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Sources of Financing and Acquirer Returns: Empirical Evidence from Malaysia

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ABSTRACT

This paper empirically examines the effect of financing sources on announcement returns in mergers and acquisitions (M&As). Prior studies have focused on examining the impact of payment methods on announcement returns of M&As. This study is the first that attempts to link financing decision (sources of financing) and wealth creation to shareholders of Malaysian acquirers. Univariate analysis and OLS regression are conducted for 272 completed M&A transactions undertaken by Malaysian listed firms during the period of 2000-2017. The study considers the three main financing sources, which include stock financing, internal funds, and debt financing. The findings from univariate analysis indicate that M&As with debt financing show significantly higher returns in different multiday event windows around the announcement day. Similar results are found using OLS regression. Nevertheless, stock financing shows negative return. The sensitivity of market reaction to the source of financing used is robust to different measures of market performance.

Keywords: Source of Financing; Payment Method, Mergers and Acquisitions; Announcement Returns, Event Study.

1. INTRODUCTION

Merger and acquisition (M&A) is an important strategy that is used by firms as one of the key mechanisms for growth. M&A performance has been investigated intensively by past studies to find its determinants. Past studies have identified payment method as one of the main factors that influences announcement returns to acquirers. Cash payment and stock payment are two popular payment methods. In addition to payment method, past studies have also looked at the impact of financing sources on announcement returns. Financing sources include debt financing, stock financing and internal funds. Obviously, for stock payments, the source of financing is stock, but for cash payments, the financing source can be debt, stock, internal funds or their combinations. Martynova and Renneboog (2009) argued that past studies have ignored sources of financing in cash offers and assumed these offers are internal funds. The underlying source of financing in pure cash offers can also be stock, debt or combination of any of them.

The findings regarding payment method reveal that stock returns of acquisitions tend to be negative in stock payment deals (e.g., Brown & Ryngaert, 1991; Franks, Harris, & Mayer, 1988; Travlos, 1987; Wansley, Lane, & Yang, 1983). At the same time, some empirical findings support the idea that acquirer can gain higher returns via cash payment compared to stock payment (e.g., Fuller, Netter, & Stegemoller, 2002; Moeller, Schlingemann, & Stulz, 2004). The findings regarding the source of financing reveal that returns to acquisitions funded via debt financing outperform those funded via internal funds financing and stock financing (Aybar & Thanakijsombat, 2015; Bouzgarrou & Louhichi, 2014; Martynova & Renneboog, 2009).

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The purpose of this paper is to find whether financing sources of acquisitions differently affect stock returns. Limited works investigate the relationship between source of financing and return, and majority of them have been conducted in the developed markets. Since Malaysia is an emerging market, findings from developed markets cannot be used to generalize the relationship. Therefore, we aim to fill this gap by examining this relationship for Malaysian M&As.

The rest of this study is organized as follows: the first section introduces the issue and the objectives of this paper. The second section discusses the previous related literature. Section three provides a description of the study sample, data collection, definition of variables and the methodology used to examine the impact of financing sources on market performance around the announcement day. The fourth section illustrates the results and discussions from the univariate analysis and multivariate analysis. The fifth section provides a conclusion.

2. LITERATURE REVIEW

Information asymmetry (Hansen, 1987) and signaling effects have been used by extant literature to explain the market reaction to payment methods and sources of financing during acquisition announcements. Myers and Majluf (1984) argued that managers prefer using cash payment if they believe that their acquiring firm is undervalued, while a stock payment is more likely in the opposite case. Accordingly, investors interpret the use of cash payment as good news and stock payment as bad news, in terms of the acquiring firm's prospects. Consequently, cash payment is expected to result in a positive acquirer returns, while a stock payment is expected to result in a negative impact (Jensen & Ruback, 1983). The positive impact for cash payment may occur because market participants interpret the use of cash payment as an indicator of the high value of acquirer's assets (Hansen, 1987).

Findings from the developed markets have shown that acquirers gain higher returns from cash payment acquisitions in contrast to stock payment offers (Fuller et al., 2002; Moeller et al., 2004). Similar findings have been reported in the developing markets with regards to the superior returns of cash payment method acquisitions. Acquirers in India, China and Malaysia gain higher cumulative abnormal returns (CARs) when they settle transactions with cash payment (Barai & Mohanty, 2010; Mann & Kohli, 2009; Rani, Yadav, & Jain, 2014). Nevertheless, Black, Doukas, Xing and Guo (2015) documented contrast findings. Their study reports higher 3-day CARs to Chinese acquirers that use equity payment compared to cash payment offers, significant at the 1% level.

Studies on financing sources reveal that the three main types of financing sources (stock financing, internal funds and debt financing) have a different influence on returns from acquisitions. In particular, stock financing shows negative returns. A possible reason is that the investors interpret the use of stock as bad news as they associate the use of stock financing with overvalued stocks. Accordingly, they will prefer to sell part of their shares probably due to the fact that no more gain can be received. This negative reaction to stock financing can also be explained by the overvalued stock argument by Myers and Majluf (1984).

In debt financing, acquirers borrow money from banks or issue bonds to finance their acquisitions. Nayar and Switzer (1998) argued that using debt signals that future revenue from the acquisitions will be sufficiently high that acquirers will be more than able to meet the interest payments involved. At the same time, the financial intermediaries play the role of serving as a bridge between firms and outside investors due to their superior information collection and evaluation capabilities (Diamond, 1984; Leland & Pyle, 1977). The lenders can reduce information asymmetry between the acquirer and outside investors and provide more information about the acquisition undertaken. Outside investors interpret the willingness of

lenders to lend money for the acquisition as a good signal regarding the acquisition quality and the high future revenue (Bharadwaj & Shivdasani, 2003; Martynova & Renneboog, 2009).

Firms also use internally generated funds to finance their acquisitions. Bouzgarrou (2014) argued that cash-rich firms are more likely to use internal funds to finance their acquisitions. Similarly, Fischer (2017) found higher net cash positions for firms that use internal funds compared with firms that use other financing sources. Schlingemann (2004) discovered a negative significant relationship between free cash flow as a source of financing and returns from cash acquisitions. Bouzgarrou and Louhichi (2014) and Martynova and Renneboog (2009) revealed that market returns to internal funds acquisitions underperform acquisitions with debt financing. A possible reason for this result is that acquisitions with internal funds may be related to managerial motives such as agency cost of free cash flow (Jensen, 1986). Managers may engage in low-benefit or value-destroying acquisitions motivated by agency costs of free cash flow rather than synergy goals which may lead to low returns from internally-financed acquisitions. Harford (1999) argued that cash-rich firms are prone to be acquirers and tend to engage in poor acquisitions.

Empirical findings on the source of financing are limited and have focused on the developed markets. Martynova and Renneboog (2009) investigated the influence of financing sources on European acquirer returns from acquisitions. They document four different results based on internally generated funds, debt financing, stock financing and the mixture of debt and stock financing. The findings report higher returns to the acquirer from debt financing, i.e., up to 1.32% in the 3-day (-1, +1) event window. Equity financing acquisitions gain CARs up to 0.49% while it is 0.79% for internal funds financing in the same event window. Combination of debt and stock financing gains CARs up to 0.81%. Bouzgarrou and Louhichi (2014) reported findings on the impact of financing sources on acquirer returns for French acquisitions by using the same four categories of financing sources as Martynova and Renneboog's (2009) study. The findings reveal higher returns gain for debt financing acquisitions which is up to 2.91% compared to 1.8% for internal funds financing acquisitions. Insignificant findings have been reported on stock financing acquisitions and a combination of stock and debt financing acquisitions.

Aybar and Thanakijsombat (2015) reported evidence from cross-border acquisitions in the emerging markets on the impact of sources of financing on returns to acquirers. The study reports higher returns to acquirers using debt financing up to 1.24% for the 5-day (-2, +2) event window. The acquirers also gain 0.28% CARs when they use stock financing to fund their acquisitions; while it yields an insignificant result for the internal funds financing. Fischer (2017) noticed that using stock financing significantly negatively affect the 3-day CAR. The findings show lower returns when stock financing is used compared to bank financing.

Based on the discussion above, we develop the following hypotheses:

H1: Source of financing used by Malaysian acquirers has a significant impact on the announcement returns of acquisition.
H2: There is a positive significant relationship between announcement returns and debt financing.
H3: There is a negative significant relationship between announcement returns and stock financing.
H4: Announcement returns from acquisitions with internal funds underperform returns from debt financing acquisitions.

3. METHODS

3.1 Data Description

The sample of this study comprises 272 completed M&As by non-financial listed Malaysian firms during the period from 2000 to 2017. The transaction value is USD1 million and above, and transaction value to total assets in the pre-acquisition year is 1% and above[1]. We obtain information about financing sources from M&A agreements when there is disclosure about the source of financing by acquirers. Deal and firm variables are obtained from Eikon Database and DataStream respectively. Table 1 shows the sample of the study by the source of financing and payment method. 59 of the 272 observations are stock financing, 130 observations are internal funds and 83 observations are debt financing deals. For debt financing, we consider only full debt financing and a combination of debt and internal funds[2]. Table 1 also shows that stock financing offers are different in their payment methods. For the internal funds and debt financing deals, the underlying payment method is cash. Based on the sample, it is observed that 80.5% of the firms use cash payments.

Table 1 Sample size by financing source and payment method

Payment Method	Financing Source			Total	
	Stock	Internal funds	Debt (partly & fully)		%
Cash only	6	130	83	219	80.5
Stock only	42	-	-	42	15.4
Mixed (cash & stock)	11	-	-	11	4.1
Total	59	130	83	272	100
%	21.7	47.8	30.5		

Table 2 shows the sample size of M&As by deal characteristics. The sample comprises 174 transactions which are acquisitions and the rest 98 transactions are mergers. They are equivalent to 64% and 36% of the total sample respectively. Target firm status shows that 47.5% of the observations are subsidiaries target firm, 38.2% are private target firms and 14.3% are public target firms. Table 2 also indicates that only 18.8% of the sample are related M&As while the remaining 81.2% are unrelated M&As. Domestic deals represent 72.8% of the sample while the remaining 27.2% are cross-border deals.

Table 2 Sample size of M&As by deal characteristics

	Source of Financing			Payment Method				
	Stock	Internal Funds	Debt	Cash	Stock	Mixed	Total	%
Merger	31	42	25	72	23	3	98	36
Acquisition	28	88	58	147	19	8	174	64
Public	6	17	16	33	5	1	39	14.3
Private	26	51	27	79	20	5	104	38.2

[1] Small transactions usually don't provide details about financing source.

[2] Deals with combination of debt and stock have been excluded from the sample due to the difficulty of interpreting their impact on stock return.

Subsidiary	27	62	40	107	17	5	129	47.5
Related	5	26	20	46	5	--	51	18.8
Unrelated	54	104	63	173	37	11	221	81.2
Domestic	56	85	57	147	41	10	198	72.8
Cross-border	3	45	26	72	1	1	74	27.2
Total	59	130	83	219	42	11		

3.2 Methodology

This study aims to investigate the effect of financing source on the announcement returns of acquisition by listed non-financial firms in Malaysia. This study applies univariate analysis and linear regression to see how returns from M&As are affected by financing sources. There are many approaches to estimate abnormal returns from acquisitions which include Market Model (MM), Market Adjusted Model (MAR), capital asset pricing model (CAPM) and Fama-French Model. MM is among the most popular models that have been used by past studies. it is also a common model used in recent studies (e.g., Custódio & Metzger, 2013; Fischer, 2017; Vermaelen & Xu, 2014; Vladimirov, 2015). We use MM to compute CARs around the announcement date. (Appendix A shows more information on calculating CARs using the MM and the MAR).

Univariate analysis is conducted using CAR of 3-day (-1; +1) event window, 5-day (-2; +2) event window and 11-day (-5; +5) event window. Pooled regression models using OLS are employed to find the impact of sources of financing (stock financing, internal funds and debt financing) and the impact of the payment methods (cash payment, stock payment and mixed payment) on the 3-day CARs. The models include the main determinants of returns, i.e., deal characteristics and acquirer size. The following OLS models are run[3]:

$$CAR_{it} = \alpha + \beta_1 Financing_{it} + \beta_i Control_{it} + \varepsilon \quad (1)$$

$$CAR_{it} = \alpha + \beta_1 Payment_{it} + \beta_i Control_{it} + \varepsilon \quad (2)$$

Acquirer size, acquisition relatedness, deal size relative to firm size, type of the deal, target status and cross-border deal status are added to the models to control their influence on announcement returns. Past studies have documented that firm size affects acquisition returns negatively (Bessembinder & Zhang, 2013; Eckbo, 2009; Gorton, Kahl, & Rosen, 2009; Humphery-Jenner & Powell, 2011; Kräussl & Topper, 2007; Moeller et al., 2004). Acquisition relatedness has a positive impact on returns to acquirers (Draper & Paudyal, 2008; Hubbard & Palia, 1999; Moeller et al., 2004). Acquisition returns decrease when the target firm status is public (Conn, Cosh, Guest, & Hughes, 2005; Draper & Paudyal, 2006; Faccio, McConnell, & Stolin, 2006; Fuller et al., 2002; Masulis, Wang, & Xie, 2007; Moeller et al., 2004). Moeller et al. (2004) and Draper and Paudyal (2008) found that acquirer gains higher returns when the acquisition is related. The low level of information asymmetry in a related acquisition may result in a higher return. Findings regarding domestic acquisitions against cross-border acquisitions show mixed results. Some studies have found that acquirers gain higher returns from cross-border acquisitions compared to domestic acquisitions (Danbolt & Maciver, 2012; Mateev, 2017; Moeller & Schlingemann, 2005).

[3] We run separate models for sources of financing and payment methods due to the high variance inflation factor (VIF) in case the combination of financing source and payment method in one model. Three sub-models are examined for financing source, where only one type of financing source is added as an independent variable to overcome the multicollinearity problem.

Nevertheless, there are studies that documented higher returns from domestic acquisitions compared to returns from cross-border acquisitions (Andriosopoulos, Yang, & Li, 2016; Conn et al., 2005; Martynova & Renneboog, 2011; Mateev & Andonov, 2016). Past studies have found an impact for the type of the deal on returns from M&As and document negative returns to acquirers from mergers compared to the positive return from acquisitions (Datta, Iskandar-Datta, & Raman, 2001; Walker, 2000). Table 3 narrates the definition of variables used in the regression models.

Table 3 List of variables

Variable	Description
CARs	Three days cumulative abnormal returns [-1; +1]
Stock Financing	A dummy variable takes1 if the source of financing is stock, and 0 otherwise.
Internal Funds	A dummy variable takes 1 if the source of financing is internal funds, and 0 otherwise.
Debt Financing	A dummy variable takes 1 if the source of financing is debt or debt with internal funds, and 0 otherwise
Cash Payment	A dummy variable take1 if the payment method is only cash, and 0 otherwise.
Stock Payment	A dummy variable takes 1 if the payment method is only stock, and 0 otherwise
Mixed Payment	A dummy variable takes 1 if the payment method is mixed of cash-stock, and 0 otherwise.
Acquirer Size	Logarithm of the book value of total assets.
Relatedness	A dummy variable takes 1 if the acquirer and the target are sharing three-digit Standard Industrial Classification (SIC) code and 0 otherwise.
Public Target	A dummy variable equal to 1 if the target is a listed firm, and 0 otherwise.
Relative Size of Deal	Deal value divided by acquirer's market value of assets in the pre-acquisition year.
Cross-border Deal	A dummy variable takes 1 if acquirer is involved in cross-border transaction, and 0 otherwise.
Merger	A dummy variable takes 1 if the acquirer involved in a merger, and 0 otherwise.
Market-to-book	Market value of equity and total debt divided by total assets.
Leverage	Total liabilities divided by book value of assets.
EBITDA	Operating income before interest, taxes, depreciation, and amortization over total assets.
Cash Reserve	Cash and cash equivalents divided by total assets.

4. RESULTS AND DISCUSSIONS

4.1. Univariate Analysis

Table 4 displays the univariate analysis results for the CARs for three event windows. Panel A shows significantly positive abnormal returns to Malaysian acquirers in the 3-day, 5-day and the 11-day event windows. Specifically, the CARs are 0.77% in the 5-day and 1.01% in the 11-day event window. In Panel B, CARs are sorted by payment method. The cash payment acquisitions illustrate significantly positive CARs ranging from 0.63% to 1.27% in the three event windows.

Panel B Table 4 also shows insignificant results for the stock payment acquisitions and mixed payment acquisitions. The findings of this study regarding payment methods are consistent with past findings on Malaysia by Isa and Lee (2011) who reported significant CARs of +1.42% for cash payment and insignificant CARs for stock payment in the 3-day event window. Similar findings have been reported by studies from the USA, such as Moeller et al. (2004), Masulis et al. (2007), Alexandridis, Mavrovitis, and Travlos (2012), and Harford and Uysal (2014). In contrast,

a number of studies from developed markets have reported higher returns to acquirers from stock payment, for e.g., Goergen and Renneboog (2004) in Europe; Humphery-Jenner and Powell (2011) in Australia; and Mateev (2017) in Continental Europe and the UK.

Table 4 Acquirer's cumulative abnormal returns (%)

Panel A: All M&As	**Obs.**	**(-1, +1)**	**(-2, +2)**	**(-5, +5)**
All Sample	272	0.21	0.77*	1.01*
Panel B: Payment method				
Stock Payment	42	-1.29	0.29	0.26
Cash Payment	219	0.63**	1.08**	1.26**
Cash & Stock Payment	11	-2.45	-2.46	-4.91
Panel C: Financing source				
Stock Financing	59	-2.02**	-0.85	-0.37
Internal Funds	130	0.33	0.45	0.11
Debt Financing (Partly & Fully)	83	1.58**	2.42**	3.41***
Panel D: Differences in Returns				
Debt Financing – Stock Financing		3.60***	3.27**	3.78**
(Mann-Whitney)		(0.006)	(0.050)	(0.019)
Debt Financing – Internal Fund		1.23**	1.98**	3.31***
(Mann-Whitney)		(0.060)	(0.025)	(0.003)
Internal Funds – Stock Financing		2.36***	1.29*	0.48
(Mann-Whitney)		(0.032)	(0.541)	(0.541)

CARs are calculated using market model. Tests for means of returns are based on Student test. Differences in returns based on Student test and Mann-Whitney test (P-value reported between brackets). ***, ** and * stand for statistical significance at the1%, 5% and 10% levels, respectively.

In Panel C, returns from stock financing acquisition are significantly negative only in the 3-day event window. We cannot find a significant CARs for the 5-day window and the 11-day window. The CARs for acquisitions with internal fund financing are insignificant in the three event windows. Acquirers gain significantly positive CARs in the three event windows when they use debt as their source of financing. Panel D reports differences in means of returns from financing sources. The differences between returns from acquisitions with debt financing and returns from acquisitions stock financing are significant in the 3-day, 5-day and 11-day event windows. The same results are found for both debts financed acquisitions and internal funds acquisitions. These differences are robust when tests are conducted using both parametric test and nonparametric test. The univariate analysis results regarding the superior returns to the acquirers from debt financing offers are consistent with past studies by Aybar and Thanakijsombat (2015), Bouzgarrou and Louhichi (2014) and Martynova and Renneboog (2009).

4.2 Multivariate Analysis

Table 5 shows the results from regressions where the dependent variable is the 3-day CAR to the acquirer. The explanatory variables include financing source, payment method and deal characteristics. There are five regression models in Table 5. Models 1 to 3 show regression results of financing source impact on CARs. Models 4 and 5 show the results from the regression on the impact of the payment method on CARs. In Model 1, CARs are negatively affected when acquirers use stock financing, which is significant at the 1% level. Model 2 reveals that internal funds financing has an insignificant influence on CARs. Model 3 reports that CARs

are positively affected when the source of financing is debt. The findings from regression about the impact of financing sources confirm the findings from the univariate analysis (see Table 4 - Panel C). Overall, debt financing positively affects returns while stock financing negatively influences returns to acquirer. The findings of the positive impact of debt financing on returns are consistent with past findings by Martynova and Renneboog (2009) in Europe; Bouzgarrou and Louhichi (2014) in France; and Aybar and Thanakijsombat (2015) using cross-border data from emerging markets.

Table 5 Cross-sectional regression analysis of acquirer returns using MM over the 3-day event window (-1 to +1)

Variable	(1)	(2)	(3)	(4)	(5)
Stock Financing	-0.027**				
	(0.003)				
Internal Funds		0.005			
		(0.548)			
Debt Financing			0.015*		
			(0.050)		
Cash Payment				0.020*	
				(0.038)	
Stock Payment					-0.016
					(0.124)
Mixed Payment					-0.035+
					(0.054)
Acquirer Size	0.002	0.001	0.000	0.002	0.002
	(0.437)	(0.583)	(0.954)	(0.495)	(0.503)
Relatedness	0.026**	0.031**	0.029**	0.028**	0.027**
	(0.005)	(0.001)	(0.002)	(0.003)	(0.004)
Public Target	-0.003	-0.002	-0.003	-0.002	-0.003
	(0749)	(0.864)	(0.772)	(0.808)	(0.778)
Relative Size of Deal	0.065**	0.057*	0.027+	0.062*	0.065**
	(0.007)	(0.027)	(0.087)	(0.012)	(0.008)
Cross-border Deal	-0.001	0.004	0.004	0.000	0.001
	(0.838)	(0.599)	(0.603)	(0.932)	(0.904)
Merger	-0.016*	-0.018*	-0.017*	-0.018*	-0.018*
	(0.038)	(0.022)	(0.033)	(0.027)	(0.021)
Year Dummy	Yes	Yes	Yes	Yes	Yes
Observations	272	272	272	272	272
F-Stat	2.33**	1.91**	2.08**	2.10**	2.06**
R^2	0.185	0.156	0.169	0.170	0.174
(Adj. R^2)	(0.106)	(0.075)	(0.087)	(0.089)	(0.090)

, * and **+ stand for statistical significance at the1%, 5% and 10% level, respectively.

In Model 4, cash payment has an influence on CARs which is significant at the 5% level. Findings regarding stock payment show insignificant results (Model 5), while mixed payment (cash & stock) has a negative effect on CARs which is significant at the 10% level. The positive impact of cash payment is consistent with the past finding from Malaysia by Isa and Lee (2011). The findings regarding the impact of other determinants are consistent in all models. Similar to past findings (Bae, Kang, & Kim, 2002; Doukas & Holme, 2002; Hubbard & Palia, 1999; Kang, Shivdasani, & Yamada, 2000; Martynova & Renneboog, 2011; Mateev, 2017), there is strong evidence that the market reacts more positively to M&A announcements when the acquirer's industry is related to the target firm's industry. The findings are in line with the Malaysian findings by Mat Rahim and Ching Pok (2013) who reported a significantly negative impact for the unrelated acquisitions on acquirer returns. The relative size of the transaction affects CARs positively. The results are also consistent with the previous finding by Moeller et al. (2004) and

Draper and Paudyal (2008). The findings show that acquirers gain less return when the deal type is a merger. The results confirm previous results of past studies which have been conducted in the developed markets (e.g., Datta et al., 2001; Walker, 2000). Insignificant result has been observed for the impact of public target and cross-border deals on CARs for all models.

4.3 Additional Robustness Tests

In order to provide more robust results for the impact of financing sources on the abnormal returns, we add more regressions in different sets. First, MAR model has been used to estimate acquirer returns over the 3-day event window. In Table 6, Panel A shows findings from different regression models with CAR_MAR (-1, +1) as the dependent variable and the three financing sources as independent variables in separate models.

The findings show that stock financing has a significantly negative impact on CARs at the 1% level. Debt financing has a positive impact on CARs, which is significant at the 10% level. Second, we run the models with additional control variables to represent firm characteristics, i.e., market-to-book ratio, leverage, profitability and cash reserves. In Table 6, Panel B, the findings are robust for the negative impact of stock financing on CARs (significant at the 1% level) and the positive impact for debt financing on CARs (significant at the 5% level). Results from the additional regressions confirm our earlier findings that stock financing negatively affects returns while debt financing positively affects returns to acquirers.

Overall, the findings from univariate analysis and regressions suggest that source of financing influences market returns to Malaysian acquirers. Acquisitions with debt financing gain higher returns compared to stock financing acquisitions or acquisitions with internal funds financing. Market participants/investors react negatively when acquirers use stock financing. The study is different from previous Malaysian studies because it provides evidence about the influence of financing sources on returns from M&A in the Malaysian context. Past Malaysian studies such as Mat Nor and Ismail (2006), Isa and Lee (2007) Isa and Lee (2011), Mat Rahim and Ching Pok (2013) and Ishak, Taufil-Mohd, and Shahar (2017) have been intensively focused on the payment method and short-return to acquirers.

Table 6 Cross-sectional regression analysis of acquirer CARs over the 3-day event window (-1 to +1)

	Panel A			**Panel B**		
Variable	**CARs (-1,+1) using market adjusted return model**			**CARs (-1,+1) using MM with additional control variable**		
	(1)	(2)	(3)	(4)	(5)	(6)
Stock Financing	-0.009**			-0.017+		
	(0.005)			(0.053)		
Internal Funds		0.002			0.005	
		(0.563)			(0.508)	
Debt Financing			0.005+			0.019*
			(0.094)			(0.018)
Relatedness	0.008**	0.010**	0.009**	0.023**	0.025**	0.023**
	(0.007)	(0.002)	(0.003)	(0.010)	(0.005)	(0.009)
Public Target	-0.001	-0.001	-0.002	-0.000	-0.000	-0.001
	(0.623)	(0.728)	(0.652)	(0.941)	(0.958)	(0.940)
Relative Size of Deal	0.023**	0.020*	0.015+	0.069**	0.054*	0.048*
	(0.006)	(0.019)	(0.062)	(0.004)	(0.033)	(0.046)
Cross-border Deal	-0.000	0.001	0.001	0.000	0.005	0.002
	(0.936)	(0.606)	(0.584)	(0.974)	(0.517)	(0.706)
Merger	-0.006*	-0.007**	-0.007*	-0.018*	-0.019*	-0.018*
	(0.018)	(0.010)	(0.015)	(0.018)	(0.011)	(0.017)

Acquirer Size	0.001	0.000	0.000	0.025	0.002	0.000
	(0.339)	(0.437)	(0.759)	(0.318)	(0.549)	(0.709)
Market-to-book				-0.017	-0.002	-0.004
				(0.830)	(0.802)	(0.661)
Leverage				-0.046**	-0.056**	-0.035**
				(0.005)	(0.001)	(0.001)
EBITDA				0.074	0.082+	0.0089+
				(0.111)	(0.080)	(0.056)
Cash Reserve				-0.044	-0.047	-0.033
				(0.230)	(0.205)	(0.370)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	272	272	272	272	272	272
F-Stat	2.29**	1.93**	2.04**	2.58**	2.43**	2.66**
R^2	0.183	0.159	0.166	0.229	0.218	0.235
(Adj. R^2)	(0.103)	(0.076)	(0.085)	(0.140)	(0.128)	(0.147)

The dependent variable is CARs (−1,+1) calculated by MAR in Panel A and MM in Panel B. The independent variables include stock financing, internal funds, and debt financing as defined in Table3. Table 3 provides all variables definition. **, * and **+** stand for statistical significance at the1%, 5% and 10% levels, respectively.

5. CONCLUSION

This study examines the impact of the financing sources on stock market reactions in M&A transactions by non-financial public firms in Malaysia during the period from 2000 to 2017. Data on financing sources from M&A agreements are hand-collected and market model has been used to obtain the abnormal returns. We document that financing source has a significant impact on the announcement returns of the acquiring firm. Our evidence shows that acquirers obtain statistically significant positive abnormal returns when debt is used as the financing source. Moreover, negative abnormal returns are observed when stock is used as the financing source. The negative influence for stock financing and the positive influence for debt financing are robust to different measures of abnormal return and additional control variables related to firm characteristics. Our results lend support to information asymmetry, and especially to the theory that signaling has an influence on market reaction to M&A announcements. Investors assume that firms finance their acquisitions by debt when they have true quality acquisitions with high revenue and their shares may not be overvalued. The negative impact of acquisitions with stock financing might be due to investors believed that the stocks are overvalued. The underperformance of internal funds acquisitions compared to debt financing acquisitions might be caused by the agency cost problem. When internal funds are used, it signals to the market that managerial motives are the underlying reason to engage in acquisition.

The findings of this study provide managers of acquiring firms more understanding about stock price behaviour around the announcement dates. Considering market reaction to financing decisions may help them to positively influence the market when the situation is not clear about the direction of stock movement. Future research may be conducted to provide clearer evidence by testing whether or not lender, insider trading, and financial advisors, among others, have a role in determining the influence of sources of financing on market performance.

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APPENDICES

Appendix A: Abnormal Return Calculation Using Market Model (MM)

MM supposes that stock returns can derive by conducting linear regression represent by the equation:

$$R_{jt} = \alpha + \beta R_{mt} + \varepsilon_{jt} \quad (3)$$

Where: R_{jt} = normal return for firm *j* on day *t*;
R_{mt} = return for market index *m* on day *t;*
ε_{jt} = error term for firm *j* at time *t*.
$\hat{\alpha}$ = the OLS parameter of intercept;
$\hat{\beta}$ = the OLS parameter of the slope;
t = event period.

The AR_{jt} is then calculated as follows:

$$AR_{jt} = R_{jt} - (\hat{\alpha} + \hat{\beta} R_{m,t}) \quad (4)$$

Where: AR_{jt} = abnormal return for firm *j* on day *t*;
R_{jt} = normal return for firm *j* on day *t*;
$R_{m,t}$ = return for market index *m* on day *t* (*t* =estimation period*);*
$\hat{\alpha}$ = the OLS parameter of intercept;
$\hat{\beta}$ = the OLS parameter of the slope;

t = event period.

Next, the average CARs for N firms over specific event period, over a period of two or more trading days start with day T1 and ending with day T2.

$$CAR_{T1,T2} = \sum_{T1}^{T2} AAR_t \quad (5)$$

Where: AAR= Average abnormal return

$$ACAR_{T1,T2} = \frac{1}{N} \sum_{j=1}^{N} \sum_{t=T1}^{T2} AR_{jt} \quad (6)$$

Where: AR_{jt} = abnormal return for firm *j* on day *t*;
CAR = cumulative abnormal return
$T1,T2$ = accumulation period;
N = number of firms.

Appendix B: Abnormal Return Calculation Using Market Adjusted Return (MAR)

MAR assumes that firm abnormal return is the difference between firm return and market return at time t (Strong, 1992).

$$E(R_{jt}) = E(R_{mt}) \quad (7)$$

Where: $E(R_{jt})$ = expected return for firm *j* on day t;
$E(R_{mt})$ = expected return for market index *m* on day t.

The AR_{jt} is then calculated as follows:

$$AR_{jt} = R_{jt} - R_{mt} \quad (8)$$

Where: AR_{jt} = abnormal return for firm *j* on day *t*;
R_{jt} = return for firm *j* on day *t*;
R_{mt} = return for market index *m* on day *t.*