Frequency and Sequence: Convertible Debt Issuance Announcement Effect on Stock Returns

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Abstract: Convertible debt that shares the characteristics of debt and equity is perceived to be riskier than straight debt, therefore the issuance announcement tends to lead to adverse market reaction. In this study we show that convertible debt issuance announcement is also associated with negative abnormal returns with evidence from the Malaysia capital market. We argue that the substantially smaller and illiquid convertible debt market do not affect the consistency of the findings. However, the main purpose of this study is to examine the effect of frequency and sequence of convertible debt issuance announcement on the issuers stock return. We find that both the frequency and sequence of issuance significantly affect the announcement returns. In the longer event window, we observe negative abnormal returns for the infrequent issuers. While frequent issuers report positive abnormal returns. Looking at the sequence of issuance, the first issues of convertible debt lead to negative market reaction, but as the information gap decreases, subsequent issues of convertible debt lead to insignificant abnormal returns. We argue that the findings of this study are mainly related to the theories of asymmetric information and sequential financing. In brief, this study contributes to the convertible debt literature by highlighting the need to incorporate the effect of frequency and sequence in examining the announcement effect of securities. Furthermore, this study adds that the additional features of convertible debt such as redeemable, non-redeemable, secured and unsecured do have significant impact on the announcement returns.

Keywords: Convertible debt, asymmetric information, sequential financing, announcement effect, event study.
JEL classification: G1, G14

1. Introduction

In general, firms have to issue multiple securities to finance their investment growth opportunities. Different types of securities possess different announcement effect. Investors could also respond differently to the same announcement depending on how efficient the information is processed. Prior studies document that market reacts less favourably to the issuance announcement of convertible debt (see for example, Arshanapalli *et al.*, 2004; Billingsley *et al.*, 1990; Dutordoir *et al.*, 2016; Lewis *et al.*, 2003). These studies, however, are limited to examining the announcement effect collectively, meaning that the effect of issuance frequency and sequence are commonly excluded from the studies.

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In Malaysia, convertible debt is better known as convertible loan stock (CLS)[1]. The nominal value is set at MYR1 each, but the CLS is tradable in board lots of MYR1000. The term loan stock indicates a loan security with stock as its collateral, while the term convertible defines the option to convert the debt into the underlying stock. Convertible loan stock shares the same characteristics as the convertible debt. Similarly, the holders of CLS are entitled to receive fixed coupon payments and principal repayment at maturity. The holders also have the option to forgo the fixed-income component to convert the loan stock into the underlying shares of the issuer at a pre-determined conversion ratio.

In this study, we examine the issuance announcement effect of convertible debt with evidence from the Malaysia capital market. We take one step further to examine whether the frequency and the sequence of issuance announcement of convertible debt lead to different market reaction. Some firms are frequent user of debt some are not, so the announcement effect should be different (D'Mello *et al.*, 2003; Iqbal, 2008, Yaman, 2014). Based on the underlying arguments of asymmetric information theory and sequential financing theory, we hypothesize that convertible debt issued by infrequent users and first time users are associated with higher degree of asymmetric information, and thus the less favourable market reaction.

Our study contributes to the convertible debt literature in several ways. Firstly, we show that convertible debt issuance announcement is associated with significant negative market reaction, which is consistent with the previous studies. We test this hypothesis using a sample of 90 issuance announcements made by the public listed firms from the year 2000 to 2015. In addition, we find that market reacts less negatively to issuance announcements made by the infrequent users of convertible debt compared to the frequent users. This finding is in contrast with Yaman (2014). However, our analysis further shows that the contradictory finding is mainly on the short run. In the longer event window, infrequent issuers earn negative market reaction, while frequent issuers earn positive market reaction.

On the sequence of issuance, we find that market reacts more negatively to the first issue of convertible debt than the subsequent issue because of the decreasing asymmetric information between each issuance (D'Mello *et al.*, 2003; Iqbal, 2008). In brief, the reported results provide consistent evidence in support of the asymmetric information theory and the sequential financing theory. Though the convertible debt market of Malaysia is substantially smaller and less liquid than the other convertible debt markets, like the US, this does not affect the consistency of the findings.

Furthermore, our supplementary test provides additional insight that the attached features of convertible debt could also influence the market reaction. We show that redeemable and/or secured convertible debt is associated with less favourable market reaction. This is because the redeemable and/or secured features of the convertible debt benefit the debt holders not the equity shareholders. Therefore, the investors react more negatively to the issuance announcement of redeemable and/or secured convertible debt. In short, this study highlights the different announcement effects driven by the frequency, the sequence and also the features of convertible debt.

The following section reviews the related convertible debt literature and develops the hypotheses. Section 3 discusses the data and methodology, while Section 4 presents the main results and supplementary test. Section 5 concludes the study.

2. Literature and Hypothesis Development

2.1 Convertible Debt Issuance Announcement and Abnormal Stock Returns

Ross (1977) is among the earliest to discuss the signalling theory, whereby there is asymmetric information between firms and investors. Managers possess more information

[1] To be consistent with the literature, we use the term convertible debt instead of convertible loan stock.

about firms' feasibility, exposure to risk, and expected earnings compared to investors. Investors, on the other hand refer to the signal disseminated by firms and react accordingly. Even if the information is well distributed to the stakeholders, it can also be interpreted and perceived differently.

Firm value can potentially change based on the financing decision. A debt financing decision could be perceived favourably if the issuance proceed is used to finance growth opportunities. In contrast, a debt issuance would send a negative signal if it exposes the shareholders to greater risk or diluting the existing shareholders' wealth. In brief, if a financing decision is perceived to add value to a firm, market will react positively and the opposite if it deteriorates firm value. Myers and Majluf (1984) argue that firms perceive debt as their main source of external financing. Firms are likely to finance positive net present value projects with debt.

A firm may choose to raise its funds by issuing hybrid securities such as convertible debt. The convertible debt market is more established in the developed countries, such as US that has the largest convertible debt market. Among the earlier studies, Dann and Mikkelson (1984), Eckbo (1986) and Mikkelson and Partch (1986) examine the announcement effect of convertible debt issuance on shareholders' wealth. Seeking evidence from the US market, these studies report that the issuance of convertible debt leads to negative abnormal returns. Instead, the issuance of non-convertible debt leads to marginally negative abnormal returns and the negative abnormal returns decrease to zero on the issuance date compared to the issuance of convertible debt. These findings are consistent with the argument of asymmetric information, where the issuance of risker securities are perceived less favourably by the investors.

Dann and Mikkelson (1984) find that neither the changes in the degree of leverage induced by the issuance of convertible debt nor the purpose of issuance could explain the significant adverse effect on the shareholders' wealth. Eckbo (1986), conversely, relates the negative announcement effect to unfavourable market perception about firm financial prospect, which is likely due to the equity component of convertible debt. Mikkelson and Partch (1986) find that firms face greater negative impact when the issuance proceed is used to refinance debt compared to firms that issue convertibles for capital expenditures. Subsequent studies consistently report negative abnormal returns associated with convertible debt issuance announcement (Arshanapalli *et al*., 2004; Davidson *et al.*, 1995; Lewis *et al.*, 2003).

In addition, consistent negative abnormal returns are reported when studies seek evidence outside of the US. For example, is the empirical evidence from Australia (Suchard, 2007), France (Burlacu, 2000; Gillet and de La Bruslerie, 2010), and the UK (Abhyankar and Dunning, 1999). Billingsley *et al.* (1990), on the other hand, examine the announcement effect between the issuance of convertible debt and debt with warrants. They find that market reacts differently to the issuance of convertible debt and debt with warrants. Debt with warrants consists of straight debt with attached warrants, allowing the debt holders to purchase a certain number of shares at a prespecified price over a particular time period. The two securities sound similar, but market reacts negatively to the issuance of convertible debt. For the issuance of debt with warrants, insignificant results are reported.

A cross-country study by Dutordoir *et al.* (2016) compare the announcement effect of convertible debt issuance in the US, Japan and a couple other countries. Significant negative abnormal returns are reported for the announcement of convertible debt, which is in line with the earlier studies. However, the impact is less negative in Japan compared to the US. Japanese firms are likely to issue convertible debt for capital expenditure purposes, thus the less negative reaction compared to the US firms that issue convertible debt for general purposes.

In the context of emerging markets, limited studies are found to examine the effect of convertible debt issuance announcement, yet results are consistent as to those reported earlier. For example, empirical evidence from China (Li and Wang, 2008; Wang *et al.*, 2014) and Taiwan (Chen *et al.*, 2008), in which convertible debt issuance announcement leads to negative abnormal returns. Overall, the negative market reaction discussed thus far agree with the argument put forth by asymmetric information. Convertible debt issue announcement leads to negative market responses, which are negatively related to the embedded equity component (Abhyankar and Dunning, 1999) that is considered riskier and contains unfavourable signal.

However, some studies do find positive abnormal returns around the issuance announcement of convertible debt. Fields and Mais (1991) explain that for private placement of convertible debt, the reported positive returns is due to the relative size instead of the degree to which the convertible debt is "*out-of-the-money*", while De Roon and Veld (1998) argue that the impact of issuance announcement is subject to the news attached. If the issuance is packed with other good news or more firm-specific information, then the announcement is perceived as less surprising and less unfavourable. Chang *et al.* (2004), however argue that the positive effect on stock returns is consistent with the sequential financing theory. Their results suggest that one of the motivations to issue convertible debt is to reduce issuance and overinvestment costs to finance a sequence of potential investment options

The positive announcement effect could also be driven by changes in the institutional environment, such as market regulation. Kang and Stulz (1996) relate the positive impact of convertible debt issuance in Japan to market regulation. Post deregulation in 1983, a ban that prohibit issuance of unsecured securities was removed. But at the early stage of the deregulation, firms were still required to meet a set of stringent requirements to issue unsecured securities like convertible debt. As a result, the announcement of a successful issuance would send positive signal to the market. While Abhyankar and Ho (2006) report insignificant stock price underperformance in the long-run following the issuance of convertible debt. The underperformance is only reported for the short-run.

Based on the discussed market reaction and the argument underlying asymmetric information, we hypothesize that the market would react negatively to issuance announcement of convertible debt. This is because in the context of Malaysia, convertible debt market is illiquid and less popular among the investors, so there exists asymmetric information between the firm managers and investors. Hence, the first hypothesis of this study states that;

H1: Market reacts negatively to the issuance announcement of convertible debt.

2.2 Frequency and Sequence of Convertible Debt Issuance Announcement and Abnormal Stock Returns

Firms need to meet several financing requirements, specifically the growth firms to fund their investment opportunities. These firms have to strategize their financing schedule to minimize the financing cost, while meeting the current project funding requirement, and also the requirement for future investment options. The financing cost is discussed in the sequential financing theory that can be divided into the (1) issuing cost and (2) overinvestment cost.

Mayers (1998) refers to three financing alternatives to illustrate the consequences of financing a sequence of investment opportunities. First is to issue a two-period straight debt. Overinvestment problem can occur when firms issue two-period straight debt to finance the current project and the expected future investment options (Jensen, 1986). This is because the second-period project would be invested irrespective of the outcome of the first investment option. Even if the first investment option turns out to be unprofitable, the managers would continue to invest in the subsequent investment project due to availability of funds.

Second alternative is to issue a sequence of straight debt, whereby a period of straight debt is used to finance the current project and another straight debt would be issued after the first issue matures to finance the future investment option. Though this alternative mitigates overinvestment cost, firms have to take up additional issuing cost when the investment options turn out to be valuable. Third alternative is to issue convertible debt. When the investment option is valuable convertibles will be converted, leaving funds in the firm, and thus reducing the level of leverage. In this case, firms can use the call provision of convertible debt to force conversion. However, when the investment option is not valuable, no conversion will occur. Instead, the issuing firm will return the funds to the convertible debt holders through redemption (Mayers, 1998).Therefore, convertible debt is argued to mitigate overinvestment behaviour of managers.

Each financing decision contains a signal and market would react based on the perceived signal and the extent of the market reaction differ from one security to another. For example, the issuance of debt could have sent a negative signal to the market if it leads overinvestment problem. On the other hand, if the underlying purpose of issuing convertible debt is to fund current project and expected future investment options, market may perceive the issuance as a positive signal. Likewise, the market would also react differently to the frequency and sequence of issuance. D'Mello *et al.* (2003) show that market reacts differently to first time issuers, frequent issuers, and infrequent issuers. They argue that the reported positive relationship between the sequence of seasoned equity offerings (SEOs) and the announcement returns can be explained by the decreasing information asymmetry when firms announce subsequent issue of securities.

Additionally, Iqbal (2008) examines the market reaction to multiple rights offering announcements in the UK. The announcement returns are significantly negative following multiple rights offering. Not only that, the market reacts more negatively to the first two rights issue compared to subsequent issuance. The abnormal stock returns insignificant when the firm announces the third rights issuance. The standard deviation of stock returns is also found to be lower for subsequent issues given the decreasing asymmetric information with frequency of issuance. This implies that favourable market reaction is associated with the amount of information available to the investors.

In the context of convertible debt, Eckbo (1986) is one of the earlier studies that examines the sequence of convertible debt issuance. He finds that subsequent issues by frequent issuers are found to face even more negative reaction compared to the first issue. The finding may due to information effect, but further evidence is required to support such claim. Consistently, Yaman (2014) finds that the abnormal announcement returns for first issue of convertible debt is less negative compared to subsequent issuance of convertible debt. The finding suggests that each subsequent issue of convertible debt exacerbates the adverse perception about the firm that make multiple offerings during the observation period. However, when comparing the announcement effect between single issuers (infrequent) and multiple issuers (frequent), market reacts more negatively to infrequent issuers because investors are relatively more surprised with the issuance announcement made by infrequent issuers.

Based on the aforementioned literature, frequency of issuance is expected to be negatively related to abnormal returns. Infrequent issuers would generate higher negative abnormal returns compared to frequent issuers. Our expectation is supported by the underlying argument of asymmetric information theory. Investors should have better access to information related to the frequent issuers than infrequent issuers to assess the firms' credibility and the risk related to the convertible debt issues. As the information asymmetry decreases, there is less surprises hence the market would react less negatively. Hypothesis 2 states that;

H2: Market reacts more negatively to convertible debt issues announced by infrequent issuers than frequent issuers.

For sequence of issuance, first issue is expected to carry a more negative signal than subsequent issues. This expectation contradicts with the findings reported in Yaman (2014), in which market reacts more negatively to subsequent issue of convertible debt instead of first issue. We justify our expectation using the sequential financing theory. Convertible debt is argued to economise the issuing cost and overinvestment cost when financing a sequence of investment options (Mayers, 1998). If this is the case, then subsequent issue of convertible debt would generate less negative abnormal returns. For the third hypothesis, we argue that;

H3: Market reacts more negatively to the first issue of convertible debt than the subsequent issue of convertible debt.

3. Data and Methodology

3.1 Sample Selection

The selected sample consists of convertible debt offerings issued by public listed firms on Bursa Malaysia. We identify the convertible debt from the company announcement which is available on Bursa Malaysia website from the year 2000 to 2016. Final sample consists of 90 convertible debt issuance announcements. The convertible debt specific information, such as issuance size, coupon rate, conversion ratio and other, are hand-collected from the Securities Commission Malaysia (SC) website. Other firm level information, which includes firm size and leverage are collected from the Datastream database. Table 1 presents the sample distribution by single and multiple issuers for each observation year. 54 issues of convertible debt are issued by firms that make single issuance, while the balance 36 issues are issued by frequent or multiple issuers.

Table 1: Sample distribution

Year	Frequency of Issuer		Total
	Infrequent Issuer	Frequent Issuer	
2000	4	3	7
2001	1	2	3
2002	7	3	10
2003	4	6	10
2004	5	2	7
2005	3	3	6
2006	0	0	0
2007	1	0	1
2008	3	6	9
2009	3	8	11
2010	4	1	5
2011	2	1	3
2012	4	0	4
2013	8	0	8
2014	3	0	3
2015	1	2	3
2016	0	0	0
Total	54	36	90

3.2 Event Study

To examine the hypotheses, first we perform the event study. The event day is the day a convertible debt issuance is announced on Bursa Malaysia's announcement page. Overall, we collected 90 announcements that are made between January 13, 2000 and December 2, 2016. The timing sequence of the event study is illustrated in Figure 1.

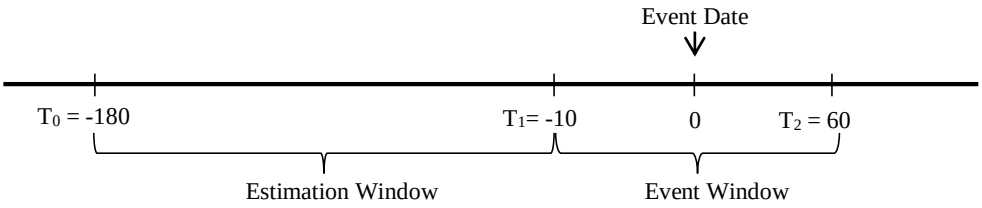

Figure 1: Timeline for an Event Study

Event window is set at 71 days, which starts from 10 days prior to the event day to 60 days after the event takes place (-10, 60). A longer window is chosen to better capture the announcement effect. For robustness, we also use other event window such as, 10 days prior to 10 days after (-10, 10), 10 days prior to 5 days after (-10, 5), 5 days prior to 5 days after (-5, 5), 3 days prior to 3 days after (-3, 3), 3 days prior to 1 day after (-3, 1), 1-day prior to 1-day after the announcement date (-1, 1), 1-day prior to the announcement date (-1, 0), and on the announcement date to the first day after the event (0, 1).

The period of normal performance or the estimation window covers from 180 days to 10 days prior to the announcement date (-180, -10). To compute the normal returns, we use the market model. Market return $(R_{m,t})$ is calculated as the daily return of market index proxied by Bursa Malaysia KLCI index, while stock return is the daily individual firm's stock return $(R_{i,t})$. The formulas for both are presented below;

$$R_{m,t} = \ln\left(\frac{P_{m,t}}{P_{m,t-1}}\right) \tag{1}$$

$$R_{i,t} = \ln\left(\frac{P_{i,t}}{P_{i,t-1}}\right) \tag{2}$$

where,

$P_{m,t}$ = price of market index at period t

$P_{i,t}$ = price of security i at period t

The normal returns are determined by regressing the firm stock returns on the market index returns during the estimation period. Then, the alpha (α_i) and beta (β_i) from the regression model are used to calculate the abnormal returns throughout the event windows. The formula to calculate the abnormal stock return is given in equation 3.

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{mt} + e_{it}) \tag{3}$$

where,

$AR_{i,t}$ = abnormal return of security i at period t.

$R_{i,t}$ = return of security i at period t.

R_{mt} = return of the market

α_i = the intercept of security i
β_i = the slope of security i
e_{it} = error term of security i in period t

Next is to compute average abnormal return of the firms on day *t* (AAR_t) and variance of average abnormal return on day *t* ($Var_{AAR(t)}$)

$$AAR_t = \frac{1}{n}\sum_{i=1}^{n} AR_{i,t} \tag{4}$$

$$Var_{AAR(t)} = \frac{1}{n^2}\sum_{i=1}^{n} \sigma_{ei}^2 \tag{5}$$

where,
$AR_{i,t}$ = abnormal return of firm *i* on day *t*
σ_{ie}^2 = variance of residuals of firm *i* from the market model estimation
n = number of observations of abnormal returns on day *t*

The cumulative average abnormal return for the firms from t_1 to t_2 ($CAAR_{t1,t2}$) is computed as;

$$CAAR_{t1,t2} = \sum_{t=t_1}^{t_2} AAR_t \tag{6}$$

The variance of cumulative average abnormal return for the firms from t_1 until t_2 ($Var_{CAAR(t_1,t_2)}$) is specified below;

$$Var_{CAAR(t_1,t_2)} = \frac{1}{n^2}\sum_{i=1}^{n} \sigma_{ie}^2(t_1,t_2) \tag{7}$$

$$\sigma_{ie}^2(t_1,t_2) = \sum_{t=t_1}^{t_2} \sigma_{ie}^2(t) \tag{8}$$

where,
$\sum_{t=t_1}^{t_2} \sigma_{ie}^2(t)$ = cumulative variance of residuals of firm *i* from the market model estimation from t_1 until t_2

3.3 Multiple Cross Sectional Regression Analysis

In addition to convertible debt issuance announcement, the abnormal returns could also be affected by other determinants, such as the issue-specific factors or firm-specific factors. Referring to prior studies and subject to data availability, we identify eight variables that may have significant effect on the cumulative abnormal returns CAR_{i,t_1,t_2}. We run the regression using CAR from 3 event windows to gauge the longer term effect (-10, 60), post announcement effect (1, 60) and immediate short term effect (-1, 1). The multiple cross-sectional regression is specified in equation (9).

$$CAR_{i,t_1,t_2} = \beta_0 + \beta_1 Frequency_{i,t} + \beta_2 Redeemable_{i,t} + \beta_3 Secured_{i,t} + \beta_4 Purpose_{i,t} + \beta_5 Issuance\ size_{i,t} + \beta_6 Coupon\ rate_{i,t} + \beta_7 Firm\ size_{i,t} + \beta_8 Leverage_{i,t} + \mu_{i,t} \quad (9)$$

Frequency is a dummy variable that is equal to one if the firm issues more than one issue convertible debt (multiple issues) throughout the observation period, and zero otherwise. Market is found to react differently between a frequent issuer and an infrequent issuer (D'Mello *et al.*, 2003; Iqbal, 2008; Yaman, 2014). A positive relation is reported between frequency of issuance and announcement returns. The information content in a convertible debt issued by a frequent issuer is perceived to be less negative compared to a convertible debt issued by infrequent issuer (Yaman, 2014), which supports the argument of asymmetric information.

The variables, *Redeemable* and *Secured* are included to control for the types of convertible debt. *Redeemable* is equal to one if the convertible debt is redeemable at par at the maturity (i.e. RCULS and RCLS) and zero for irredeemable convertible debt (i.e. ICULS). The market is expected to react less favourably to issuance announcement of irredeemable convertible debt than redeemable convertible debt. It is mandatory for irredeemable convertible debt holders to convert into the underlying equity at maturity even though the prevailing market share price is lower than the pre-specified conversion price. Therefore, we expect a negative (positive) relation between irredeemable (redeemable) convertibles with abnormal stock returns. *Secured* takes the value of one if the convertible debt is issued with assets as collateral (i.e. RCLS), and zero if the issue is unsecured by any assets (i.e. RCULS and ICULS). A secured debt is less risky than unsecured debt. In the event of default, the collateral will be liquidated to pay back the debt holders. So, the issuance announcement of secured convertible debt is expected to have positive effect on stock returns.

The market is likely to react negatively to firms that issue convertible debt to restructure existing debt compared to firms that utilise the issuance proceeds to finance investment opportunity or capital expenditures that maximises the shareholders' wealth (Mikkelson and Partch, 1986). We use a dummy variable to control for the use of proceeds. *Purpose* is equal to one if the issuance proceeds is used to restructure existing debt, debt refinancing or debt settlement, and zero is otherwise. The dummy variable is expected to take a negative sign.

Issuance size is also found to be related to market reaction. It is argued that the amount of financing required indicates the actual earnings that fall short of the expected earnings (Miller and Rock, 1985). Hence, issuance size is estimated to have negative effect on stock returns. The larger the size of issuance, the more negative the announcement effect (Yaman, 2014). *Issuance size* is measured as the natural log of issuance size in MYR. *Coupon rate* is the pre-specified interest paid by the convertible debt holders periodically. A high coupon rate is attractive to investors, but it also indicates higher risk.

Firm size is measured as the natural log of the firm market capitalisation. Firm size is used as a proxy for degree of information asymmetry (D'Mello *et al*., 2003; Yaman, 2014). Myers and Majluf (1984) suggest that when information asymmetry is high between investors and managers, the cost of adverse selection for external financing is higher. Large firms are more established and are likely to be followed by market analysts, thus more information is available in the market. Smaller firms on the contrary, face higher asymmetric information. The greater the information asymmetry, the more negative the market reaction (Kang and Stulz, 1996; Abhyankar and Dunning, 1999; Lewis *et al.*, 1999). Therefore, we predict a positive relation between firm size and stock returns.

Leverage is included to control for the firm financial risk. When existing leverage of a firm is high, additional issue of convertible debt financing will be perceived negatively and can further reduce the firm value. Consistent with Yaman (2014), we predict that there is a

lower abnormal returns for a high levered firm compared to a lower levered firm. Leverage is measured as the ratio of total debt to total assets.

Table 2 reports the descriptive statistics of the observed variables. Note that the number of observations reduces to 82 because of some missing observations. The mean CAR for event windows (-10, 60), (1, 60), (-10, 10), and (-1, 0) are -0.954%, -0.227%, -1.894%, and 0.247%, respectively. Approximately 60% of the sample consists of frequent issuers. Only 37.8% of the issued convertible debt is redeemable, so this means that 62.2% of the convertible debt issues will be converted mandatorily at maturity. 42.7% of the sample is backed or secured by an asset or any other forms of collateral, while 64.6% of the issues are issued to restructure existing debt, debt refinancing or debt settlement. The mean issuance size is RM142.217 million, with a minimum issuance of RM0.5 million and a maximum of RM978 million. Additionally, the average coupon rate is 3.217%. The highest coupon rate offered is 9%. For the firm-specific variables, the average firm size is RM1,933.026 million and mean debt ratio is 70.34%, suggesting that issuers of convertible debt are on average high-levered firms.

Table 2: Summary statistics of the observed variables

Variables	Mean	Standard Deviation	Min	Max
CAR $_{(-10,60)}$ (%)	-0.954	13.655	-56.072	29.675
CAR $_{(1,60)}$ (%)	-0.227	14.583	-53.456	25.672
CAR $_{(-10,\ 10)}$ (%)	-1.894	7.584	-24.995	12.930
CAR $_{(-1,0)}$ (%)	0.247	5.807	-22.796	11.379
Frequency	0.585	0.496	0.000	1.000
Redeemable	0.378	0.488	0.000	1.000
Secured	0.427	0.498	0.000	1.000
Purpose	0.646	0.481	0.000	1.000
Issue size (RM'mil)	142.217	205.494	0.510	978.000
Issue size	3.925	1.643	-0.673	6.886
Coupon rate	3.217	2.125	0.000	9.000
Firm size (RM'mil)	1,933.026	6,365.168	19.750	5,458.480
Firm size	13.038	1.591	9.891	17.815
Leverage	0.703	0.426	0.063	2.656
Observation (n)	82			

Table 3 presents the pairwise correlation matrix of the independent variables. The dummy variable *Purpose* is shown to be highly correlated to the *Coupon rate* variable. Therefore, prudent steps have to be taken when handling the regression analysis to ensure that the reported results are consistent. The correlations of other variables do not suggest any serious multicollinearity concerns.

Table 3: Correlation matrix

	Frequency	Redeemable	Secured	Purpose	Issuance size	Coupon rate	Firm size	Leverage
Frequency	1							
Redeemable	0.116	1						
Secured	0.256**	0.592***	1					
Purpose	0.325***	-0.114	0.137	1				
Issuance size	-0.412***	-0.041	-0.261**	-0.454***	1			
Coupon rate	0.323***	-0.116	0.135	0.999***	0.451***	1		
Firm size	0.067	0.086	0.132	0.205*	0.467***	0.206*	1	
Leverage	0.075	0.142	0.183	0.155	-0.290***	-0.018	-0.312***	1

4. Results and Discussion

4.1 Issuance of Convertible Debt, Frequency of Announcement and Abnormal Stock Returns

To begin with, we discuss the abnormal stock returns for the full sample and subsamples by frequency of issuer. Panel A of Table 4 reports the daily AAR over the 21-day event window, from 10 days pre- and 10 days post- (-10, 10) issuance announcement of convertible debt. On the event day (t = 0), the AAR is 0.042% but insignificant. Similar results are reported when the *Full* sample is divided into infrequent and frequent issuers, where the AAR is reported to be 0.236% and -0.249%, respectively.

Instead, market reacts earlier. Over the observed event window, a more negative AAR is reported prior to the issuance announcement. For example, 3-day prior to the issuance, the daily AAR is reported to be -2.091% for the *Full* sample and -5.357% for the *Frequent Issuer* subsample, significant at the 5% level, but it is insignificant for the *Infrequent Issuer* subsample. However, the adverse effect of announcement decreases after the event day. 3-day post issuance, the AAR improves to -0.441% for the *Full* sample and -0.803% for the *Frequent Issuer* subsample, in which both are significant at the 1% level, while it is insignificant for the *Infrequent Issuer* subsample. 9-day post announcement, the daily AAR further improves to 0.300% for the *Full* sample and 0.617% for the *Frequent Issuer* subsample, with a significance of 5%. Insignificant daily AAR of 0.089% is reported for the *Infrequent Issuer*.

Panel B presents the CAAR surrounding the issuance announcement from day t = -10 until t = 60 using 22 different event windows, ranging from 2-day event window (-1, 0) to as long as 71-day event window (-10, 60). For the longer event windows (71 days), the CAAR is found to be insignificant for the *Full* sample. The CAAR is significantly negative at the 1% level for the *Infrequent Issuer* subsample, but in contrast the CAAR is significantly positive at the 5% level for the *Frequent Issuer* subsample; for example, for event window (-10, 60) the CAAR is -5.250% and 4.556%, respectively. Post issuance, for event window (1, 60) a negative CAAR of -4.833% is reported for the *Infrequent Issuer* subsample, while a positive CAAR of 5.921% is reported for the *Frequent Issuer* subsample. Both are significant at the 5% level.

For the shorter event windows, the CAARs are statistically significant for most of the event windows. CAARs that cover AARs pre- and post- issuance announcement event window (refer to event windows (-10, 10) to (-3, 3) reported in Panel B of Table 4) are significantly negative at the conventional levels for the *Full* sample and both subsamples. The CAAR of event window (-8, 8) reports the highest negative value of -3.470%, significant at the 1% level, mainly driven by the adverse effect due to multiple issuances of convertible debt. A negative CAAR of -5.333% is reported for the *Frequent Issuer* subsample, relative to the *Infrequent Issuer* subsample that earn a lower negative CAAR of -2.191%. These results are significant at the 5% level.

Post issuance announcement, the negative effect of issuing convertible debt is diminishing, which is more noticeable for the announcement made by frequent issuers of convertible debt. This finding is indicated by the insignificant CAARs calculated from the 2-day (-1, 0), 3-day (-1, 1), 4-day (0, 3), 5-day (1, 3), 6-day (1, 5) event windows. However, the CAARs for these event windows remain significantly negative for the *Full* sample, which is caused by the issuance announcement made by the infrequent or single issuer of convertible debt throughout the observation period. Overall, the results presented in Table 4 provide evidence in support of Hypothesis 1, whereby convertible debt issuance announcement can affect the issuer's abnormal stock returns. Market is more likely to react unfavourably to convertible debt issuance announcement, and thus is in line with majority existing studies.

Table 4: Issuance of convertible debt, frequency of announcement and abnormal stock returns

Panel A: Daily AAR

Event Window	Full Sample (n = 90)		Infrequent Issuer (n = 54)		Frequent Issuer (n = 36)	
	AAR (%)	p-value	AAR (%)	p-value	AAR (%)	p-value
-10	-0.445***	0.000	-0.665	0.000	-0.115	0.410
-9	1.690**	0.022	-0.235	0.277	4.576***	0.010
-8	-0.898**	0.048	0.113	0.530	-2.414**	0.026
-7	0.050	0.802	-0.126	0.436	0.313	0.467
-6	-0.119	0.382	-0.170	0.239	-0.043	0.872
-5	0.002	0.982	0.054	0.697	-0.076	0.360
-4	0.241	0.228	0.061	0.795	0.511	0.149
-3	-2.091**	0.019	0.087	0.610	-5.357**	0.014
-2	0.028	0.861	0.109	0.613	-0.093	0.696
-1	0.733*	0.051	0.142	0.693	1.620**	0.034
0	0.042	0.847	0.236	0.433	-0.249	0.418
1	-0.653	0.108	-1.328***	0.004	0.359	0.619
2	-0.142	0.513	-0.434*	0.091	0.296	0.433
3	-0.441***	0.005	-0.199	0.289	-0.803***	0.003
4	0.026	0.855	0.188	0.321	-0.218	0.286
5	-0.065	0.658	-0.347	0.119	0.357**	0.012
6	-0.008	0.960	-0.317	0.157	0.455**	0.032
7	-0.066	0.667	0.052	0.798	-0.242	0.287
8	0.045	0.724	-0.191	0.255	0.399**	0.039
9	0.300**	0.041	0.089	0.608	0.617**	0.016
10	-0.039	0.803	0.013	0.955	-0.117	0.587

Panel B: CAAR

Event Window	Full sample (n = 90)		Infrequent Issuer (n = 54)		Frequent Issuer (n = 36)	
	CAAR (%)	p-value	CAAR (%)	p-value	CAAR (%)	p-value
Longer event window						
(-10,60)	-1.259	0.392	-5.250***	0.008	4.556**	0.025
(-1,60)	0.355	0.831	-4.432**	0.022	7.332***	0.008
(1,60)	-0.456	0.769	-4.833**	0.013	5.921**	0.013
Shorter event window						
(-10,10)	-1.894**	0.022	-3.036***	0.005	-0.230	0.855
(-10,1)	-1.486**	0.031	-1.823**	0.017	-0.996	0.440
(-8,8)	-3.470***	0.003	-2.191**	0.029	-5.333**	0.035
(-8,3)	-3.399***	0.005	-1.541*	0.062	-6.106**	0.025
(-7,7)	-2.577***	0.006	-2.108**	0.022	-3.261*	0.083
(-7,1)	-1.849**	0.028	-0.990	0.116	-3.101*	0.094
(-6,6)	-2.561***	0.004	-2.030**	0.016	-3.333*	0.062
(-6,0)	-1.217*	0.079	0.550	0.172	-3.793**	0.015
(-5,8)	-2.457***	0.006	-1.996**	0.032	-3.128*	0.072
(-5,3)	-2.386***	0.010	-1.347*	0.073	-3.901**	0.048
(-4,8)	-2.459***	0.006	-2.054**	0.026	-3.050*	0.080
(-4,3)	-2.388***	0.010	-1.404*	0.067	-3.823*	0.053
(-3,3)	-2.640***	0.004	-1.468*	0.054	-4.348**	0.027
(-3,0)	-1.347*	0.050	0.609	0.117	-4.196***	0.006
(-1,1)	0.128	0.838	-1.005*	0.080	1.780	0.163
(-1,0)	0.812*	0.051	0.401	0.267	1.410	0.108
(0,3)	-1.249**	0.047	-1.827**	0.012	-0.408	0.717
(1,3)	-1.293**	0.021	-2.077***	0.001	-0.152	0.880
(1,5)	-1.335**	0.023	-2.245***	0.004	-0.009	0.992

The announcement effect on infrequent issuers differs significantly from frequent issuers of convertible debt. In the short run, infrequent issuers are less adversely affected by the issuance announcement compared to frequent issuers. Our finding is inconsistent with Yaman (2014) who find infrequent issuers of convertible debt face more negative stock price reaction than frequent issuers. Nonetheless, we provide evidence of weakening adverse effect nearer to the accouchement day and in longer run, where frequent issuers earn positive market reaction, whereas infrequent issuers face negative market reaction. Therefore, we argue that Hypothesis 2 is somehow supported particularly in the longer run.

Furthermore, the findings suggest that investors are more sceptical to additional convertible debt issued by the frequent issuers, and thus react unfavourably. The investors are probably concerned of the uses of proceeds raised, the future outlook of the firms and as to how the additional issuances could maximise shareholders' wealth. Therefore, they are more guarded prior to the event day. Nonetheless, the adverse effect is not persistent. Post issuance, investors react more negatively to issuance made by infrequent issuers compared to frequent issuers. This reaction can be linked to unexpected surprises due to greater asymmetric information between the investors and infrequent issuers.

4.2 Sequence of Issuance Announcement and Abnormal Stock Returns

In this section, we examine if Hypothesis 3 is supported. We further categorise the issuance announcements made by frequent issuers based on the sequence of issuance. *Sequence I* consists of first issuance of convertible debt, while *Sequence II* consists of subsequent issuances of convertible debt. The results are presented in Table 5. Panel A summarises the daily AAR over the 21 days event window. On the event day, both subsamples show insignificant daily AAR, suggesting that sequence of issuance does not have significant impact on the reported abnormal stock returns on the event day. We further show that the reported AAR of -5.357% for the *Frequent Issuer* (refer to -3 days) is mainly driven by the first issuance with a significant adverse effect of -6.384%, at the 5% level. After the event day, the reported AAR is less negative for the *Sequence I* subsample. For example, the daily AAR is -0.904%, 3-day post announcement and improves to 0.790% on day 9 post announcement. Conversely, subsequent issue of convertible debt is less likely to have significant impact on the frequent issuers' stock returns.

Panel B shows the CAARs by the sequence of offerings. As mentioned in previous section, the negative effect of announcement made by frequent issuers is diminishing particularly after the event day. The insignificant reported CAARs for these event windows day; (-1, 0), (-1, 1), (0, 3), (1, 3), and (1, 5), are unrelated to the sequence of the issuance. However, for event windows that examine the effect of pre- and post- issuance announcement, significant CAARs are reported, mainly for the first issue of convertible debt announced by frequent issuers. For example, event window (-8, 8) and (-8, 3) report a negative CAAR of -6.768% and -7.550%, respectively when first issue of convertible debt is announced. Subsequent issues announced are found to have insignificant effect on the stock returns. However, significant positive effect is reported for longer event windows. We find a positive CAAR of 4.994%, 8.450% and 6.743% from event window (-10, 60), (-1, 60) and (1, 60), respectively, significant at the conventional levels. Hypothesis 3 is supported, whereby market reacts more negatively to the first issue of convertible debt than the subsequent issue because of decreasing asymmetric information between each issuance (D'Mello *et al.*, 2003; Iqbal, 2008).

4.3 Supplementary Test: Types of Convertible Debt and Abnormal Stock Returns

In this sub-section, we examine if different features of convertible debt affect announcement return. We sort our sample to another three subsamples, namely ICULS, RCULS and RCLS. The sample distribution is presented in Table 6.

Table 5: Sequence of issuance announcement and abnormal stock returns

Panel A: AAR

Event Window	Frequent Issuer (n = 36)		Sequence I (n = 30)		Sequence II (n = 6)	
	AAR (%)	p-value	AAR (%)	p-value	AAR (%)	p-value
-10	-0.149	0.295	-0.016	0.913	-0.609	0.141
-9	4.467***	0.010	5.467***	0.010	0.120	0.788
-8	-2.367**	0.025	-3.058**	0.016	0.804	0.421
-7	0.613*	0.056	-0.088	0.835	2.318	0.103
-6	-0.078	0.762	0.224	0.338	-1.376	0.185
-5	-0.027	0.760	0.003	0.975	-0.468*	0.084
-4	0.500	0.147	0.536	0.206	0.385**	0.043
-3	-5.256**	0.013	-6.384**	0.013	-0.222	0.730
-2	-0.101	0.665	-0.140	0.623	0.139	0.465
-1	1.566**	0.035	1.867**	0.040	0.384	0.239
0	-0.278	0.351	-0.159	0.560	-0.695	0.590
1	0.041	0.951	0.141	0.868	1.449*	0.062
2	0.248	0.506	0.413	0.353	-0.288	0.508
3	-0.873***	0.002	-0.904***	0.002	-0.300	0.678
4	-0.131	0.451	-0.242	0.317	-0.096	0.647
5	0.358***	0.010	0.270**	0.033	0.794	0.176
6	0.460**	0.028	0.527**	0.027	0.097	0.833
7	-0.156	0.384	-0.180	0.499	-0.554*	0.072
8	0.410**	0.027	0.408*	0.064	0.357	0.355
9	0.491**	0.031	0.790***	0.006	-0.247	0.571
10	-0.055	0.793	-0.177	0.472	0.181	0.667

Panel B: CAAR

Event window	Frequent Issuer (n = 36)		Sequence I (n = 30)		Sequence II (n = 6)	
	CAAR (%)	p-value	CAAR (%)	p-value	CAAR (%)	p-value
Longer event window						
(-10,60)	4.556**	0.025	4.994**	0.023	1.930	0.733
(-1,60)	7.332***	0.008	8.450***	0.007	0.620	0.903
(1,60)	5.921**	0.013	6.743***	0.009	0.994	0.869
Shorter event window						
(-10,10)	-0.230	0.855	-0.703	0.615	2.608	0.359
(-10,1)	-0.996	0.440	-1.608	0.270	2.675	0.184
(-8,8)	-5.333**	0.035	-6.768**	0.018	3.274	0.281
(-8,3)	-6.106**	0.025	-7.550**	0.015	2.556	0.306
(-7,7)	-3.261*	0.083	-4.118*	0.056	1.881	0.376
(-7,1)	-3.101*	0.094	-4.001*	0.059	2.297	0.233
(-6,6)	-3.333*	0.062	-3.850*	0.063	-0.236	0.811
(-6,0)	-3.793**	0.015	-4.054**	0.023	-2.223	0.300
(-5,8)	-3.128*	0.072	-3.846*	0.054	1.179	0.471
(-5,3)	-3.901**	0.048	-4.628**	0.042	0.461	0.755
(-4,8)	-3.050*	0.079	-3.849*	0.054	1.741	0.310
(-4,3)	-3.823*	0.053	-4.630**	0.042	1.023	0.504
(-3,3)	-4.348**	0.027	-5.166**	0.023	0.560	0.688
(-3,0)	-4.196***	0.006	-4.817***	0.006	-0.472	0.772
(-1,1)	1.780	0.163	1.849	0.209	1.365	0.361
(-1,0)	1.410	0.108	1.707*	0.082	-0.373	0.829
(0,3)	-0.408	0.717	-0.509	0.693	0.198	0.896
(1,3)	-0.152	0.880	-0.349	0.759	1.033	0.548
(1,5)	-0.009	0.992	-0.322	0.742	1.870	0.355
(1,8)	0.621	0.513	0.433	0.677	1.751	0.477

ICULS is unsecured and irredeemable convertible debt, while RCULS is unsecured but redeemable, and RCLS is secured and redeemable. Out of the 90 issuances, there are 44.444% of ICULS, 36.667% of RCLS and 18.889% of RCULS. We expect the market to react more negatively to the issuance announcement of RCLS compared to ICULS and RCULS. From the risk perspective, RCLS is less risky because it is secured with collateral, so in the event of default, the collateral will be liquidated to pay back the debt holders.

Eckbo (1986) also shows that secured debt earns a more negative abnormal returns compared to unsecured debt. Moreover, RCLS is redeemable at maturity if the prevailing market price is lower than the pre-specified conversion price. This means when the prevailing market price is higher than the conversion price, the holders of RCLS are allowed to convert to the underlying stocks at a lower price to participate in the stock price appreciation. Nonetheless, these two features benefit the debtholders, not the equity shareholder, and thus the negative reaction.

Table 6: Sample distribution by the types of convertible debt

Year	ICULS	RCULS	RCLS	Total
2000	5	0	2	
2001	1	1	1	7
2002	4	4	2	3
2003	7	2	1	10
2004	3	1	3	10
2005	3	2	1	7
2006	0	0	0	6
2007	0	0	1	0
2008	2	1	6	1
2009	1	1	9	9
2010	2	1	2	11
2011	1	1	1	5
2012	2	1	1	3
2013	6	2	0	4
2014	2	0	1	8
2015	1	0	2	3
2016	0	0	0	3
Total	40	17	33	90

Table 7 presents the daily AAR over the 21-day event window (Panel A) and the CAARs of 22 event windows (Panel B). The reported abnormal returns are per our expectations. Market reacts more negatively to issuance of RCULS. For example, the daily AAR for 3-days prior to the event day is -5.827%, significant at the 5% compared to the insignificant AAR of 0.043% (ICULS) and 0.135% (RCULS).

Cumulatively, the issuance of RCULS and RCLS generate significant negative returns. Referring to the shorter event windows, the issuers of RCLS are found to face greater adverse effect compared to the issuers of ICULS. During the (-8, 8) event window, the issuance announcement of RCLS generates a negative CAAR of -6.778%, while ICULS generates a negative CAAR of -2.913%. Both are significant at the 5% level. However, the adverse effect from issuing RCULS weaken post issuance announcement, while the negative effect of issuing ICULS remains significant. For example, refer to event window (1, 8). The CAAR is significantly negative at -2.766% for the ICULS subsample, but insignificant for the RCULS and RCLS subsamples. The irredeemable feature may send a more negative signal to the market about the future prospect of the firm (Mutalip & Bacha, 2004). On the contrary, the issuance announcement of RCULS generates some positive returns and the positive effect lessens post issuance announcement.

Table 7: Types of convertible debt and abnormal stock returns

Panel A: AAR

Event Window	ICULS (n = 40)		RCULS (n =17)		RCLS (n = 33)	
	AAR (%)	p-value	AAR (%)	p-value	AAR (%)	p-value
-10	-0.669***	0.001	-0.184	0.228	-0.323*	0.067
-9	-0.021	0.920	-0.235	0.232	4.761**	0.015
-8	0.094	0.715	0.414	0.225	-2.786**	0.016
-7	-0.006	0.972	0.334	0.373	-0.041	0.930
-6	-0.300*	0.063	-0.451	0.260	0.276	0.229
-5	0.109	0.358	-0.010	0.956	-0.118	0.493
-4	0.038	0.914	1.266**	0.023	-0.079	0.589
-3	0.043	0.798	0.135	0.738	-5.827**	0.013
-2	-0.372	0.122	0.679***	0.007	0.147	0.621
-1	0.055	0.914	0.175	0.220	1.839**	0.024
0	0.194	0.606	-0.177	0.435	-0.017	0.964
1	-1.597**	0.036	-0.252	0.607	0.242	0.673
2	-0.032	0.944	-0.165	0.469	-0.259	0.239
3	-0.503**	0.039	-0.266	0.513	-0.463**	0.050
4	0.166	0.427	-0.108	0.561	-0.068	0.806
5	-0.097	0.688	0.223	0.467	-0.184	0.417
6	-0.129	0.430	-0.282	0.178	0.284	0.451
7	-0.196	0.471	-0.096	0.682	0.105	0.654
8	-0.307*	0.093	-0.172	0.590	0.581***	0.003
9	0.105	0.537	0.036	0.772	0.675**	0.045
10	0.235	0.337	0.100	0.674	-0.440	0.124

Panel B: CAAR

Event window	ICULS (n = 40)		RCULS (n =17)		RCLS (n = 33)	
	CAAR (%)	p-value	CAAR (%)	p-value	CAAR (%)	p-value
Longer event window						
(-10,60)	-4.369**	0.050	1.641	0.615	0.963	0.691
(-1,60)	-3.257	0.124	-0.421	0.889	5.210	0.113
(1,60)	-3.514	0.120	-0.419	0.898	3.271	0.234
Shorter event window						
(-10,10)	-3.272**	0.017	1.020	0.523	-1.803	0.160
(-10,1)	-2.494**	0.039	1.794*	0.062	-2.050*	0.052
(-8,8)	-2.913**	0.031	1.320	0.369	-6.778**	0.012
(-8,3)	-2.335*	0.087	1.781*	0.100	-7.543***	0.009
(-7,7)	-2.694*	0.077	1.064	0.365	-4.431***	0.008
(-7,1)	-1.882	0.122	1.799**	0.042	-3.810**	0.024
(-6,6)	-2.487*	0.063	0.812	0.487	-4.500***	0.010
(-6,0)	-0.238	0.687	1.712*	0.089	-4.024**	0.014
(-5,8)	-2.696*	0.052	1.005	0.459	-4.063**	0.014
(-5,3)	-2.117	0.147	1.467*	0.098	-4.828***	0.000
(-4,8)	-2.808**	0.054	1.016	0.437	-3.937**	0.016
(-4,3)	-2.230	0.127	1.478*	0.079	-4.703***	0.008
(-3,3)	-2.269	0.123	0.137	0.865	-4.618***	0.008
(-3,0)	-0.082	0.886	0.860*	0.068	-4.108**	0.016
(-1,1)	-1.382	0.191	-0.269	0.673	2.197**	0.040
(-1,0)	0.256	0.606	-0.002	0.994	1.939**	0.044
(0,3)	-1.988*	0.097	-0.911	0.327	-0.529	0.506
(1,3)	-2.188**	0.038	-0.723	0.394	-0.510	0.479
(1,5)	-2.116**	0.041	-0.601	0.566	-0.778	0.363
(1,8)	-2.766***	0.008	-1.184	0.385	0.255	0.791

4.4 Multiple Cross Sectional Regression Analysis

We estimate the regression model using the CARs of four different event windows, i.e. (-10, 60) and (1, 60) the longer event window; (-10, 10) the 21-day/intermediate event window; and (-1, 0) the 2-day event window that is very close to the issuance announcement day. Table 8 only presents the results of the following equation with robust standard error;

$$CAR_{i,t_1,t_2} = \beta_0 + \beta_1 Frequency_{i,t} + \beta_2 Redeemable_{i,t} + \beta_3 Secured_{i,t} + \beta_4 Purpose_{i,t} + \beta_5 Issuance\ size_{i,t} + \beta_6 Firm\ size_{i,t} + \beta_7 Leverage_{i,t} + \mu_{i,t} \quad (10)$$

Coupon rate is excluded from the regression because it is highly correlated with dummy *Purpose.* For robustness check, we repeat the regression to include *Coupon rate* but to exclude dummy *Purpose*. We also repeat the regression to include both highly correlated variables as in equation (9). The results are qualitatively similar to those reported in Table 8.These results are not presented but are available upon request.

Table 8: Multiple cross sectional regression analysis

	Model 1 (-10, 60)	Model 2 (1, 60)	Model 3 (-10, 10)	Model 4 (-1, 0)
Frequency	0.108***	0.094**	0.051**	0.023*
	(0.005)	(0.017)	(0.015)	(0.100)
Redeemable	0.051	0.023	0.037*	0.010
	(0.153)	(0.538)	(0.092)	(0.503)
Secured	-0.020	0.011	-0.026	0.014
	(0.607)	(0.780)	(0.220)	(0.300)
Purpose	0.060	0.081**	-0.003	-0.015
	(0.103)	(0.039)	(0.839)	(0.207)
Issuance size	0.014	0.014	0.013**	-0.013**
	(0.265)	(0.972)	(0.048)	(0.040)
Firm size	-0.005	0.001	-0.001	0.007
	(0.646)	(0.943)	(0.924)	(0.179)
Leverage	-0.017	-0.021	-0.013	-0.038**
	(0.798)	(0.737)	(0.698)	(0.134)
Constant	-0.089	-0.108	-0.083	-0.026
	(0.516)	(0.467)	(0.200)	(0.597)
Adjusted R-squared	0.208	0.223	0.175	0.221
Observation	82	82	82	82

Dummy *Frequency* is found to have significant impact on the issuers' CARs in the event windows reported. A positive coefficient suggests that a frequent issuer is more likely to generate positive CARs. Referring to event window (-10, 60), frequent issuers are likely to generate an average CAR of 10.8% relative to infrequent issuers. Though dummy *Frequency* remains significant, the size of the coefficient decreases with shorter event windows. For example, in event window (1, 60) frequent issuers are likely to generate a CAR of 9.4% compared to 5.1% and 2.3% during event window (-10, 10) and (-1, 0), respectively.

This finding is consistent with the results from the event study. The CAARs reported in Panel B of Table 4 show that frequent issuers receive positive market reaction in longer run, but in short run it generates some negative or insignificant announcement returns. The reported positive relation is consistent with our expected sign and Yaman (2014), in which the information content in the issuances made by frequent issuers is perceived to be less

negative compared to issuances made by infrequent issuers. This also supports the argument of asymmetric information.

Dummy *Redeemable* loads positive in the observed event windows as per our expectation, but it is only marginally significant in one of the four event windows at the 10% level (refer to event window (-10, 10)). On the other hand, dummy *Purpose* is found to be significantly positive in event window (1, 60) at the 5% level, which is not in line with the expected sign. We expect the sign to be significantly negative because issuance proceeds that are used to restructure existing debt, debt refinancing or debt settlement are unlikely to maximise shareholders' wealth. Anyway, the reported results are inconsistently significant in the observed event windows.

Closer to the announcement day, size of issuance (-1, 0), and leverage are found to have significant negative impact on the issuers' CARs. Both are consistent with Yaman (2014). The larger the size of issuance, the more negative the announcement effect because it indicates the actual earnings that fall short of the expected earnings (Miller & Rock, 1985). In brief, it also implies firms' capabilities in generating sufficient earnings to meet their financing needs. So, a larger issuance size may indicate a lack of capability to generate earnings, thus market is more likely to react negatively to the issuance announcement. A highly levered firm is perceived to be risky and exposed to greater bankruptcy risk. Therefore, additional issuance of convertible debt is perceived negatively compared to convertible debt issues announced by low levered firms.

In brief, the empirical evidence shows that frequency of issuance has consistent positive impact on firms' abnormal returns. Other issue-specific variables such as the redeemable feature, purpose of issuance and size of issuance are found to have marginal and inconsistent effect on the abnormal returns. For example, the variable *Issue size* loads positive in Model 3 (-10, 10), which contradicts with the finding reported in Model 4. The inconsistency could possibly be driven by the observed event windows and the extent of information accessible by the investors over the event windows. For instance, investors would have better access to information in particular the issue-specifics information on the issuance announcement day and post-issuance announcement day, thus the lower degree of asymmetric information compared to lesser information available in the market prior to the issuance day.

5. Conclusion

The information content of each issuance announcement is perceived and interpreted differently. A higher degree of asymmetric information may lead to negative market reaction. Investors would also react negatively to issuance announcement that comes with an adverse surprise. Building on the theories of asymmetric information and sequential financing, we argue that the frequency and the sequence of issuance announcement do carry different information content, and therefore, market is expected to react differently to these announcements. In this study, we investigate the impact of frequency and sequence of convertible debt issuance announcements on the issuers stock returns. To seek answers to the research objectives, we first perform the event study to examine the announcement effect on the issuers abnormal returns. Subsequently, we perform cross sectional regression analysis to determine other relevant variables that potentially affect the abnormal returns.

The results of this study show that frequent users of convertible debt are exposed to negative market reaction when they announce the issuance of convertible debt, specifically in the short run. However, in the longer event window the adverse market reaction reduces. Instead, market reacts more negatively to the convertible debt issuance announcement made by the infrequent users, which can be explained by the theory of asymmetric information. Potentially, there exists a higher degree of asymmetric information between the infrequent

issuers and investors. Investors are more surprised at the issuance announcement and have less information about the infrequent users, and hence the adverse effect.

On the other hand, the sequence of issuance announcement is also a significant factor that determine the negative market reaction. The first issues of convertible debt are found to be associated with more negative abnormal returns, compared to the subsequent issues of convertible debt. We argue that the first issues contain greater shock factor that lead to the higher negative abnormal returns. However, as the information gap between the issuers and investors decreases, subsequent issues of convertible debt lead to insignificant market reaction. We further show that the attached features of convertible debt could also influence the investors' perception. Investors react less favorably to the issuance of convertible debt attached with features that benefit the debt holders. In summary, we highlight the importance to incorporate issue-specific characteristics such as the frequency, sequence and features of convertible debt into the analysis to better gauge the market reaction towards issuance announcement.

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