset and the value-weighted market index over period t; d_{jt} takes on a value of one in the event period and zero otherwise; and r_{jt} is a zero mean disturbance term. The estimation period is month +13 through month +60, i.e., excluding months +1 through +12. $V_{j,-1}$ is the market value of total equity of the bidder firm in the month prior to the month of the acquisition announcement.[1]

(Z-value and percent positive in parenthesis)

1,226 bidder firms listed on the TSE				341 bidder firms listed on the NYSE			
Range of V_{j-1} ($ million)	No. of Firms[2]	Average $\tilde{\gamma}$ (%)	Average$\tilde{\gamma}$ ($ million)	Range of $V_{j,-1}$ ($ million)	No. of firms[2]	Average $\tilde{\gamma}$ (%)	Average$\tilde{\gamma}$ ($ million)
$0 < V_{j,-1} \leq 10$	309 (25.2)	4.05 (5.40;61.2)	0.20 (3.20;50.9)	$0 < V_{j,-1} \leq 100$	61 (17.9)	2.12 (1.89;59.0)	1.69 (1.67;65.0)
$10 < V_{j,-1} \leq 20$	184 (15.0)	2.02 (3.11;55.0)	0.23 (2.01;52.2)	$100 < V_{j,-1} \leq 200$	62 (18.1)	-1.32 (-0.76;45.2)	1.56 (-0.79;54.8)
$20 < V_{j,-1} \leq 30$	118 (9.6)	1.54 (1.89;53.4)	0.13 (2.44;51.3)	$200 < V_{j,-1} \leq 300$	42 (12.3)	2.66 (1.65;50.0)	6.30 (2.67;5.2.23)
$30 < V_{j,-1} \leq 40$	73 (5.9)	-1.60 (-1.69;41.1)	-0.46 (-0.11;46.6)	$300 < V_{j,-1} \leq 400$	30 (.88)	0.84 (-0.36;53.3)	13.68 -0.41;60.0)
$40 < V_{j,-1} \leq 50$	64 (5.2)	0.81 (1.00;54.7)	0.41 (2.07;51.6)	$400 < V_{j,-1} \leq 500$	16 (4.7)	1.78 (1.12;62.5)	8.61 (0.91;75.0)
$50 < V_{j,-1} \leq 60$	41 (3.3)	2.40 (1.29;58.5)	1.19 (5.27;65.8)	$500 < V_{j,-1} \leq 600$	14 (4.1)	1.41 (0.78;64.3)	11.73 (0.74;71.4)
$60 < V_{j,-1} \leq 70$	47 (3.8)	2.57 (2.18;66.0)	1.75 (4.54;59.6)	$600 < V_{j,-1} \leq 700$	21 (6.2)	2.09 (1.39;62.0)	13.36 (1.08;66.72)
$70 < V_{j,-1} \leq 80$	28 (2.3)	1.72 (0.82;50.0)	-0.02 (1.59;39.3)	$700 < V_{j,-1} \leq 800$	15 (4.4)	1.00 (0.55;73.3)	8.56 (0.72;73.3)
$80 < V_{j,-1} \leq 90$	23 (1.9)	0.00 (0.96;56.5)	0.22 (0.44;65.2)	$800 < V_{j,-1} \leq 900$	10 (2.9)	-0.38 (0.19;50.0)	-6.823 (0.32;50.0)
$90 < V_{j,-1} \leq 100$	19 (1.5)	2.63 (1.57;0.58)	1.55 (1.42;52.6)	$900 < V_{j,-1} \leq 1000$	9 (2.6)	-0.88 (-0.55;33.3)	-13.30 (-0.77;22.2)
$100 < V_{j,-1}$	321 (26.1)	0.44 (0.60;51.6)	35.76 (2.39;51.4)	$1000 < V_{j,-1}$	61 (17.9)	0.49 (0.77;60.7)	-24.16 (-0.02;57.4)

[1] Abnormal dollar returns are obtained by estimating γ_j after premultiplying the terms $(r_{jt} - r_{ft})$ and $(r_{mt} - r_{ft})$ with $V_{j,t-1}$, the prior end-of-period market value of total equity. To be included, a firm must have a minimum of 24 valid returns over the 48-month period -60 through -13. $Z = (1/\sqrt{N}) \sum_j \hat{\gamma}_j / \hat{\sigma}_{\gamma_j} \overset{as}{\sim} N(0,1)$, where N is the sample size and $\hat{\sigma}_{\gamma_j}$ is the estimated standard error of γ_j.

[2] In this column, the number of firms in percent of the total sample is given in parentheses.

Table 9

Average Monthly Abnormal Returns to Domestic and Foreign (U.S.) Bidders Classified by the Bidder's Acquisition Frequency over the Sample Period, 1964-83.[1]

OLS-estimates of the constant term α and the abnormal return coefficient γ in the excess return market model

$$r_{jt} - r_{ft} = \alpha_j + \beta_j r_{mt} - r_{ft}) \ + \gamma_j d_{jt} + \epsilon_{jt}$$

where r_{jt}, r_{ft} and r_{mt} are the continuously compounded rates of return to security j, the risk-free asset and the value-weighted market index over period t; d_{jt} takes on a value of one in the event period and zero otherwise; and ϵ_{jt} is a zero mean disturbance term. The estimation period is month +13 through month +60, i.e., excluding months +1 through +12. For the bidder firms listed on the TSE, the total acquisition activity is given by the number of targets in the sample, based on the information in the Canadian *Merger Register*. For the bidder firms listed in the NYSE, the total acquisition activity is given by the number of targets announced in the *Wall Street Journal* over the sample period.

(Z-value and percent positive in parenthesis)[1]

Total Number of acquisitions (N_j) per bidder firm over the 1964-83 period	1,227 bidder firms listed on the TSE			328 bidder firms listed on the NYSE		
	No. of firms[2]	Average $\tilde{\alpha}$ (%)	Average $\tilde{\gamma}$ (%)	Number of firms	Average $\tilde{\alpha}$ (%)	Average $\tilde{\gamma}$ (%)
$1 \leq N_j \leq 2$	272 (22.2)	-2.45 (-4.36;41.5)	0.95 (0.72;50.4)	32 (9.8)	-2.29 (-6.18;28.1)	1.58 (1.13;59.4)
$3 \leq N_j \leq 5$	200 (16.3)	-0.16 (-0.65;49.3)	2.85 (5.31;59.0)	59 (18.0)	-1.96 (-7.89;32.2)	-0.36 (-0.52;47.5)
$6 \leq N_j \leq 7$	165 (13.4)	2.23 (3.37;60.0)	2.47 (2.75;55.2)	45 (13.7)	-1.41 (-4.37;37.8)	-0.24 (0.04;40.0)
$8 \leq N_j \leq 10$	160 (13.0)	-2.73 (-3.27;45.0)	1.00 (1.51;55.6)	77 (23.5)	-1.91 (-7.54;29.9)	1.34 (1.49;61.0)
$11 \leq N_j \leq 12$	77 (6.3)	-1.15 (-0.07;48.1)	2.23 (2.70;58.4)	38 (11.6)	-1.41 (-4.36;31.6)	0.10 (0.13;50.0)
$13 \leq N_j \leq 15$	41 (3.3)	0.01 (-0.19;46.3)	-0.49 (-0.86;53.7)	34 (10.3)	-0.28 (0.04;58.8)	2.55 (1.86;61.8)
$16 \leq N_j \leq 17$	49 (4.0)	1.46 (2.37;71.4)	2.36 (1.79;57.1)	15 (4.6)	0.21 (1.04;53.3)	0.69 (0.09;60.0)
$18 \leq N_j \leq 20$	18 (1.5)	10.63 (6.54;77.8)	-2.47 (-1.42;38.9)	17 (5.2)	-1.36 (-2.82;29.4)	0.65 (0.03;52.9)
$21 \leq N_j \leq 22$	20 (1.6)	6.53 (4.81;85.0)	0.48 (0.45;45.0)	3 (0.9)	1.76 (1.62;66.7)	-3.46 (-.64;33.3)
$23 \leq N_j \leq 25$	25 (2.0)	-2.75 (-2.12;32.0)	0.58 (0.46;52.0)	8 (2.4)	-1.49 (-1.58;25.0)	2.00 (0.87;62.5)

[1] To be included, a firm must have a minimum of 24 valid returns over the 48-month period -60 through -13. $Z = (1/\sqrt{N}) \sum_j \hat{\gamma}_j / \hat{\sigma}_{\gamma_j} \overset{as}{\sim} N(0,1)$, where N is the sample size and $\hat{\sigma}_{\gamma_j}$ is the estimated standard error of γ_j.

[2] The number of firms in percent of the total sample is in parentheses.

Figure 1

Percent Monthly Cumulative Average Abnormal Stock Returns to Canadian Targets and Domestic and Foreign (U.S.) Bidders 1964-1983.

The sample contains 332 target firms listed on the Toronto Stock Exchange (T-TSE), 1,261 bidder firms listed on the Toronto Stock Exchange (B-TSE) and 390 bidder firms listed on the New York Stock Exchange (B-NYSE). All bids are for Canadian targets. Abnormal returns are computed using market model residuals (equation 2), and the estimation period is five years or 60 monthly return observations. See Table 2 for details.