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THE IMPACT OF SHIFTS IN FORECASTED EARNINGS AND SYSTEMATIC RISK ON ACQUIRING FIRM SHAREHOLDER WEALTH IN DOMESTIC AND INTERNATIONAL ACQUISITIONS

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Abstract

On average, acquiring firm shareholders experience significant wealth losses in domestic acquisitions, but not in international acquisitions. However, the difference between wealth effects from domestic and international acquisitions is not statistically significant. Acquiring firm unique synergy benefits manifest themselves in larger future expected cash flows but not in reductions in systematic risk. Acquiring firm shareholder gains are positively related to relative size of the target firm to the acquiring firm.

INTRODUCTION

In competitive acquisitions markets, gains associated with combination synergies accrue almost exclusively to target firm shareholders. However, if a specific combination of acquiring and target firm is unique in its potential for synergy, the acquiring firm may share in the gains from the acquisition. Shareholder wealth effects from international acquisitions will be larger than shareholder wealth effects from domestic acquisitions if (1) the international acquisitions market is not as competitive as the domestic acquisitions market or (2) international acquisitions provide companies with greater opportunities to take advantage of firm specific synergies. The preceding arguments are based on the assumption that managers act in shareholders' best interest. However, if managers act out of managerial self-interest or hubris, acquiring firm shareholders will lose wealth in domestic and international acquisitions.

Synergy between the firms will manifest itself in reductions in systematic risk or in increases in expected future cash flows. Reductions in systematic risk may be the result of international diversification. Generally, there are no barriers to shareholders achieving domestic portfolio diversification across different industries. Thus, domestic real asset diversification at the firm level is generally costly and unnecessary. This may not be so when firms diversify their real asset portfolio by means of international acquisitions. Investors face additional barriers to international portfolio diversification that do not exist for domestic portfolio diversification. These barriers include excessive information and transaction costs, foreign exchange regulations, and added purchasing power risk. If firms face less stringent barriers than individual investors, real asset diversification by MNFs will serve as a substitute for more expensive investor portfolio diversification. The internationally diversifying firm will then be rewarded by the capital markets for the diversification benefits it provides [6].

Expected future cash flow increases due to synergy may stem from a number of sources such as greater monopoly power of the merged firm and cost reductions due to economies of scale. International acquisitions provide firms with sources of synergistic gains not available in domestic acquisitions. Uniquely international advantages can arise from market imperfections in product and labor markets [4, 10], internalization of the multinational firm's superior knowledge [2], differential taxation [17], imperfections in the international capital markets [1], or a strong home currency for the acquiring firm [8]. If these additional potential synergies exceed the additional costs in international acquisitions, then international acquisitions will provide larger synergistic gains than domestic acquisitions.

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Several studies show that the acquiring firm shareholders in U.S. domestic acquisitions in the 1980s lost wealth on average [11, 12] while the U.S. acquiring firms in international acquisitions have small gains on average [5, 13, 16]. Thus, it may be inferred that there are larger gains in international acquisitions than in domestic acquisitions if the acquiring firm is a U.S. firm. These larger gains may be due to a less competitive international acquisitions market or more firm specific synergy advantages in international acquisitions. However, Mathur et al. [14] find evidence that foreign bidders' shareholders lose on average at the announcement of an acquisition in the United States. Cakici, Hessel, and Tandon [3] provide mixed evidence on the gains to foreign acquirers of U.S. targets depending on the home country of the acquiring firm and the event window studied.

Morck, Shleifer, and Vishny [16] find that acquiring firms in domestic U.S. acquisitions lose significantly if the target firm is in an unrelated industry while they gain significantly if the firm is in a related industry in the 1980s. However, the difference between related and unrelated acquisitions is not significant. Healy, Palepu, and Ruback [9] find a positive relationship between postmerger actual increases in cash flows and abnormal returns at the merger announcement in U.S. domestic acquisitions.

Examining the wealth effects of international acquisitions, Fatemi and Furtado [7] find gains to U.S. acquiring firms that expand into new markets. Doukas and Travlos [5] show that acquiring firms gain more when they expand into new industries and markets. Markides and Ittner [13] find small, marginally significant gains to acquiring firms in international acquisitions. They also show a positive relationship between the abnormal returns and exchange rate changes, the relative size of the target firm and prior experience in the foreign country.

The purpose of this study is twofold. First, the study contains a direct comparison of the gains to U.S. acquiring firms in domestic and international acquisitions. While previous studies on international acquisitions imply that international acquisitions provide larger gains than domestic acquisitions to U.S. shareholders, no direct test of this proposition has been conducted. Second, the effects on acquiring firm shareholder's wealth from systematic risk changes and expected future cash flow changes are examined.

HYPOTHESES

1. *Gains to acquiring firms in international acquisitions exceed gains to acquiring firms in domestic acquisitions.* If the international acquisitions market is less competitive than the domestic acquisitions market or international acquisitions allow for acquiring firm unique acquisitions advantages, gains to the acquiring firm shareholders in international acquisitions will exceed the gains to acquiring firm shareholders in domestic acquisitions.
2. *Gains to acquiring firms in domestic and international acquisitions are positively related to increases in expected future cash flows and reductions in systematic risk.* In the presence of acquiring firm unique opportunities to reduce systematic risk or increase expected future cash flows, ceteris paribus, acquiring firm shareholders will gain from acquisitions.

SAMPLE AND METHODOLOGY

Sample

The sample of domestic acquisitions contains publicly traded U.S. firms that acquire other publicly traded U.S. firms between 1981 and 1989. The sample of international acquisitions consists of U.S. firms acquiring firms abroad, as identified from the *Mergers and Acquisitions Roster* in the same time period. The acquisition has to be announced in the *Wall Street Journal Index* and earnings forecasts have to be available from the Institutional Brokers Estimate System (IBES). The number of observations differ slightly between the different tests due to unavailable required information for the specific test. For domestic acquisitions, the delisting date from the Center for Research in Security Prices (CRSP) master daily returns file is used as the completion date for the acquisition. For international acquisitions, the completion date is taken from the *Mergers and Acquisitions Roster*. The stock returns for the acquiring firms must be available on the CRSP daily returns files from 250 days before the first bid to 250 days after the completion of the acquisition. The characteristics of the final sample are summarized in Table 1.

TABLE 1
Sample Description

	All Acquisitions	Domestic Acquisitions	International Acquisitions
Sample Size	272	130	138
Proportion of Related Acquisitions	0.45	0.49	0.54
Average Change of Beta	-0.09	-0.07	-0.11
Average Change in Earnings per Share ($/per Share)	0.04	-0.08	0.17
Average Correlation Coefficient for GDP Growth	n/a	n/a	0.58
Average Relative Target Size Where Reported	0.46	0.61	0.12

Event Study

Tender announcements cumulative abnormal returns are derived using a standard event study methodology based on the market model. The pre first tender bid estimation period from days -21 through -250 is used to estimate market model parameters in deriving the cumulative abnormal returns with respect to the international market index.

Regression Analysis

A weighted least squares regression is performed to examine the relationship between the acquiring firm abnormal returns and a number of explanatory variables. The dependent variable in the regressions are the two-day cumulative abnormal returns for the day prior to the acquisition announcement and the day of the acquisition announcement, and the weight is the estimated standard deviation of the two-day cumulative abnormal returns.

International variable (INT). INT is an indicator variable equal to zero for domestic acquisitions and equal to one for international acquisitions. INT will be positive if the acquiring firms gain more in international acquisitions than in domestic acquisitions. Alternatively, if the domestic and international markets for acquisitions are equally competitive and the average firm-specific gains are identical, INT will be insignificant.

Relatedness of target and acquirer industry (RELATED). This variable is introduced to distinguish between horizontal and other acquisitions. The indicator variable equals one for acquisitions with the same two-digit SIC code and zero otherwise. Abnormal returns of the acquiring firms are expected to be positively related to the RELATED variable if monopoly rents, monopsony rents, or additional synergy effects exist. A negative relationship would be expected if diversification benefits, or non-relatedness, are valued by the shareholders.

Change in beta (ΔBETA). This variable represents the difference between the post-acquisition beta of the combined firm and the pre-acquisition beta of the acquiring firm. The pre-acquisition beta is estimated over days -250 to -21 with respect to the first bid as day zero and the post-acquisition beta is estimated over days +21 to +250 with respect to the completion date. Beta is estimated using the market model. When there is no shift in beta beyond that due to the weighted average from acquiring the target firm, no significant relationship between the shift in beta and the acquiring firm abnormal return is expected. Even if there is a significant change, it may be that all the gains from that shift accrue to the target firm shareholders. Only if there is a shift, which is advantageous to the acquiring firm shareholders will a significant relationship exist. Shareholders value a decrease in beta, all else equal. Therefore, the predicted sign on the coefficient for ΔBETA is negative.

Change in earnings per share forecast (ΔEPS). This variable represents the difference between the post-acquisition one year earnings per share forecast of the combined firm and the pre-acquisition one-year earnings per share forecast of the acquiring firm. IBES information on earnings estimates by analysts is used to examine for shifts

in expectations of earnings pre to post acquisition. The average of the analysts' one year earnings estimates for the month before the first bid and for the six months after the acquisition date are used.

A significant shift in forecasted earnings may come from different factors. First, the accounting method used for the purchase has an impact on forecasted earnings. When the assets are pooled, there is no revaluation of assets and goodwill. However, when the acquisition is treated as a purchase, assets are revalued for depreciation purposes and goodwill can be amortized. Therefore, earnings per share tend to be higher under the purchase method. Second, and of primary interest in this study, increased future expected cash flows lead to an increase in the earnings per share forecast. When there is no shift in earnings per share forecasts beyond that due to the weighted average from acquiring the target firm, no significant relationship between ΔEPS and the acquiring firm abnormal return is expected. Even if there is a significant change, it may be that all the gains from that shift accrue to the target firm shareholders. A significant relationship will only be found if there is a shift in forecasted earnings which is advantageous to the acquiring firm shareholders.

Correlation of GDP (GDPCORR). The correlation of the GDPs between the United States and the target firm's country is measured by the correlation coefficient of the real GDPs between 1970 and 1990. The lower the correlation between the GDP of the acquiring and the target firm's countries, the larger will be the gains to the acquiring firms if acquiring firm shareholders value diversification benefits.

Relative target to acquirer size (RELSIZE). This variable is introduced to control for the relationship between the size of the target relative to the size of the acquiring firm. The relative size is measured as the purchase price as published in the *Wall Street Journal* or the *Mergers and Acquisitions* divided by the value of the acquiring firm's equity in U.S. dollar terms.

TABLE 2
Average Two-Day Cars for Days -1 and 0 Around the First Bid for the Target Firm. The Numbers in Parentheses Represent Z-Statistics and the Numbers in Brackets Represent Medians.

	2 Day CARs	Ratio of Positive to Negative CARs
Domestic acquisitions (N=137)	-0.36%** (-2.42) [-0.51%]	49: 88*** (-3.33)
Domestic acquisitions in related industries (N=49)	-0.07% (-0.74) [-0.28%]	20: 29 (-1.29)
Domestic acquisitions in unrelated industries (N=88)	-0.53%** (-2.47) [-0.68%]	29: 59*** (-3.20)
International acquisitions (N=149)	-0.31% (-1.24) [-0.36%]	66: 83 (-1.39)
International acquisitions in related industries (N=76)	-0.14% (-0.15) [-0.11%]	35:41 (-0.69)
International acquisitions in unrelated industries (N=73)	-0.49% (-1.62) [-0.67%]	31: 42 (-1.29)

*Significant at the 10 percent level ** Significant at the 5 percent level. *** Significant at the 1 percent level.

RESULTS

Shareholder Wealth Effects

The shareholder wealth effects are reported in Table 2. The parametric as well as non-parametric tests support losses to the acquiring firms in domestic unrelated asset acquisitions while there are no significant gains or losses in domestic related asset acquisitions. However, the difference between related and unrelated acquisitions is not statistically significant. This evidence is consistent with the results of Morck, Shleifer, and Vishny [15]. Neither related nor unrelated international acquisitions show significant wealth effects, consistent with existing evidence on international acquisitions by Doukas and Travlos [5].

The difference between the cumulative abnormal returns to domestic and international acquisitions is not statistically significant. Thus, the results do not support a differential effect of domestic and international acquisitions to the acquiring firms. Based on these results, we cannot reject similar competitiveness in the domestic and international acquisitions market as well as similar firm-specific synergy benefits.

TABLE 3
Weighted Least Squares Analysis Where the Dependent Variable is the 2-Day CAR at the Announcement of the Acquisition. Probabilities Are Given In Parentheses.

	intercept	INT	RELATED	ÄBETA	ÄEPS	GDPCORR	RELSIZE	R^2	F-value (probability)
Panel A: Excluding the relative size as a control variable									
Combined Sample (N=272)	-0.63% (0.04)	0.15% (0.68)	0.31% (0.42)	0.00% (0.99)	0.72% (0.00)			0.1	0.01
Domestic Sample (N= 130)	-0.57% (0.18)		0.18% (0.80)	-0.32% (0.64)	0.72% (0.03)			0.1	0.13
International Sample (N=138)	-0.72% (0.25)		0.36% (0.31)	-0.35% (0.38)	0.65% (0.06)	0.36% (0.71)		0.1	0.21
Panel B: Including relative size as a control variable									
Combined Sample (N=180)	-0.98% (0.01)	0.57% (0.32)	0.10% (0.85)	0.05% (0.92)	0.69% (0.01)		0.69% (0.01)	0.1	0.02
Domestic Sample (N=125)	-0.94% (0.04)		0.06% (0.93)	0.40% (0.56)	0.73% (0.03)		0.65% (0.03)	0.1	0.01
International Sample (N=52)	0.61 % (0.65)		-0.15% (0.84)	-1.22% (0.18)	0.22% (0.71)	-1.82% (0.38)	2.11% (0.23)	0.1	0.6

Regression Results

The results of the cross-sectional regressions are reported in Table 3. The results confirm that acquiring firms in international acquisitions do not gain more than domestic acquiring firms. Thus, there is no evidence of a statistically significant difference in abnormal returns to acquiring firms in domestic and international acquisitions, even after controlling for the relative size of the target firm.

The changes in forecasted earnings per share are consistently significantly positively related to the shareholder wealth effects. No significant relationships exist between cumulative abnormal returns and beta shifts, the relatedness of the acquiring and target firm industries, and the GDP correlation coefficients. These results indicate that acquiring firm shareholders value increases in expected future cash flows but that no value impacts are observed from risk changes from international acquisitions. Alternatively, value gains from risk reduction benefits do not occur for the acquiring firm, and thus may be passed onto target company shareholders. The gains to the acquiring firms are significantly larger, the larger the size of the target firm with respect to the acquiring firm.

SUMMARY AND CONCLUSIONS

We find losses, on average, to acquiring firms in domestic acquisitions and thus provide evidence consistent with either managerial self-interest or hubris. Significant losses for acquiring firms in international acquisitions are not found. However, there is no statistically significant difference between the abnormal returns to acquiring firm shareholders in domestic and international acquisitions. This evidence is consistent with competitive acquisition markets, both domestically and internationally.

Synergy benefits may result in a reduction of systematic risk as well as increased expected future cash flows. We find that the gains to the acquiring firms are positively related to changes in the forecasted earnings for the acquiring firms. This evidence is consistent with shareholders valuing larger future expected cash flows. Value effects from changes in systematic risk in international and domestic acquisitions are not passed on to acquiring company shareholders. There are also no value impacts to acquiring company shareholders from diversification into unrelated businesses or in markets with a low GDP correlation with the United States. Thus, acquiring firm unique synergy benefits manifest themselves in larger future expected cash flows and not reductions in systematic risk. Finally, and not unexpectedly, the gains to the acquiring firm shareholders are also greater, the larger the relative size of the target firm relative to the acquiring firm.

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