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Payment Method in Mergers and Acquisitions

A Study on Swedish firm's Domestic and Cross-Border Acquisitions

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Abstract

In this study we investigate the effect of payment method used in 108 acquisitions made between 2010 and 2012 with a publicly listed Swedish firm as the bidder. We also control for deal-specific characteristics such as the home country of the target firm and the value of the acquisition. We apply a standard event study methodology to find abnormal returns around the announcement day and our findings show positive short term returns for bidding firms, especially when the payment is comprised at least partially of stock. However, when controlling for payment method by the location of the target firm we find the market favors stock financing only in cross-border acquisitions.

Keywords

Mergers and acquisitions, Cross-border acquisitions, Payment methods

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1.Introduction

Mergers and acquisitions are complex strategic events for the acquiring firm. In this paper we look at how the payment method affects the shareholder value on a short term basis. Several studies have been conducted on the subject in the past, but to our current knowledge, none have been made with a dataset of Swedish acquiring firms. Most studies are made from an American or European perspective and since stock prices in part are subject to local investor's estimations, the cultural differences and corporate governance climate in the bidding firms' home country could generate different results when measuring whether cash or stock is regarded as the better option by investors. Compared to the larger markets in the US, UK and France, the Swedish M&A market is characterised by relatively larger acquisitions and a more concentrated ownership much like the Canadian market. There are several large groups that control many of the most prominent Swedish companies, such as the Wallenberg family with their investment company Investor and the Handelsbanken-group with their investment company Industrivärden.

The literature offers several contradicting perspectives on the subject of payment method in mergers and acquisitions. For example: Fullers, Netters and Stegemollers (2002) research, among others, argue that stock financing could be viewed less as favourable than cash financing deal due to information asymmetry and valuation uncertainty. Others, however, argue in favour of the stock financed deals due to 'monitoring by existing shareholder of the target firm' (Kang & Kim, 2008). Since studies are made on different markets the arguments differ about which payment method is the most preferable. Our ambition is to examine what arguments that are the strongest and most valid on the Swedish market.

Our study focuses on the impact on short term shareholder value depending on the payment method used in both domestic and cross-border acquisitions. Shareholder value is defined as the return on the stock and is investigated using the standard event study approach presented by MacKinley (1997). We investigate the abnormal returns around the announcement day to figure out whether the payment method used has any effect on the return after controlling for the location of the target firm and a few other deal-specific characteristics. Before we started we expected results similar to those in the Dutta's, Zaadi's and Zhu's (2013) and Eckbo's and Thornburn (1999) Canadian studies in which they found significantly positive effects on the short term shareholder value given the same definition. Their results did in part opposed those made on larger markets such as the US (Moeller & Schlingemann, 2005) and European (Faccio & Masulis, 2005) in which they found none or negative

effects of the announcement. Our study finds that Swedish firm's acquisitions tend to generate significant and positive returns around the announcement day that cannot be explained with only normal market fluctuations. The announcement has a significantly positive effect on the shareholder value that is explained by the market quickly adjusting to the news that their firm intends to expand through merger or acquisition. More than that, we find that when looking only at the cross-border acquisitions, there seems to be a clear tendency for the market to react more positively to those deals comprised of at least part stock rather than those where the payment is only cash financed. When the target firm is based in Sweden we find no difference between payment methods.

2. Literature review and theory

2.1. Nature of acquisitions and assumptions on market efficiency

There are two main ways for a company to grow - organic and inorganic. Inorganic growth means that the company grows through mergers, acquisitions or take-overs and is what this study focuses on. This is a fast way for companies to expand their operations as well as balance sheets. It is also an easy way to reach new markets but with it comes great risk and each proposition must be evaluated carefully before being undertaken. Although the synergies are calculated carefully it sometimes doesn't work out the way that was expected. Another risk is the so called agency problems. An acquisition can be a good project in the view of the managers, but not in the view of the shareholders, as argued by Jensen (1986). Conflicts arise when firms have a large free cash flow and instead of paying dividends the managers could have incentives to spend the cash on acquisitions that doesn't maximize the shareholders' value and instead invest to maximize financial ratios which could be tied to the managements' bonuses. For example de Jong, DeJong, Mertens and Roosenboom (2005) found that the managers of Royal Dutch Ahold did not act in the interest of the shareholders when they bought competitors, but rather to serve interest of the managers themselves. They kept the share price high in the short term but it all ended with a disaster in the long term, since the acquisitions were made without a long term strategic plan. It is important to remember that an acquisition is not per definition value creating. Especially on short term an acquisition does not necessarily increase value (expected synergies might grow with time).

We do not hold a discussion concerning whether the market is efficient or not because that would be a thesis by itself. However we do believe it is important to conclude that in this report we assume full market efficiency and that it incorporates and captures the different aspects (announcements) in the correct way.

The location of the target company is one of the transaction characteristics that have been previously proven to affect returns. Empirical evidence is neither in favour of domestic or foreign acquisitions and the theories behind the sometimes opposing results is mostly related to acquirer's home country and the cultural and legal environment. Dutta, Saadi and Zhu (2013) argues that due to the M&A market being characterized by relatively larger transactions, a higher concentration of ownership and a lack of strict anti-takeover regulations in some countries, such as Canada, they find that cross-border generally seem to be regarded as more favourable than domestic acquisitions. On the other hand, Moeller & Schlingemann, (2005) look at the US market and find insignificant differences between domestic and cross-border acquisitions.

Cross-border acquisitions are naturally the more exotic alternative and there are a number of reasons why they could be preferable. Primarily, they pose an opportunity for the acquiring company to get access to an expanded investment opportunity set (Moeller & Schlingemann, 2005). This would be beneficial not only due the expected higher return on their investment that naturally follows an increase in the number of investment options, but it increases the likelihood that the optimal synergy effects and efficiency gains of the acquisitions will be realized.

From a corporate government perspective, the acquiring countries legal environment is of great importance. Not only might the acquisition change the policies in the target firm and expectation of future dividends among their current shareholders, Bris, Brisley and Cabolis (2008) argues that the level of shareholder protection might be different between the two countries. If the target company comes from a country with a better shareholder protection and better accounting standards, the performance of the combined firms are likely to improve.

Cross-border acquisitions do not come without posing some challenges though. Factors that may induce negative expectations on the future wealth of shareholders are integration problems with both managerial and regulatory assets (Campa & Hernando 2006). Other problems that could arise range from agency-problems to a loss of synergy and efficiency gains following a lack of sufficient attention to the integration process.

So since acquisition do not automatically increase shareholder value for the bidding firms, our first hypothesis therefore tests for the short term gains in our sample of Swedish firms:

Hypothesis 1. Announcements of a merger or an acquisition tend to increase short term shareholder value for the bidding firm.

2.2. Cash versus stock as payment method

Fuller, Netter & Stegemoller (2002) argues that since there is a level of information asymmetry and therefore uncertainty regarding the valuation of stock, each firm will naturally have a better understanding of whether their own stock is over- or undervalued. This has the effect that the acquiring firm might be more or less eager to use stock as a payment measure depending on their current situation. If their stock is over-valued by the market they would gain more by offering stock and if it is under-valued they would lose. The target firm, in turn, might be unsure about the actual value of the stock they are being paid with and might prefer cash for this reason. And if the acquirer is unsure about the target firm's value, they might not want to offer cash at all since the target firm

would only accept an offer equal or greater to their true value. If the target firm has a concentrated distribution of ownership or if the acquirer for any other reason is worried about retaining control over the newly acquired firm they might prefer to buy out existing shareholders using cash instead of stock (Faccio & Masulis, 2005).

Empirical studies show that cash is the preferred payment method in most cases. However this is to the best of our knowledge not yet tested on an all Swedish sample and the only study to include data on Swedish firms is Faccio & Masulis (2005), who examine a sample of 3667 observations of European acquisitions, including 197 in which the acquiring firm is Swedish. They find that cash is the preferred method when the bidders controlling shareholder has an intermediate level of voting power in the range of 20-60%, and therefore risk losing control if not buying out the target firm's current shareholders. Our test for differences in average cumulative abnormal returns between the payment methods:

Hypothesis 2. The payment method used in the acquisition has an effect on the on short term shareholder value.

2.3. Cash versus stock as payment method in cross-border acquisitions

Cross-border acquisitions are in nature often more complex than those of a local firm. Faccio & Masulis (2002) opts for cash as the preferred method of payment due to reasons previously mentioned, and due to investors having a so called "home country bias", in their portfolio investments because the target firm's investors usually are local and tend to view foreign stocks as more risky and their valuation as more uncertain. Kang & Kim (2008) argues for the importance of having local shareholders monitoring the activities of the newly acquired firm and therefore support the use of stock as payment. If the payment method is purely cash this will eliminate the current shareholders and might therefore affect the estimated future wealth of the new shareholders negatively. Local investors also have access to soft information that might otherwise be hard to obtain and could have a major impact on the stock valuation. Another aspect the target firms' shareholders must consider when facing an offer is the taxes. In case of a cash payment taxes must be paid directly. When getting paid by stock one might, depending on that country's tax regulations, get a lower tax rate, or wait to sell until a more preferable day (Fuller, Netter & Stegemoller, 2002).

Empirical evidence on the matter is inconclusive and the support for the hypothesis that stock is regarded as more favourable than cash seem to in large depend on the acquiring firm's home

country. Most studies using a dataset from one of the more competitive markets, such as the US (Huang & Walkling, 1987; Moeller & Schlingemann, 2005) and the UK (Faccio & Masulis, 2002; Franks, Harris & Mayer, 1988), finds results in favour of cash or results not in favour of either payment method. The Canadian studies (Dutta, Saadi & Zhu, 2013; Eckbo & Thornbur 2000) show results which we expect to be similar to those in our study on an all Swedish sample. We test for the following hypothesis:

Hypothesis 3 Stock financing in cross-border acquisitions is more preferable than cash financing in cross-border acquisitions.

3. Data and methodology

3.1. Data

This study considers all mergers and acquisitions that occurred between 2010 and 2012 and involved a publicly listed Swedish company as the acquiring firm. The dataset was obtained from the Zephyr database on mergers and acquisitions. A list was compiled of all acquisition meeting the following criteria: (i) the deals were completed, (ii) the deals were announced between 2010 and 2012, (iii) the payment method is either stock, cash or a mix of both, (iv) the acquirer is a publicly listed firm, (v) the acquirer has not announced a previous acquisition within the last 126 trading days from the current. The sample consist of 110 observations, all of which include the deal specific characteristics of total deal value (including estimates), the payment method used, target firm home country and the date of the announcement.

Stock return data were collected from the Bloomberg database and observations in which the acquiring company lack historical closing prices for 120 trading days before announcement acquisition were removed, leaving a final sample of 108 observations. Accounting information, (market capitalization) are also obtained from the Bloomberg. The sample set up and descriptive statistics are presented in Table 1 and 2.

Table 1

Yearly distribution of sample (n = 108) of acquisitions involving publicly listed Swedish firms as the bidder. The sample is divided on basis of the target company being 'domestic' (Swedish firm acquiring another Swedish firm) or 'foreign' (Swedish firm acquiring a foreign firm). The sample is selected based on several criteria: (i) the deals were completed, (ii) the deals were announced between 2010 and 2012, (iii) the payment method is either stock, cash or a mix of both, (iv) the acquirer is a publicly listed firm, (v) the acquirer has not announced a previous acquisition within the last nine month of the current. All values are in MSEK.

Year	Number of Transactions	Number of Domestic Targets	Number of Foreign Targets	Total Transaction Value	Average Transaction Value
2012	31	14	17	14 472.6	466.9
2011	40	15	25	44 274.1	1 106.9
2010	37	19	18	24 790.5	670.0
Total	108	48	60	83 537.3	773.5

As we can see we have 48 respectively 60 observations for domestic and cross-border acquisitions. Total number of observations by year is similar every year (31, 40 and 37). The total

transaction value, however, is remarkably higher in 2011 than in 2012 (44 274 MSEK and 14 477 MSEK, respectively). One possible explanation could be the current economic situation in the world, but this will not be examined further. The main difference between our sample and those used in previous studies is the size and the market which is examined. Most studies uses samples in the range of thousands observations and are made on either one single large market or several smaller.

3.2. Methodology

3.2.1. Abnormal returns around the announcement dates.

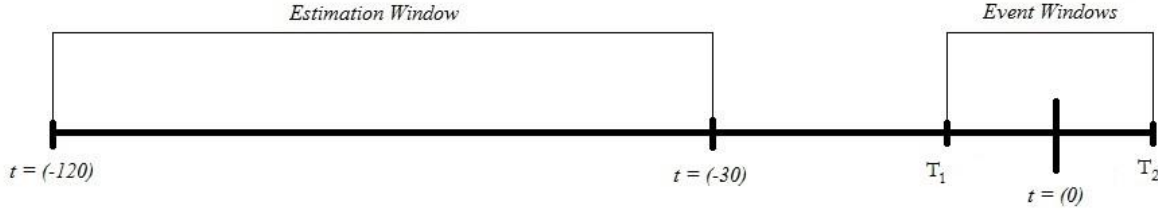
We apply MacKinlays (1997) event study methodology to calculate the effect on stock prices around the initial announcement. An increase in stock prices relates to an increase in short term shareholder value since we define it as return on the stock. We use a one factor model called the ‘market model’ to find abnormal returns. This model accounts for variation in the market and thereby eliminating a potential bias in the returns related to changes in the market not directly related to the acquiring firm or the acquisition. This should lead to a decreased variance and hopefully a better chance to detect the real effect of the announcement. The gains from using a multifactor model, such as one which also account for industry variations, are found to be limited due to the marginal explanatory power in additional factors. The expected returns are calculated as:

$$E(R_{i,\tau}) = \hat{\alpha}_i + \hat{\beta}_i R_{m,\tau} \quad (1)$$

Where $R_{m,\tau}$ is the return on the market for the given time. The security specific parameters $\hat{\alpha}_i$ and $\hat{\beta}_i$ are calculated using an estimation window from τ_{-120} to τ_{-31} in relation to the announcement day of the acquisition (τ_0). The 30 day interval between τ_{-30} to τ_0 is excluded to avoid including information about the event that may affect returns, such as rumours.

Figure 1

Time series diagram over estimation (τ_{-120}, τ_{-30}) and event window (T_1, T_2) used to find abnormal returns and cumulative abnormal returns using stock return data for individual acquiring firms with the announcement day as the event day (τ_0).



The expected return is then used to find abnormal returns and cumulative abnormal returns. We express abnormal returns as:

$$AR_{i,\tau} = R_{i,\tau} - E(R_{i,\tau}) \quad (2)$$

Where R_i and $E(R_{i,\tau})$ are the observed return and the expected value on stock i on the day τ from the announcement day.

3.2.2. Cumulative Abnormal Returns

We calculate cumulative abnormal returns by summarising all abnormal return in the four different event windows, ranging from 5 days before to 5 days after announcement. They are defined as (τ_{-1}, τ_{+1}) , (τ_{-2}, τ_{+2}) , (τ_0, τ_{+2}) and (τ_{-5}, τ_{+5}) .

The event windows are chosen in order to capture different effects in the market with respect to information availability. They are also consistent with a previous study in the same area (Dutta, Saadi & Zhu, 2013)

$$CAR_{i,(T_1,T_2)} = \sum_{t=T_1}^{T_2} AR_{i,t} \quad (3)$$

The sample average cumulative abnormal return is then calculated by summarizing the average abnormal returns

$$\overline{CAR}_{(T_1,T_2)} = \sum_{t=T_1}^{T_2} \overline{AR}_t \quad (4)$$

In practice, $\sigma_{\varepsilon_t}^2$ is unknown and we therefore approximate the variance of the average cumulative abnormal returns using the average variance of the individual firms' abnormal returns.

$$VAR(\overline{CAR}_{(T_1, T_2)}) = \frac{1}{N^2} \sum_{i=1}^N \sigma_{i, T_1, T_2}^2 \quad (5)$$

A t-test is used to examine the significance of the cumulative abnormal returns.

$$t = \frac{\overline{CAR}_{(T_1, T_2)}}{\sqrt{VAR(\overline{CAR}_{(T_1, T_2)})}} \quad (6)$$

To test for differences between groups '1' & '2' we also use a t-test.

$$t = \frac{\overline{CAR}_{(T_1, T_2)_1} - \overline{CAR}_{(T_1, T_2)_2}}{\sqrt{VAR(\overline{CAR}_{(T_1, T_2)_1}) + VAR(\overline{CAR}_{(T_1, T_2)_2})}} \quad (7)$$

3.2.3. Deal-specific characteristics

As we can see in Table 2, there exist clear tendencies to use cash to finance the acquisitions (59% of deals are finance by pure cash while only 10% are financed by pure stock). The groups that we compare are arranged depending on the home country of the target firm and the payment method used in the transaction. The location variables are called “*cross-border*” (target firm is based in foreign country) and “*domestic*” (target firm is based in Sweden). The first payment method variable is called “*cash*” (payment consists of only cash but may have been paid over time or on a performance basis). The second is a pooled variable of all observations using at least part stock to finance the acquisition called ‘*stock and mixed*’. This is done since the data consists of only a small number of pure ‘*stock*’ based transactions (only 11 observations financed fully by stock and which were eligible for the study is included in our sample). The pooled variable enables us to find a more significant difference between the cash based observations and the rest due to a higher number of observations in respective group.

Table 2

Descriptive statistics of deal-specific variables for acquiring firms. The sample consists of 108 acquisitions made by publicly listed Swedish firms between the years 2010 to 2013. “Deal Value” is the total transaction value in SEK. “Method of Payment” is a categorical variable dividing the sample into those where the transaction is funded by purely ‘cash’, ‘stock’ or a ‘mix’ of them both. “Domestic/Cross-Border” is a dummy variable representing whether the target firm is based in Sweden or in a foreign country, and below that you find the payment method used depending on the location of the target firm. “Relative Size” is the ‘deal value’ divided by the market capitalization on announcement day.

		Number	Percentage
Deal Value	Less than 10m	16	15%
	10 to 100 m	39	36%
	100 to 500 m	27	25%
	More than 500 m	27	25%
Method of Payment	Cash	64	59%
	Stock	11	10%
	Mix	34	31%
Domestic/Cross-Border	Domestic	49	45%
	Cross-border	60	55%
Cross-Border and Payment Method	Cash	41	68%
	Stock	5	8%
	Mix	14	23%
Domestic and Payment Method	Cash	23	47%
	Stock	6	12%
	Mix	20	41%
Relative Size	Less than 5%	43	39%
	5 to 25%	42	39%
	More than 25%	24	22%
Market capitalization	Less than 100m	17	16%
	100-500m	23	21%
	500-1000m	8	7%
	1000-5000m	27	25%
	More than 5000m	33	31%

3.2.4 Regressions

To further investigate whether payment method has an effect on the short-term shareholder value we perform an ordinary least squares multivariate regression analysis. We use two different models to capture different effects. Model (8) captures the effect of payment method Shares and Mix. The following regression model is used:

$$CAR_{(\tau-1,\tau+1)} = \beta_0 + \beta_1 * Shares - mix\ financed + \beta_2 * Foreign - target + \beta_3 * Relative\ Size + \beta_4 * Market\ cap. + \varepsilon \quad (8)$$

The dependent variable in the regression is the Cumulative Abnormal Returns (of the acquiring Swedish firms).

The independent variable of interest is 'SharesMix', a dummy variable that is equal to 1 if the deal is financed with either pure stock or a mixture between stock and cash, and zero otherwise. Hence the estimate of β_1 will capture the effect of the financing method on cumulative abnormal return.

We also include a dummy variable for where the target firm is located. The value is equal to 1 if the target firm is non-Swedish and zero otherwise. Hence β_2 measures the effect on cumulative abnormal return depending on where the target firm is located.

We also include a set of other control variables that measure other deal characteristics:

(i) 'Foreign Target' is a dummy variable equal to 1 if the target company is located in another country than Sweden.

(ii) 'Relative size' (ratio between the transaction value and the acquiring firm's market value). The relative size is transformed into a logarithmic value to normalize the data.

(iii) 'Market Cap.' of the bidder, which is also in logarithmic form.

Figure 5 and 6 in the appendix shows the distribution of the variables (i) and (ii) before and after the transformation into a logarithmic value.

With the first regression model we investigate the following hypothesis (which corresponds to the second hypothesis stated in the previous sections):

$H_0: \beta_1 = 0$ or 'Payment method has no effect on cumulative abnormal returns'.

$H_1: \beta_1 \neq 0$ or 'Payment method has an effect on cumulative abnormal returns'.

Model (9) includes the interaction term $(\beta_3) * Foreign * SharesMix$. The following regression model is used:

$$CAR_{(\tau-1, \tau+1)} = \beta_0 + \beta_1 * Shares - mix\ financed + \beta_2 * Foreign - target + \beta_3 * Foreign * Sharesmix + \beta_4 * Relative\ Size + \beta_5 * Market\ cap. + \varepsilon \quad (9)$$

The interaction term '*Foreign*SharesMix*' represents all the foreign targets that are paid with either mix or shares. It is included to see if payment method matters for bidders who acquire a foreign target. Hence β_3 will give us the effect on cumulative abnormal return depending on where the target is located and how the deal is financed. The other independent variables used in Model (8) are kept in Model (9).

With the second regression model we investigate the following hypothesis (which corresponds to the third hypothesis stated in the previous sections):

$H_0: \beta_3 = 0$ or 'Stock and mixed financed deal has none, or a negative effect on cumulative abnormal returns'

$H_1: \beta_3 \neq 0$ or 'Stock and mixed financed deals has a positive effect on cumulative abnormal returns for cross-border acquisitions'

4. Empirical results and discussion

4.1 Value creation for acquiring firms: the short-run evidence

Table 3 summarizes the sample average cumulative abnormal returns for all event windows ($\tau_{-1,+1}$, $\tau_{-2,+2}$, $\tau_{0,+2}$ and $\tau_{-5,+5}$) and for different groupings ('domestic' & 'cross-border'). We find that the cumulative abnormal returns are highly significant and positive across all four event windows. The results show support for hypothesis 1; "*Announcements of a merger or an acquisition tend to increase short term shareholder value for the bidding firm*" and is consistent with the findings in a recent study on Canadian M&A (Dutta, Saadi & Zhu, 2013). These results do however oppose those of studies made on larger markets, such as the US, UK or European, where cumulative abnormal returns for the acquiring firms are insignificant or negative around announcement day. We believe the reason for this to be a combination of the relatively larger deal values and a more concentrated ownership of the bidding firm that we find in the all Swedish sample. It is also possible that, since Sweden is a rather small but active market, firms here are forced to be more internationally active than those acting on larger markets. Therefore the home country bias might be a bit weakened compared to, for example, in the US, which might explain part of the higher cumulative abnormal returns for the acquirers.

Table 3

Cumulative abnormal returns for all eligible M&A events in the sample (n=108). Four event windows analysed and tested using t-statistics. Statistical significance at 10%, 5% and 1% is denoted with *, ** and ***.

Event window	(-1, +1)	(-2, +2)	(0, +2)	(-5, +5)
Avg. CAR	0,0359***	0,0400***	0,0377***	0,0368***
T-stat	5,7600	7,4492	5,8474	8,6397

The average cumulative abnormal returns for ($\tau_{-10,+5}$) follow the expected distribution presented in Brown & Warner's (1985) event study paper. Figure 2 shows how the average cumulative abnormal returns are about zero the days before the event since no new information has reached the market. Around the announcement date the market quickly reacts and we can see the effect of the event. In a perfect market this should happen immediately and the entire effect should be

captured in $(\tau_{-1,+0})$. However on average we find significant abnormal returns for the period $(\tau_{-1,+2})$. After this period the security returns once again stabilise.

Figure 1

The average cumulative abnormal returns of all securities in the sample ($n = 108$) spanning from τ_{-10} to τ_5 trading days with the event day (day of the announcement of acquisition as τ_0).

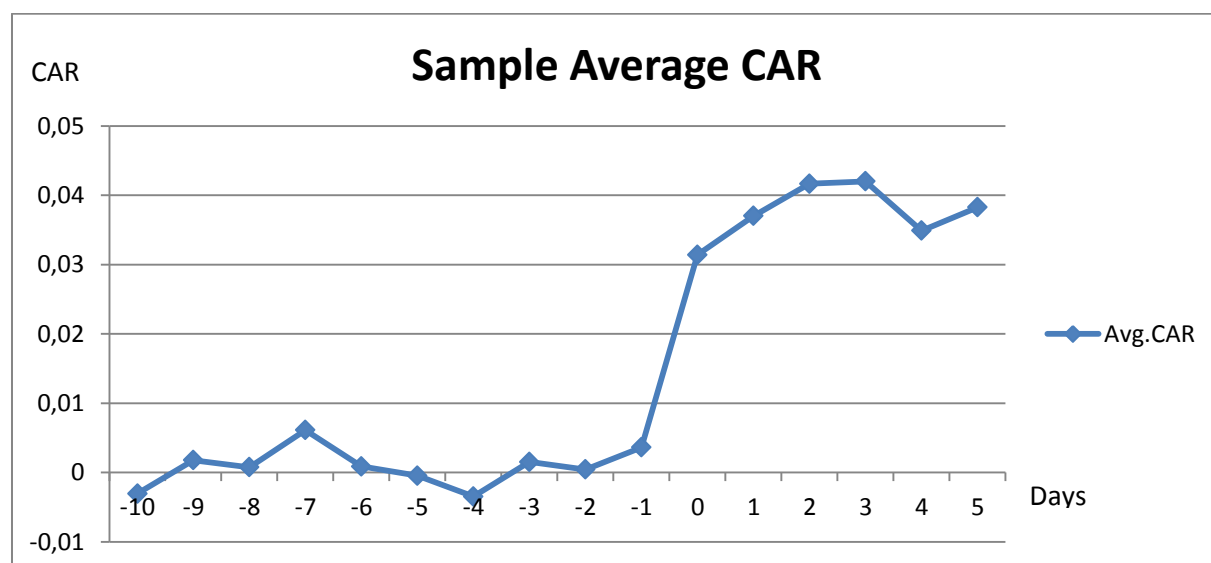


Table 4 reports the cumulative abnormal returns according to payment method. For pure cash financed deals, acquiring shareholders earn a positive and significant cumulative abnormal return of approximately 2.4%. For pure stock and mixed financed acquisitions, the cumulative abnormal returns are also positive and significant at on average 5.3%. The difference between the magnitude of the cumulative abnormal returns for all event windows are both significant and in favour of ‘*stock and mixed*’ financed deals, which supports hypothesis 2; “*The payment method used in the acquisition has an effect on the on short term shareholder value*”. It is important to remember that this test doesn’t include any deal-specific variables other than payment method and the results might be due to other factors not included in this test. These results are not consistent with previous studies, in which they find no significant difference in cumulative abnormal returns for payment method without first grouping the acquisitions depending on the location of the target firm (Dutta, Saadi & Zhu, 2013; Eckbo & Thorburn, 2000).

Table 4

Cumulative abnormal returns by payment method for all eligible M&A events in the sample (n=108). The payment methods are 'cash' (financed fully by cash) and 'stock & mix' (financed in part or in full by stock). Four event windows were analysed and tested using t-statistics. Statistical significance at 10%, 5% and 1% is denoted with *, ** and ***.

Event window	(-1, +1)	(-2, +2)	(0, +2)	(-5, +5)
1. Cash (N = 63)				
Avg. CAR	0,0237***	0,0274***	0,0204***	0,0280***
T-stat	5,9211	7,8081	5,1462	8,8375
2. Stock & Mix (N = 45)				
Avg.CAR	0,0530***	0,0576***	0,0619***	0,0491***
T-stat	3,8226	4,8357	4,2822	5,3332
3. Comparison				
Mean difference (2 – 1)	0,0293**	0,0302**	0,0415***	0,0211**
T-stat	2,1303	2,4321	2,7688	2,1671

Table 5 reports the cumulative abnormal return according to payment method for the groups 'domestic' and 'cross-border'. For both 'cash' and 'shares and mixed' financed deals, the cumulative abnormal returns are significant and positive at approximately between 3% and 4% depending on the event window. The differences between the groups are, however, almost non-existing. These results also differ from the studies mentioned above, in which they find significant differences for the cumulative abnormal returns in favour of the cross-border deals.

Table 5

Cumulative abnormal returns by target firm location for all eligible M&A events in the sample (n=108). The location variables are 'domestic' (target firm located in Sweden) and 'cross-border' (target firm located outside Sweden). Four event windows were analysed and tested using t-statistics. Statistical significance at 10%, 5% and 1% is denoted with *, ** and ***.

Event window	(-1, +1)	(-2, +2)	(0, +2)	(-5, +5)
1. Domestic (N = 48)				
Avg. CAR	0,0339***	0,0397***	0,0352***	0,4054***
T-stat	5,4715	6,9199	6,0965	7,1988
2. Cross-Border (N = 60)				
Avg.CAR	0,0375***	0,0402***	0,0397***	0,0338***
T-stat	3,7271	4,7272	3,7261	5,4483
3. Comparison				
Mean difference (2 – 1)	0,0036	0,0005	0,0045	-0,0068
T-stat	0,3032	0,0456	0,3714	-0,8065

Table 6 reports the effect of the payment method in the respective groups ‘domestic’ and ‘cross-border’. For the domestic deals we see significant and positive results at approximately 2.7% to 4.7% for all event windows and for both payment methods. The difference between them is almost non-existing so we conclude that the payment method has no effect on cumulative abnormal return when looking at only domestic acquisitions. A graph of the cumulative abnormal returns for $(\tau_{-10,+5})$ is found in figure 3. For cross-border deals however, we find that even though both payment methods yields significant and positive cumulative abnormal returns, the deals financed with at least part stock is highly favoured over the deals composed of pure cash (7.7% cumulative abnormal returns compared to 1.8%) As you can see in figure 4 the ‘stock or mixed’ financed deals greatly surpass the cash only deals. The mean difference is significant in all event windows.

Table 6

Cumulative abnormal returns by payment method for each group ‘domestic’ (target firm was located in Sweden) and ‘cross-border’ (target firm was located outside of Sweden). Four event windows were analysed and tested using t-statistics. Statistical significance at 10%, 5% and 1% is denoted with *, ** and ***.

Event windows	(-1, +1)	(-2, +2)	(0, +2)	(-5, +5)
<i>Panel A. Cumulative abnormal returns by payment method for all domestic M&A events</i>				
1. Domestic cash financed deals (N = 23)				
Avg.CAR	0.0340***	0.0391***	0.0267***	0.0467***
T-stat	3,9830	5,3348	3,3443	7,0925
2. Domestic stock & mix financed deals (N = 25)				
Avg.CAR	0.0338***	0.0403***	0.0431***	0.0348***
T-stat	3,7828	4,6268	5,1907	3,8917
3. Comparison				
Mean difference (2 – 1)	-0.0001	0.0012	0.0164	-0.0119
T-stat	-0,0087	0,105824	1,4260	-1,0716
<i>Panel B. Cumulative abnormal returns by payment method for all cross-border M&A events</i>				
1. Cross-border cash financed deals (N = 40)				
Avg.CAR	0.0177***	0.0207***	0.0169***	0.0173***
T-stat	4,4842	5,7807	6,9820	5,3070
2. Cross-border stock & mix financed deals (N = 20)				
Avg.CAR	0.0770***	0.0793***	0.0855***	0.0669***
T-stat	2,6424	3,2365	2,7731	3,8337
3. Comparison				
Mean difference (2 – 1)	0.0592*	0.0586**	0.0686**	0.0338**
T-stat	2,0149	2,3673	2,2057	2,7963

Figure 2

The average cumulative abnormal returns of all domestic acquisitions in the sample, grouped by payment method 'cash' (n = 23) and 'shares & mix' (n = 25) spanning from τ_{-10} to τ_5 trading days with the event day (day of the announcement of acquisition as τ_0). The average for the entire sample is including for purpose of comparison.

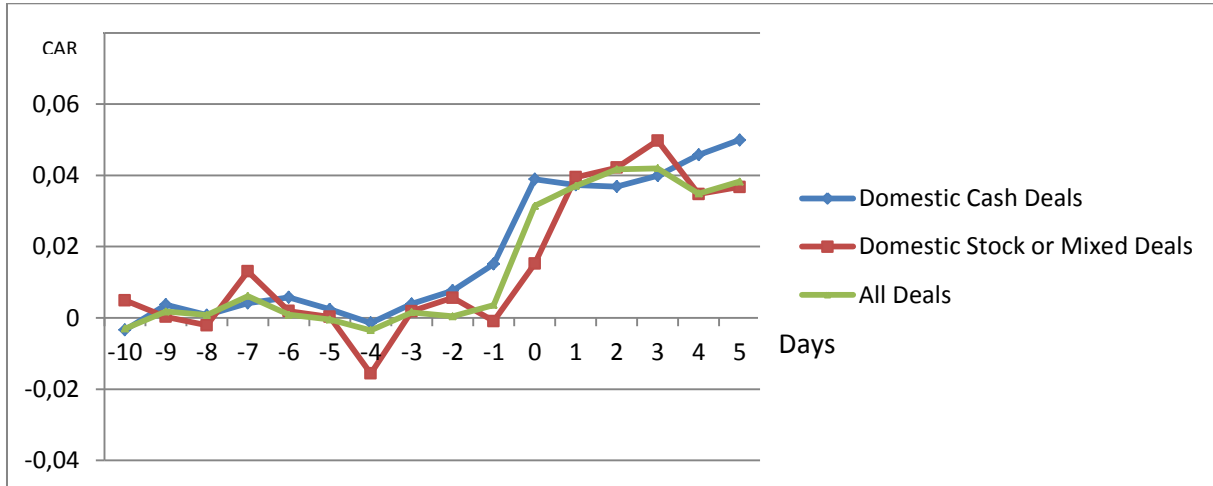
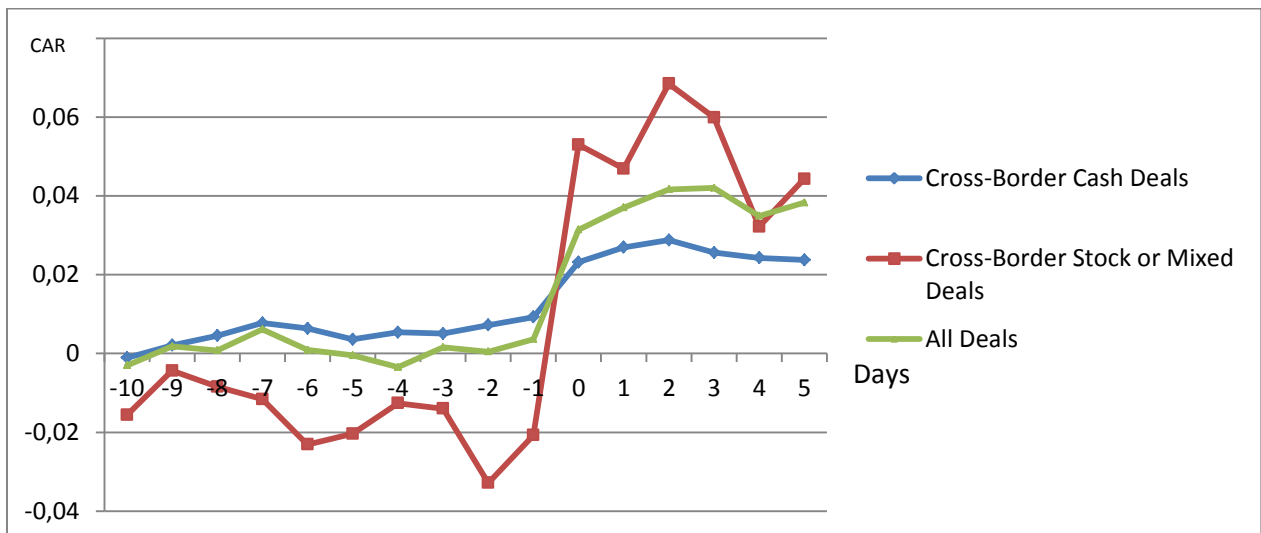


Figure 3

The average cumulative abnormal returns of all cross-border acquisitions in the sample, grouped by payment method 'cash' (n = 40) and 'shares & mix' (n = 20) spanning from τ_{-10} to τ_5 trading days with the event day (day of the announcement of acquisition as τ_0). The average for the entire sample is including for purpose of comparison.



Our findings indicate that there is no difference in cumulative abnormal returns between using pure cash and ‘stock or mixed’ when looking at acquisitions of domestic targets. Hypothesis 3 states that “*Stock financing in cross-border acquisitions is more preferable than cash financing in cross-border acquisitions*” and for three of the cumulative abnormal returns we find a significant difference in favour of stock and mixed financed deals. Our results are consistent with Dutta’s, Saadi’s and Zhu’s (2013) Canadian study, which shows that the market tends to react more positively to stock financed cross-border acquisitions than cash financed. However, they are not supporting studies on the US market, in which the cumulative abnormal returns surrounding the announcement date are negative or insignificant. A possible explanation for this might be that the Canadian and the Swedish M&A market have similar characteristics which differ from the US, such as the lack of strict anti-takeover regulations, larger relative values of acquisitions and a higher propensity to pay with cash, which might help generate a higher cumulative abnormal returns (Eckbo & Thorburn, 2000; Faccio & Masulis, 2005).

It is also interesting to note the average cumulative abnormal returns for the cash financed deals are lower for cross-border acquisitions than they are for domestic. As shown in panel C that when payment method is not considered the returns are almost identical. Possibly, using a larger sample size or doing an in depth study of the characteristics of the Swedish M&A market might yield an explanation for the our findings, which oppose those of Franks, Harris & Mayer (1988) and Eckbo & Langohr (1989) whose results are all in favour of cash financed deals but were conducted on the US, UK and French market. The samples in these studies are not up to date and the latest observation used is from 1985 so it is reasonable to assume the market characteristics might have change since then and therefore they might not be suitable to direct comparison with our findings.

4.2 Analysis of deal-specific characteristics

To test for deal-specific variables that might not be captured in the previous t-tests (performed in section 4.1), we perform a regression analysis. The results from the OLS regressions are presented in Table 4. OLS regression with robust standard errors can be found in the appendix (Table 6).

The event window used in this regression is (τ_{-1}, τ_{+1}) . This particular event window is picked because we believe that it the most interesting from a research perspective. It has in previous

studies shown the most significant results and will therefore be used by us for comparability purposes. Regressions with the other three event windows can be found in the appendix.

Table 4

CAR measures the Cumulative Abnormal Return around the announcement day of an acquisition.. The below presented table shows how different variables effect the dependent variable CAR1 (of the bidding firm). An OLS-regression is used to obtain the results. SharesMix is a dummy variables for payment method. If the payment method is shares or mix the value is 1 and otherwise (Cash) 0. Cross-border target is also a dummy variable for whether the target firm is domestic or cross-border. Cross-border target*SharesMix is an interaction term to capture the specific effect of payment method on foreign targets. Relative size is the logarithmic value of the ratio between the acquiring firm's market capitalization and deal value. Market cap is the logarithmic market capitalization of the acquiring firm. Normal standard errors are used. Statistical significance at 10%, 5% and 1% level is denoted with *, ** and *** respectively.

Dependent variable : CAR (-1, +1)	Model (8)		Model (9)	
	β	t-value	β	t-value
Intercept	0.0720**	2,62	0.0777***	2,84
SharesMix	0.0086	0.51	-0.0185	-0.8
Cross-border target	0.0200	1.22	-0.0058	-0.26
Cross-border target*SharesMix			0.0542*	1,72
Relative size	0.0129**	2,56	0.1353***	2,7
Market cap	-0.0021	-0.55	-0.0005	-0.13
N	108		108	
F	3.63		3.55	
R-square	0.1234		0.1481	
Adjusted R-square	0.0894		0.1064	

The '*SharesMix*' coefficient of Model 8 has a value of 0.0086. It is not statistically significant which means that we cannot reject the second null hypothesis. Hence we cannot conclude whether it has an effect on the cumulative abnormal returns or not. According to our regression (in which we, except for the payment method, include several control variables) the payment method will not have an effect on the short-term shareholder value. This is inconsistent with our previous t-test, where we only controlled for payment method.

Another important part to interpret in these results is the interaction term added ('*Cross-border target*Sharesmix*') in Model 9. The interaction term gives us the effect of a foreign acquisition and the payment method Shares or Mix. The variable is significant at a 10% level. This means that we can reject the third null hypothesis, which in turn means that there is a significant difference between the two payment methods in cross-border acquisitions. The dummy variable '*Cross-border target*' is not statistically significant, but although it is still positive and it appears that abnormal returns increase when the target is located in another country. '*Relative Size*' is statistically significant at a 5% level.

With a positive value of 0.0129 we can conclude that it has a positive effect on the CAR if the 'Relative Size' of the deal increases. 'Market Cap' is not a significant variable but seems to have a negative impact on the CAR. Hence the CAR will decrease the larger the acquiring firm's market capitalization.

Our findings indicated that some of the previous arguments in favour of stock financed and cross-border deals can be applied on the Swedish market. According to Moeller & Schlingemann (2005) the opportunity to reach new markets can be one of the reasons for cross-border acquisitions being more preferable in Sweden. Since it is a small country it is highly likely that the Swedish market looks favourable upon companies that choose to expand operations beyond the borders. It seems that the arguments against cross-border acquisitions such as problems with managerial integration (Campa & Hernando 2006) has less strength on the Swedish market.

The reasons why the Swedish market is more enthusiastic about stock and mixed financed cross-border deals than cash financed are hard to determine. Studies on the Canadian (Dutta, Saadi & Zhu, 2013) markets showed the same results on a short time basis. However they also found that on long term basis stock financed deals then to underperform. They argue that, even though the stock financed deals seem to over perform in the short term, they underperform in the long term and that could be the reason why most companies still choose to use cash as payment method. Since we do not control for long term performance it is hard to say whether this is true for the Swedish market or not.

5. Conclusion

In this paper we study the short term shareholder value for firms that announce an acquisition. Shareholder value is defined as return on the stock and we test if the abnormal returns around the announcement day differ depending on whether cash or stock is used as the method of payment. In our analysis we also include other variables such as the home country of the target firm and the size of the acquisitions. Our sample is exclusively from the Swedish market and we found 108 deals that have taken place between 2010 and 2012. Computing and comparing cumulative abnormal returns we find that acquisitions do have a significantly positive effect on shareholder value at the acquiring firm. When we only control for payment method we find a difference in favor of stock financing. However, when we control for the deal-specific variables using a regression model we find no support for the same statement. Furthermore, the study supports our initial hypothesis that using stock as a means of payment in cross-border acquisitions increases short term shareholder value more than using pure cash. Our results are backed by analyzing differences and also by regressing the variables against the cumulative abnormal return. Here we find significant dependence in the interaction term between being a cross-border acquisition and payment being comprised of at least partially stock. We also find that the cumulative abnormal returns increase when the relative size of the deal gets bigger.

Due to a relatively small sample we cannot test whether it is the mixture of cash and stock or the deals using pure stock that have the greatest effect on short term shareholder value, however we can conclude that the comprising the payment of acquisition at least partially of stock will increase the returns of the bidding firm. There could be many different reasons for this, such as a low home country bias in Sweden or specific characteristics of the market, and we would need to expand the study to find support for specific explanations. We exhort others to further investigate possible reasons for our findings.

6. References

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7. Appendix

7.1 Histograms for logarithmic variables

Figure 4

A histogram showing the distribution of observed values of the acquiring firm's market capitalization. The leftmost shows the actual values and the rightmost shows the logged values.

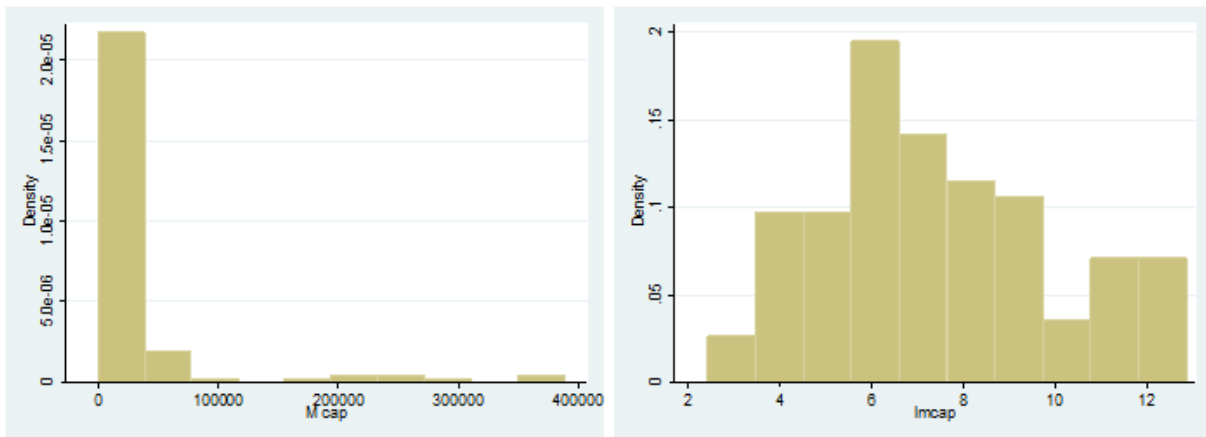
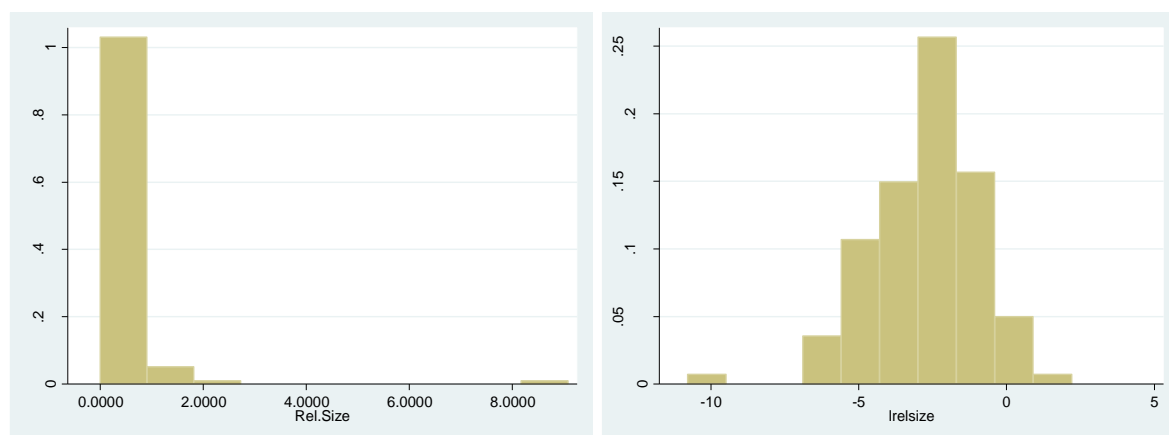


Figure 6

A histogram showing the distribution of observed values of the acquiring firm's relative size (deal value divided by market capitalization). The leftmost shows the actual values (ratio) and the rightmost shows the logged values.



7.2 Regression for all event windows

Table 5

The effect of deal specific characteristics on cumulative abnormal returns. An OLS-regression is used to obtain the results. 'SharesMix' is a dummy variable for payment method. If the payment method is shares or mix the value is 1 and otherwise 0. 'Foreign target' is also a dummy variable for whether the target firm is domestic or cross-border. 'Relative size' is the logarithmic value of the ratio between the acquiring firm's market capitalization and deal value. 'Market cap' is the logarithmic market capitalization of the acquiring firm. Statistical significance at 10%, 5% and 1% level is denoted with *, ** and *** respectively.

Event Windows	(-1, +1)		(-2, +2)		(0, +2)		(-5, +5)	
	β	t-value	β	t-value	β	t-value	β	t-value
Intercept	0.072	2,62**	0.0776	2,56**	0.0783	2,42**	0.0864	2,2**
SharesMix	0.0086	0.51	0.0087	0.47	0.02	1	-0.0069	-0.28
Foreign target	0.02	1.22	0.0169	0.94	0.0265	1.38	0.0071	0.3
Relative size	0.0129	2,56**	0.0131	2,36**	0.0116	1,96*	0.018	2,5**
Market cap	-0.002	-0.55	-0.002	-0.48	-0.004	-0.97	-0.0002	-0.03
N	108		108		108		108	
F	3.63		3.01		3.55		2.25	
R-square	0.1234		0.1048		0.121		0.0804	
Adjusted R-square	0.0894		0.0855		0.087		0.0447	

7.3 Regression for all event windows with robust standard errors

Table 6

Regressions with robust standard errors. Statistical significance at 10%, 5% and 1% level is denoted with *, ** and *** respectively

Event Windows	(-1, +1)		(-2, +2)		(0, +2)		(-5, +5)	
	β	t-value	β	t-value	β	t-value	β	t-value
Intercept	0,0720**	2,55	0,0776**	2,51	0,7833**	2,34	0,0864*	1,92
SharesMix	0,0086	0,51	0,0087	0,47	0,0200	1,01	-0,0069	-0,32
Foreign target	0,0020	1,01	0,0169	0,73	0,0266	1,07	0,0071	0,23
Relative size	0,1290**	2,38	0,0131**	2,43	0,0116**	2,12	0,0180**	2,62
Market cap	-0,0021	-0,52	-0,0020	-0,44	-0,0043	-0,86	-0,0058	-0,03
N	108		108		108		108	
F	2,20		2,20		2,26		2,49	
R-square	1,1234		0,1048		0,1210		0,0804	

7.4 Correlation matrix for variables used in regression

Table 7

Correlation matrix for variables used in regressions.

	Shares&Mix	Cash	Foreign	Shares&Mix* Foreign	Relative Size	Market Capitalization
Shares&Mix	1					
Cash	-1	1				
Foreign	-0,189	0,189	1			
Shares&Mix*Foreign	0,5641	-0,5641	0,4264	1		
Relative Size	0,4258	-0,4258	-0,2193	0,1877	1	
Market Capitalization	-0,3515	0,3515	0,3952	-0,1424	-0,5567	1