THE EFFECT OF CORPORATE BOND ISSUANCE TO THE EQUITY MARKET AND ITS DETERMINANTS

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Abstract

The study aims to investigate the signaling effect of bond issuance in Malaysia and to determine the company characteristics that influence the effect. Findings of the study reveal positive cumulative average abnormal returns following bond issuance indicating that the market treat bond offers as favourable corporate news. On the other hand, the cross-sectional analysis found insignificant relation between company profitability, growth opportunities, asset tangibility, size and managerial ownership with cumulative abnormal returns of bond issuers. The results confirm the signaling effect of bond issuance but further reveal that the effect is not affected by company characteristics.

Key words: corporate bond, equity market, signaling effect, determinants

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INTRODUCTION

In the past, bank borrowings were the focus of many emerging countries (Leungnaruemitchai and Ong, 2005). However, banks' interest rate charges are relatively higher and banks usually are reluctant to give out loan for over long tenor (Eichengreen, 2004). As such, a company can issue long-term bond at low interest (Navarrete, 2001) and deduct interest payments as a business expense. The investigation of bond offerings to the public has been an interesting area of academic research in corporate finance as bonds are gradually becoming an important corporate financing alternative.

According to a report by Bank for International Settlement (2007), in economies lacking well-developed local currency bond markets, long-term interest rates may not be competitively determined and thus may not reflect the true cost of funds of corporations. Hence, the conscious nurturing of local currency bond market becomes a major objective of financial policy in many parts of the world. Further, according to Hale and Santos (2006), companies that issue bonds benefit from a reduction both in the interest rates paid on bank loans and the costs incurred for the subsequent issuance after the first time bond offer.

Well-functioning capital markets are fundamental for sustainable growth. In particular, deep and liquid local currency bond markets have a key role to play in financial stability and economic development in a country. They ensure greater access to capital across an economy, provide stability and diversification of savings and investment, and reduce an economy's susceptibility to external shocks.

The bond market in Malaysia gained attention in 1990s when conventional bank borrowing was found to be inadequate to fund long-term infrastructure and development projects by the private sector. As such, Malaysian government stepped up its effort to develop the corporate bond market, in order to offer the private sector an alternative source of financing, hoping to help in reducing the funding mismatches (Ibrahim and Wong, 2005).

The development of the bonds market could be evidenced by Table 1 that shows the bonds market becoming a bigger source of borrowed funds than the banking system and the equity market. More than 50% of the funds in the capital market and banking system were raised from the issuance of bonds, not more than 30% from the bank borrowings (except for 2004) and not more than 20% from the equity issues.

Table 1

As the bond market becomes the main source of funds, there is a probability that it might affect the equity market. As pointed out by Gebhardt, Hvidkjaer and Swaminathan (2005), bonds and stocks claim to the same underlying operating cash flows and are affected by the same company fundamentals. Bonds therefore cannot evolve independently of equities. Thus, it is expected to see some correlations between bonds and equity market behaviour. However, presently, there is still little research effort on this area. The present study aims to address the impact of bonds on the equity return of the issuing companies which is still under-research especially in emerging market such as Malaysia. Thus far, mix results were found from those attempted to explore on the subject matter such as Kapoor and Pope (1997) and Lewis,

Rogalski and Seward (2001) in the US market, Abhyankar and Dunning (1999) in the UK market, Schramade (2005) in the Netherlands market, Carlsson, Holm and Sello (2006) in European markets and Martel and Padron (2006) in Spanish market. Hence, a study is needed to examine the effect of the issuance of corporate bonds and the relationship of company characteristics of issuers with the impact of bond issuance towards the equity market. Thus, the general objective of this study is to analyze the bond issuance effect to the share price performance and to examine the cross-sectional determinants of such effect for listed companies in Malaysia.

The following section presents literature review of the relevant underpinning theories and prior empirical evidences that are related to the scope of this study and followed by research design and methodology used in this study. Subsequently, testing of hypothesis with results and findings are then presented in the next section. Finally, the last section concludes the study and suggests some possible future research areas.

LITERATURE REVIEW

According to Lewis et al. (1999), corporate events often lead to changes in the trading activities of a company's common stock. Though Fama and French (1998) argued that a company's financing decisions have no effect on its market value and thus security holders are indifferent to debt versus equity financing, their argument relies entirely on the existence of a perfect capital market and assumes that companies maximize both the shareholder and bondholder wealth. Company value is a key actual performance factor because value maximization is a primary goal of financial management.

Models of the association between company value and debt by Modigliani and Miller (1958) suggest that company value and debt level are independent. In 1983, Masulis (1983) studied the valuation effects of changes made to capital structure. Among his findings, there were two specific results that are worth mentioning. The author found that changes in stock prices were positively related to leverage changes and changes in company values were positively related to changes in debt level. However, Masulis (1983) did not address the notion of risk. Financial leverage can increase the value of the company, but the riskiness of the company would also increase. Masulis (1983) showed that when companies increase their use of leverage, returns and values can be magnified.

Ross (1977) has demonstrated that any change in financing policy changes investors' perception of the company and is therefore a market signal. The signaling model assumes that corporate financing decisions are designed primarily to communicate managers' confidence in the company's prospects. Increasing leverage has been suggested as one potentially effective signaling device. Debt obligates the company to make a fixed set of cash payments over the term of the debt security; if these payments are missed, there are potentially serious consequences, including bankruptcy. As such, adding more debt to the company's capital structure can serve as a credible signal of higher expected future cash flows (Barclay and Smith, 2005). The manager of a company that has raised its gearing rate are, in effect, signaling to the markets that they are aware of the state of nature, that it is favourable and that they are confident that company's performances will allow them to pay the additional financial expenses and pay back the new debt.

The signaling theory is based on a strong assumption that corporate managers are better informed about their companies than the creditors/investors. This means that they are in a better position to foresee the company's future cash flows. Any signal they send indicating that cash flows will be better than expected may enable an investor to create value. Investors are therefore constantly on the watch for such signals. Ross (1977) affirmed that the financial structure of a company provides information about its financial situation and company quality and that the value of the companies will increase with the level of leverage. The company's choice of capital structure may convey management expectations about the company's prospects. Higher debt ratios could signal positive management expectations concerning future cash flows.

On the other hand, Myers and Majluf (1984) and Miller and Rock (1985) defend the opposite position, as they think that the announcement of new external financing conveys unfavourable information and will have a negative impact on the market. Myers and Majluf (1984) concluded a negative market reaction to a company's external financing by arguing that the issuance of the company's security will create demand for a discount in order to hedge against the risk that the security is overvalued. Similarly, Miller and Rock (1985) suggested that the company's decisions about obtaining funds reveal negative information about future internal financing. Further, according to the Myers and Majluf (1984) model, in an environment with asymmetric information about a company value, shareholders will interpret risky security offerings as a signal that the issuing company is overvalued. The more sensitive a security's payoffs to the issuing company value, the more skeptical shareholders will react upon its announcement.

As discussed earlier, models of the association between company value and debt by Modigliani and Miller (1958) suggest that company value and debt level are independent. However, conflicting empirical results are found for changes in company value and return. Ammann, Fehr and Seiz (2006) and Chen, Dong and Wen (2005) found significant negative abnormal returns following the issuance of bonds. On the other hand, Martel and Padron (2006) found an opposite result that is company registered positive abnormal returns after bonds issuance. For Japan market, Kim and Stulz (1992) found -0.23% stock price reactions at bonds issue announcement. They attribute this result to the tax advantage in the offshore market. With the conflicting findings in prior studies, more empirical evidence is therefore very much needed in this area.

Kish and Miles (1993) studied market reactions to different types of debt – callable and non-callable issues. They tested to see whether market reactions to callable bond issues were more favorable than to noncallable bond issues. The authors found two interesting results. The first was that non-callable debt is still issued by companies in great numbers, suggesting that callable debt does not provide substantial advantages over non-callable debt to the issuing companies. This was supported when the authors found that market reactions to callable debt were not significantly different from zero. Using cumulative average returns, Kish and Miles (1993) also found evidence that suggests the market reacts negatively to short-term bonds but positively to long-term bonds.

As for the influence of company characteristics on the effect of bond issuance, there are six key variables commonly used in the previous studies i.e. company size, asset tangibility, profitability, growth opportunities, business sector and managerial

ownership (Rajan & Zingales, 1995; Lee et al., 2000; Hovakimian et al., 2004; Buferna, 2005, Guha & Kar, 2006 and Abor, 2008).   However, with a total sample of 100 in this study, many of the business sector classifications contain only one to three stocks. Hence, given that in many instances the small sample size makes such an analysis of limited value (Chin, 2010), business sector is thus excluded in the present study and the other five key variables are thus used in this study. These explanatory variables are also identified as important factors in most countries by several researchers.   Rajan and Zingales (1995) found that the determinants of capital structure that have been reported for the US i.e. company size, growth, profitability, and tangible assets are important in other countries as well. This is further supported by Hovakimian et al. (2004), who showed that the effects associated with profitability and growth opportunities have been found to be especially important.

Chen et al. (2005) noticed a negative influence of company size on investors' reaction in Japanese market while Arshanapalli et al. (2004) and Dutordoir and Van de Gucht (2004) found positive impact on the US market and Western European market respectively. In the context of Stein (1992) model, company size could be considered to be a proxy for the degree of information asymmetry, since larger companies are more likely to have greater analyst coverage and to undergo greater scrutiny by institutional investors. In addition, company size could be a proxy for financial distress costs.   In either case, cumulative abnormal returns are expected to be positively related to company size. On the other hand, several previous empirical work investigating the impact of such a variable was not able to find any correlation with investors' reactions such as De Roon and Veld (1998), Abhyankar and Denning (1999), Lewis et al. (1999, 2003) and Ammann et al. (2006).

Brennan and Kraus (1987) and Brennan and Schwartz (1988) suggest that announcement period abnormal returns are negatively related to credit quality and firm value but positively related to company-specific proxies for investment policies that are difficult to predict. Green (1984) implies that announcement period abnormal returns would be positively related to future growth opportunities after controlling for differences in corporate investment policy shifts and underinvestment. This is further supported by Lewis et al. (1999), Dutordoir and Van de Gucht (2004) and Chen et al. (2005) found a significant positive correlation of growth opportunities. However, Mollemans (2002) and Arshanapalli et al. (2004) observed a significant negative impact whilst Abhyankar and Dunning (1999), Lewis et al. (2003) and Ammann et al. (2006) did not notice any significant relation.

Lewis et al. (2003) in the American market and Dutordoir and Van der Gucht (2004) in Western Europe found no significant influence from issuers' profitability. On the other hand, Stein (1992) found that profitability is inversely correlated to the probability that financial distress occurs. Low profitability not only increases anticipated financial distress costs but also implies higher risk uncertainty and greater probability of a shift to a riskier investment policy. Hence, a negative correlation is expected between the market reaction and the level of profitability.

RESEARCH DESIGN

The sample covers Malaysian public listed companies based on eight consecutive years running from 2000 to 2007. The data sources are mainly from: Securities Commission of Malaysia, Bursa Malaysia, Bank Negara Malaysia, Rating Agency of Malaysia and Malaysian Rating Agency Corporation. The annual reports of the

sample companies were obtained from Bursa Malaysia website and library while Datastream is used to extract the market information.

From an initial 626 bond issues, the data was then cleaned to exclude the non-public listed companies, financial institutions, insurance companies, companies with missing values of relevant variables, companies with outstanding bond issues. Further, companies that are having other major corporate events such as bonus issue, dividend announcement and stock splits and other major corporate exercises (not associated with bond offers) over the event period are also excluded in the sample to avoid any potential confounding effects. As a result of the exclusions, there are a total of 186 bond issues available. Subsequently, with the adjustment for multiple issues and outliers, the final usable data is 100 sample companies (issuers).

Event study is used to estimate and draw inferences about the impact of bonds issuance has on the issuing companies' equity market behaviour. In the present study, the issue date instead of the announcement dates is used. This is because generally, the issuance of bonds are associated with major corporate events and exercises, evidenced by the 60% of bonds issued for new investment and merger and acquisition (M&A) activities in 2007 as reported in Bank Negara Malaysia annual report 2007. When the announcement was made initially, most likely the major corporate exercises were of higher concern of the market and therefore its reaction could be due to the corporate news on the corporate investment or M&A exercises. As such, it is believed that those earlier announcements raised concerns more on the major corporate events rather than the accompanying financing choice. The actual effect on the financing choice would be present only upon issuance announcement. Moreover, according to

Kapoor and Pope (1997), it is appropriate to use the issue dates in order to avoid the problem of uncertainty as some announced proposed bonds are withdrawn. Market reaction therefore may not occur until just before the issue date. This is further supported by Chen et al. (2005) who found that only one-third of the debt issues announced were successfully issued.

The investigation window in this study is from day $t = -60$ through day $t = +60$. Pre-event investigation window therefore covers from day $t = -60$ to $t = -1$ and post-event investigation window covers from day $t = +1$ to $t = +60$. Confounding effect is not an issue as companies with major corporate events not associated with bonds financing, are excluded from the sample.

The present study uses daily data to compute abnormal returns as this approach provides smaller standard deviation than do the monthly returns (Brown and Warner, 1985). The use of daily returns is potentially effective in that it permits researcher to take advantage of precise information about the specific day of the month on which an event takes place. As agreed by Martel and Padron (2006), the use of daily data reduces the possibility of other types of news included in the effect. Likewise, Kothari and Warner (2006) also stated that the use of daily rather than monthly security return data permits more precise measurement of abnormal returns and more informative studies of announcement effects.

The present study chooses to examine the market behaviour over 60 days before and after the event day as Abdullah (1999) concludes 60 days time period is appropriate to detect any unusual movement of the stock prices in her study of rights issue

announcement in Malaysia. A drawback noticed from the past studies is a shorter event window used ranging from one day to 20 days before and after the event period (De Roon and Veld, 1998; Abhyankar and Dunning, 1999; Chen et al., 2005; Martel and Padron, 2006). Present study explores beyond the twenty days around the event window as the market may take longer time to understand the need to incur additional corporate debt in the form of bonds issuance. Moreover, bonds are not commonly understood by many in the Malaysia capital market. Corporate bonds market tends to be dominated by large institutional investors who are arguably more sophisticated and better informed than individual investors. As such the market as a whole may need longer than one month to fully understand the consequences of bonds offers and react accordingly.

The benchmark used to calculate the abnormal returns for this study is market-adjusted returns (MAR) model. There are two reasons for the selection of this model. Firstly, this is a simple, straight-forward and widely used model (Brown, 1999; Barnes and Ma, 2001; Gao and Tse, 2003; Altman, Gande and Saunders, 2004; Charitou, Vafeas and Zachariades, 2005; Agrawal, Kishore and Rao, 2006; Soongswang, 2007); secondly, many studies have shown that results obtained from market-adjusted returns model and other models such as the market model and mean adjusted returns model do not exhibit much differences (Kang et al., 1995; Barnes and Ma, 2001; Gao and Tse, 2003; Altman et al., 2004; Charitou et al., 2005; Agrawal et al., 2006; Soongswang, 2007). Brown and Warner (1985) also confirmed that event studies based on both the market model and the market-adjusted returns model are as powerful in detecting abnormal returns. In addition, since this study uses daily data, the adjustment to index returns, which are small, is negligible. In this model, the

stock returns are compared to an expected return of the market over the event period.

For each sample security, the return on security i ($R_{i,t}$) for time period t relative to the

event, is:

$$R_{i,t} = R_{m,t} + e_{i,t} \tag{1}$$

where $R_{m,t}$ is the market return at time t, as calculated from a market portfolio or a

market index, and $e_{i,t}$ is the component of returns which is abnormal or unexpected.

The MAR model assumes that $\alpha = 0$ and $\beta = 1$. Given this return decomposition, the

abnormal return, $e_{i,t}$ is the difference between the observed return and the market

return:

$$e_{i,t} = R_{i,t} - R_{m,t} \tag{2}$$

Equivalently, $e_{i,t}$ is the difference between the return conditional on the event and the

expected return unconditional on the event or the market return. Thus, the abnormal

return is a direct measure of the (unexpected) change in company value and return

associated with the event.

Following MacKinlay (1997), the abnormal return observations have to be aggregated

in order to draw overall inferences for the event. The aggregation is along two

dimensions – through time and across stocks. An average company-unique return, in

this case the average abnormal return (AAR) will then be estimated for each day (60

days before and 60 days after) surrounding the issuance of bonds. It will be estimated

as follows:

N

$$AAR_t = \sum_{t=1} e_{i,t} \ / \ N \qquad (3)$$

where AAR_t equals the average abnormal return for the number of bonds issues, N examined in a given day, t. The calculation would be done for the whole event period that is 60 days before and after the bonds offers. A t-test is then executed on each event day to see whether there exists a significant effect due to the bonds offers. The AAR would then be summated throughout the event days to form the cumulative average abnormal return (CAAR) such as presented in equation (4).

$$CAAR_t \quad = \quad \sum_{t=1}^{N} AAR_t \qquad (4)$$

It is expected that the value of CAAR is zero in the absence of abnormal performance. Hence, a t-statistic is performed on the pre- and post-issue estimates of the CAAR over different intervals surrounding the event period.

Multiple regression technique

To explain investors' reactions to bond issues, previous studies have chosen various company characteristics that presumably contribute to such reactions. There are a total of five independent variables used in this study i.e. profitability, asset tangibility, company size, growth opportunities and managerial ownership. The data for independent variables are extracted from annual reports of issuing firms one year prior to the bonds issuance, consistent with the practices of previous literature such as Rajan and Zingales (1995); Lee at al. (2000); Devic (2001); Hovakimian et al. (2004); Isachenkova and Mickiewicz (2004); Pandey (2004); Buferna (2005); and Guha and Kar (2006).

The measurements of the independent variables are as follows: Profitability [PROFIT] is measured by earnings before interest and tax divided by total assets (Rajan and Zingales, 1995; Gaud et al., 2005); asset tangibility [TANGIBILITY] is measured by fixed assets plus inventories divided by total assets (Devic, 2001; Chen, 2003; Gaud et al., 2005); company size [SIZE] is measured by using natural logarithm of total sales (Titman and Wessels, 1988; Rajan and Zingales, 1995; Devic, 2001; Gaud et al., 2005); growth opportunities [GROWTH] is measured by the annual growth rate in sales (Titman and Wessels, 1988; Chen, 2003) and finally managerial ownership [OWNER] is measured by the natural logarithm of ratio of directors' shares and total shares outstanding (Denis and Mihov, 2003; Isachenkova and Mickiewicz, 2004).

The dependent variable used in this study is cumulative abnormal returns (CAR). This is obtained by summing up the abnormal returns for each of the 100 observation from day t=-60 to t=+60. The following regression model is used in the study:

$$CAR_i = \alpha + \beta_{i1} \, SIZE + \beta_{i2} \, PROFIT + \beta_{i3} \, TANGIBILITY + \beta_{i4}GROWTH + \beta_{i5}OWNER + \varepsilon \qquad (5)$$

FINDINGS & DISCUSSION

As observed from Table 2, profit margin range from -55.5% to a maximum of 19.5% with an average profit margin of 4.7% among the 100 sample companies. This variable has the lowest standard deviation of 10.578 between all the variables studied. Companies size has the largest standard deviation of 1,699.47 with the smallest size of RM14 million to largest of RM12.053 billion while the average company size is RM754 million. Growth opportunity ranges from a -100% to a growth of 263% and

the average growth rate is 18.9%. Tangibility has a standard deviation of 19.20, ranges from 0.6% to 91% with an average of 45%. As for Managerial ownership, it ranges from 0% to 64.67% with an average of 11.5%. Finally, the bonds offer among the 100 sample companies ranges from RM1.9 million to RM2.213 billion. On average, the bonds offer amount is RM225 million.

Table 2

Event study results

For the total of 100 observations, positive average abnormal returns (AAR) are noticed on day 0 through day t = +3, though the reaction is found to be statistically significant only on day t = +9 at the 10% significance level (AAR = 0.16%, t-value = 1.695143). Subsequently, the results show that the market reaction is mix with positive and negative AAR following the bond offers. The significant positive AAR is observed on day t = +51 with AAR = 0.48% (t-value = 1.791427) while the five days of significant negative AAR are -0.45% (t-value = -1.74862) on day t = +31, -0.59% (t-value = -2.38552) on day t = +33, -0.49% (t-value = -1.85643) on day t = +39, -0.42% (t-value = -2.08579) on day t = +44 and -0.82% (t-value = -2.24034) 0n day t = +46. Figure 1 is the graph for cumulative average abnormal return (CAAR) for bond issuers. As observed from the graph, generally bonds issuers experience an increasing trend of CAAR over the 60 days before the event day (t = 0) and first 10 days of the post-event period. On day t = -60, there was a decline of CAAR to day t = -55 where there were abnormal losses. Thereafter, the CAAR surged to positive value on day t = -45 and fluctuated at the range of 1% to 3% and finally increased substantially from day t = -1, one day prior to the event day. After the event day, the

CAAR continued to rise for three days and finally reached a peak of 6.84% on day t = +9. However, immediately after the ninth day, the CAAR began to show a down trend, dropped to a low of 4% at day t = +23. CAAR went up again from day t = +24 and fluctuating between the ranges of 4.5% to 5.5% until day t = +45 but failed to sustain thereafter.

Figure 1

To examine the significance of the results for zero CAAR (null hypothesis), t-test is carried out over different intervals of CAAR and the result is shown in Table 3. Overall bonds issuers enjoy a positive average abnormal return cumulatively 10 days post-event and 21 days around the event day. The positive relationship between the bonds issuance and the equity market return implies that increasing the leverage position of a company can have a positive impact on stock prices. The favourable information content and signal could also be attributed to the use of the funds from the bonds instruments which are generally meant for productive purposes such as company growth and expansion. In summary, the equity market appears to react positively to the issuance of bonds as a whole.

Table 3

A significant and positive CAAR 21 days surrounding the bond issuance date explains the signaling model of Ross (1977) which suggests that increase debt levels convey positive news. Market participants perceive that higher debt levels show insider confidence that future cash flows will increase to service the higher debt levels. This is consistent with models of optimal capital structure and with the hypothesis that

changes in debt level release information about changes in company value (Modigliani & Miller, 1958). Further, the theory of signaling (Ross, 1977) states that information asymmetry between a company and outsiders lead the former to make certain changes in its capital structure. Changes in capital structure bring about changes in the relative position and/or power of capital providers (e.g. stockholders and debtors) and thus the equity market reacts to the changing capital structure accordingly.

Besides, the higher leverage is a signal that the company is confident about its ability to meet interest obligations and thereby indicate the ability to generate future cash flows and this ultimately translated into a higher company value. The result contradicts to the studies of Abhyankar and Dunning (1999), Ammann et al. (2006) and Chen et al. (2005) that found negative effects of bond issuance. Nevertheless, the positive abnormal returns support the findings of De Roon and Veld (1998) and Martel and Padron (2006) that found the market reacts positively and significantly to debt issue announcements.

Cross-sectional regression results

Both correlation and multiple regression techniques are used to examine the relationship between the effect of bond issuance and company characteristics predicted by the theoretical models (Green, 1984; Brennan and Kraus, 1987; Brennan and Schwartz, 1988; Stein, 1992). The correlation matrix indicated in Table 4 shows that all the five independent variables are not significantly correlated to the dependent variable. In other words, company profitability, growth opportunities, asset tangibility, company size and ownership structure are not associated with cumulative abnormal

returns. When examining on the correlation between independent variables, the correlation matrix indicates a significant negative correlation of .692 ($\alpha < 0.01$) between PROFIT and TANGIBILITY. On the other hand, there is a significant positive correlation of .413 ($\alpha < 0.01$) between PROFITABILITY and SIZE_LN. Nevertheless, all the associations are less than .70 and therefore, it is likely that the collinearity between the independent variables pose no threat in this study.

Table 4

In order to ensure that there is no multicollinearity problem exists in the study, a tolerance statistic and variance inflation factor (VIF) are executed and reported in Table 5. While it is largely debated on the target value, a tolerance value of .50 or higher is generally considered acceptable. As for the VIF statistic, some researchers use a VIF of 5 and others use a VIF of 10 as a critical threshold. Based on these guidelines, multicollinearity problem is not a threat in this study.

Table 5

Table 6 presents the findings of multiple regression analysis. The uncorrelated explanatory variables with the dependent variable is further supported by the findings of the multiple regression where the F-test shows an insignificant model indicating weak influence of company characteristics towards the effect of bond issuers. R-squared of 4.4% also implies a lack of power on the five company factors i.e. company profitability, tangibility, growth opportunity, size and ownership structure, in explaining the variation in the effect of bond issuance. In other words, the finding implies that the positive effect or the abnormal returns exists due to the bonds

issuance alone. Hence, investors could use such strategy in order to gain abnormal returns but it could only be done by investing in approximately 100 companies.

Table 6

The results of cross-sectional regression are not consistent with the argument of Green (1984) that abnormal returns are related to future growth opportunities. Further, the expected positive relationship of company size and cumulative abnormal returns as well as the expected negative relationship of company profitability and cumulative abnormal returns as proposed by Stein (1992) are also not supported. Nevertheless, the results are similar to the observation of De Roon and Veld (1998), Abhyankar and Denning (1999), Lewis et al. (1999, 2003) and Ammann et al. (2006) for company size and company profitability. The finding is also consistent with Lewis et al. (2003), Abhyankar and Dunning (1999) and Ammann et al. (2006) who further found an insignificant influence of growth opportunities towards cumulative abnormal returns.

CONCLUSION

Findings of the study reveal that generally listed companies that issued bond experience increase in equity return following bond issuance. The results show that pre-event period market reactions started two months prior to the issuance of bonds. This could be due to the nature of bond offers in Malaysia that are mainly meant for major corporate exercises such as merger and acquisition or new investment purposes as reported by Bank Negara Malaysia in its 2007 annual report. The corporations would have announced the corporate exercises much earlier than the actual bond issuance and as a result, it is not surprising to note the pre-event market reaction in the case of bond offers. The result of the study further indicate that the initial equity

market signal with cumulative average abnormal return positively and significantly different from zero for the first ten days surrounding the bond issuance date, indicating positive market signaling following corporate bond offers. In summary, corporate bond issues in Malaysia could serve as a signaling tool to the equity market.

As for the correlation of company characteristics that influence the effect, company profitability, asset tangibility, profitability, size and ownership structure are found to have no significant relation to the cumulative abnormal returns of bond issuers. The findings indicate company characteristics are not important determinants of the effect as a result of bond offers in Malaysia. This would indicate that the positive abnormal returns are totally due to the issuance of bonds.

Nevertheless, the result might also be affected by the limited number of explanatory variables that were used in this study. As highlighted by Davidson, Glasrock and Schwartz (1995) and Lewis et al. (2003), abnormal returns depend on the design of a corporate bond. It is thus recommended that the design and features of bonds, such as maturity, coupon rate, call features, reputation of underwriter and purpose of bond offers could be incorporated for future studies. Apart from that, external environment factors such as the changes in interest rates, economic condition and inflation rates might also be explored to examine their impact on the effect of bond offers.

List of references

Abdullah, Nur Adiana Hiau. 1999. An empirical investigation of the effect of rights issue announcements on share returns and the determinants of abnormal returns on the Kuala Lumpur Stock Exchange. Unpublished doctoral dissertation, Aston University.

Abhyankar, A. and Dunning, A. 1999. Wealth effects of convertible bond and convertible preference share issues: An empirical analysis of the UK market. Journal of Banking and Finance, 23, 1043-1065.

Abor, J. 2008. Determinants of the capital structure of Ghanaian firms. African Economic Research Consortium, AERC Research Paper 176, Nairobi, March 2008.

Agrawal, M., Kishore, R., and Rao, H.R. 2006. Market reactions to e-business outsourcing announcements: An event study. Information and Management, 43, 861-873.

Altman, E., Gande, A., and Saunders, A. 2004. Informational efficiency of loans versus bonds: Evidence from secondary market prices. Journal of Financial Research, 29(4), 481-501.

Ammann, M., Fehr, M., and Seiz, R. 2006. New evidence on the announcement effect of convertible and exchangeable bonds. Journal of Multinational Financial Management, 16(1), 43-63.

Arshanapalli, B., Fabozzi, F., Switzer, L.N., and Gosselin, G. 2004. New evidence on the market impact of convertible bond issues in the U.S. Working paper, Concordia University.

Bank for International Settlements 2007. Financial stability and local currency bond markets. CGFS papers no. 28.

Bank Negara Malaysia, annual reports 2005-2007.

Barclay, M.J. and Smith, C. 2005. The capital structure puzzle: The evidence revisited. Journal of Applied Corporate Finance, 17(1), 8-18.

Barnes, M.L. and Ma, S. 2001. Market efficiency or not? The behavior of China's stock prices in response to the announcement of bonus issues. Discussion paper no. 0120. Adelaide University, Australia.

Brennan, M. and Kraus, A. 1987. Efficient financing under asymmetric information. Journal of Finance, 42, 1225-1243.

Brennan, M. and Schwartz, E. 1988. The case for convertibles. Journal of Applied Corporate Finance, Summer, 55-64.

Brown, E. 1999. Long-run performance analysis of a new sample of UK IPOs. University of Edinburgh, August 1999.

Brown, S. and Warner, J. 1985. Using daily stock returns, the case of event studies. Journal of Financial Economics, 14, 3-31.

Buferna, F. 2005. Determinants of capital structure: Evidence from Libya. Research paper series no. 2005/08, University of Liverpool.

Carlsson, P., Holm, O., and Sello, M. 2006. Corporate hybrid capital – Expensive debt or cheap equity? School of Business Economics and Law, Goteborg University.

Charitou, A., Vafeas, N., and Zachariades, C. 2005. Irrational investor response to stock splits in an emerging market. International Journal of Accounting, 40(2).

Chen, J. J. 2003. Determinants of capital structure of Chinese-listed companies. Journal of Business Research, *57,* 1341-1351.

Chen, C., Dong, L., and Wen, M.M. 2005. Backdoor equity financing, firm characteristics, and shareholders' wealth. Center for China Finance & Business Research.

Chin, S.K. 2010. Debt securities issuance in Malaysia: Type of security and impact on equity returns, systematic and total risk. Unpublished dissertation. Doctor of Business Administration. Universiti Utara Malaysia.

Davidson, W., Glasrock, J., and Schwartz, T. 1995. Signaling with convertible debt. Journal of Financial & Quantitative Analysis, 30(3), 425-440.

Denis, D.J. and Mihov, V.T. 2003. The choice among bank debt, non-bank private debt and public debt: Evidence from new corporate borrowings. Journal of Financial Economics, 70*,* 3-28.

De Roon, F. and Veld, C. 1998. Announcement effects of convertible bond loans and warrant-bond loans: An empirical analysis for the Dutch market. Journal of Banking and Finance, 22*,* 1481-1506.

Devic, A. and Krstic, M. 2001. Comparatible analysis of the capital structure determinants in Polish and Hungarian enterprises – empirical study. Economics and Organization, 1(9), 85-100.

Dutordoir, M. and De Gucht, L.V. 2004. Why do Western Europe firms issue convertibles instead of straight debt or equity? Research workshop, Columbia University.

Eichengreen, B. 2004. Why doesn't Asia have bigger bond markets? NBER Working paper series.

Fama, E.F. and French 1998. Market efficiency, long-term returns, and behavioral finance. Journal of Financial Economics, 49*,* 283-306.

Gao, Y. and Tse, Y.K. 2003. Market segmentation and information value of earnings announcements: Some empirical evidence from an event study on the Chinese stock market. Unpublished working paper.

Gaud, P., Jani, E., Hoesli, M., and Bender, A. 2005. The capital structure of Swiss companies: An empirical analysis using dynamic panel data. European Financial Management, 11(1).

Gebhardt, W.R., Hvidkjaer, S., and Swaminathan, B. 2005. Stock and bond market interaction: Does momentum spillover? Journal of Financial Economics*,*75(3).

Green, R. 1984. Investment incentives, debt and warrants. Journal of Financial Economics, 13*,* 115-136.

Guha, K. B. and Kar, S. 2006. The corporate debt market. A firm-level panel study for India. UNU-WIDER World Institute for Development Economics Research, Research paper no. 2006/50, United Nations University.

Hale, G. and Santos, J.A.C. 2006. Evidence on the costs and benefits of bond IPOs. Working paper 2006-42, Federal Reserve Bank of San Francisco.

Hovakimian, A., Hovakimian, G., and Tehranian, H. 2004. Determinants of target capital structure: The case of dual debt and equity issues. Journal of Financial Economics, 71, 517-40.

Ibrahim, M. and Wong, A. 2005. The corporate bond market in Malaysia. BIS Paper no. 26, February: 114-128.

Isachenkova, N. and Mickiewicz, T. 2004. Ownership characteristics and access to finance. Evidence from a survey of large privatized companies in Hungary and Poland. William Davidson Institute Working Paper No. 666, March 2004.

Kang, J.K., Kim, Y.C., Park, K.J., and Stulz, R.M. 1995. An analysis of the wealth effects of Japanese offshore dollar-denominated convertible and warrant bond issues. The Journal of Financial and Quantitative Analysis, 30(2), 257-270.

Kapoor, A.K. and Pope, R.A. 1997. The relationship between corporate debt issuance and changes in systematic risk. Journal of Financial & Strategic Decision, 10(3).

Kish, R.J. and Miles, L. 1993. Market reactions to callable and noncallable debt issues. Journal of Applied Business Research, 9, 54-64.

Kothari, S.P. and Warner, J.B. 2006. Econometrics of event studies. WP, Center for corporate governance, Dartmouth.

Lee, J-W, Lee,Y.S., and Lee, B-S. 2000. The determination of corporate debt in Korea. Asian Economic Journal, 14(4), 333-356.

Lewis, C.M., Rogalski, R.J., and Seward, J.K. 1999. Is convertible debt a substitute for straight debt or for common equity? Financial Management, 28, 5-27.

Lewis, C.M., Rogalski, R.J., and Seward, J.K. 2001. The long-run performance of firms that issue convertible debt: An empirical analysis of operating characteristics, analyst forecasts, and risk effects. Journal of Corporate Finance, 7(4), 447-474.

Lewis, C.M., Rogalski, R.J., and Seward, J.K. 2003. Industry conditions, growth opportunities and market reaction to convertible debt financing decisions. Journal of Banking and Finance, 27(1), 153-181.

Luengnaruemitchai, P. and Ong, L.L. 2005. An anatomy of corporate bond markets: growing pains and knowledge gains. IMF WP/05/152.

MacKinlay, A.C. 1997. Event studies in economics and finance. Journal of Economics, 1, 303-335.

Martel, M.C.V. and Padron, Y.G. 2006. Debt and information content: Evidence in the Spanish stock market. International Research Journal of Finance & Economics, 4.

Masulis, R.W. 1983. The impact of capital structure change on firm value: Some estimates. Journal of Finance, 38, 107-126.

Miller, M. and Rock, K. 1985. Dividend policy under asymmetric information. Journal of Finance, 40, 1031-1051.

Modigliani, M. and Miller, M. 1958. The cost of capital, corporation finance and the theory of investment. The American Economic Review, 48(3), 261-297.

Mollemans, M. 2002. The convertible bond announcement effect in Japan. Working paper, Macquarie University, Sydney, Australia.

Myers, S. and Majluf, N. 1984. Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics, June, 187-222.

Navarrete, A. F. 2001. The role of the corporate bond market in Mexico as a source of financing. Paper presented at conference on Financial Markets in Mexico, Center for Research on Economic Development and Policy Reform, Stanford University, October 3-6, 2001.

Pandey, I.M. 2004. Capital structure, profitability and market structure: Evidence from Malaysia. Asia Pacific Journal of Economics & Business, 8(2), 78-91.

Rajan, R. G. and Zingales, L. 1995. What do we know about capital structure? Some evidence from international data. Journal of Finance, 50, 1421-1460.

Ross, S.A. 1977. The determination of financial structure: The incentive-signaling approach. Bell Journal of Economics, 8, 23-40.

Schramade, W. 2005. Bond market entry and agency costs of equity. RSM Erasmus University, The Netherlands.

Soongswang, A. 2007. An investigation of tender offer effects on Thai target firms during the bid period. International Research Journal of Finance & Economics, 9, 88-104.

Stein, J. C. 1992. Convertible bonds as backdoor equity financing. Journal of Financial Economics, 32, 3-21.

Titman, S. and Wessel, R. 1988. The determinants of capital structure choice. Journal of Finance, 43, 1-18.

Table 1: Funds raised in the capital market and banking system

Year	New issues of Bonds (RM million)	Borrowings from Banking system (RM million)	New issues of Equities (RM million)	Total Funds (RM million)
2001	37,932 (63%)	16,100 (27%)	6,124 (10%)	60,156 (100%)
2002	36,195 (52%)	19,800 (29%)	13,291 (19%)	105,481 (100%)
2003	51,853 (64%)	21,600 (26%)	7,772 (10%)	81,225 (100%)
2004	36,340 (44%)	40,200 (48%)	6,475 (8%)	83,015 (100%)
2005	38,196 (76%)	5,790 (11%)	6,315 (13%)	50,301 (100%)
2006	38,887 (76%)	10,011 (20%)	1,916 (4%)	50,814 (100%)
2007	69,356 (69%)	24,376 (24%)	7,126 (7%)	170,214 (100%)

(Source: BNM annual reports)

Table 2: Descriptive statistics of variables

Variables	Min	Max	Mean	SD
Profitability (%)	-55.5	19.5	4.7	10.578
Company Size (RM'mil)	14	12,053	754	1699.47
Growth opportunity (%)	-100	263	18.9	42.38
Tangibility (FA/TA)	.006276	.907812	.447999	19.20
Managerial Ownership (%)	0	64.67	11.5	169.3
Bonds issue value (RM'mil)	1.9	2,213	225	341.80

Table 3: t-test over different intervals of CAAR

Intervals	CAAR
-5 to -1	0.59%
+1 to +5	1.37%
-5 to +5	3.54%
-10 to -1	0.12%
+1 to +10	**1.74%***
-10 to +10	**3.42%****
-20 to -1	1.74%
+1 to +20	-0.086%
-20 to +20	3.22%
-30 to -1	1.93%
+1 to +30	0.29%
-30 to +30	3.80%
-40 to -1	1.19%
+1 to +40	0.38%
-40 to +40	3.14%
-60 to -1	3.38%
+1 to +60	0.21%
-60 to +60	5.16%

** significant at α = 0.05; *significant at α = 0.10

Table 4: Correlation matrix

	CAR	PROFIT	TANGIBILITY	GROWTH	SIZE_LN
PROFIT	-.040	-	-	-	-
TANGIBILITY	.039	-.692**	-	-	-
GROWTH	-.025	.156	-.088	-	-
SIZE_LN	-.051	.413**	-.250*	.024	-
OWNER_LN	-.064	-.047	.145	.026	-.405**

** significant at $\alpha = 0.01$;* significant at $\alpha = 0.10$

Table 5: Multicollinearity test

Indedpendent variables	Collinearity statistics	
	Tolerance	VIF
PROFIT	.835	1.172
TANGIBILITY	.970	1.031
GROWTH	.992	1.008
SIZE_LN	.725	1.380
OWNER_LN	.811	1.233

Table 6: Multiple Regression findings

Model Summary				
Model	df	F	Sig.	Adjusted R^2
I	5	.709	.619	.044

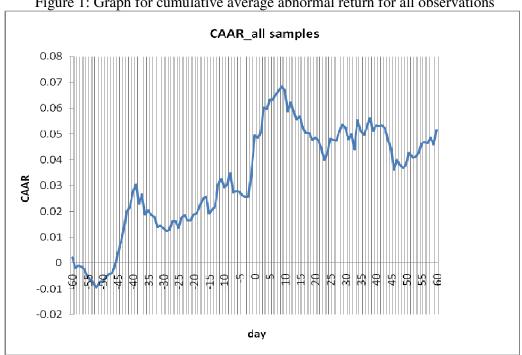| Standardized Coefficient			
	Beta	t	Sig.
PROFIT	-.100	-.827	.411
TANGIBILITY	.135	1.196	.236
GROWTH	-.024	-.218	.828
SIZE_LN	-.067	-.514	.609
OWNER_LN	-.115	-.927	.357

Dependent variable: CAR

Figure 1: Graph for cumulative average abnormal return for all observations