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Determinants of Corporate Bond Demand: A Study in Vietnam

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ABSTRACT: Recently, corporate bond has been becoming a controversial debate topic in Vietnam. During 2022 Vietnamese economy experienced several devastating scandals relating to corporate bond that leading to the issuance of several legal regulations by the Government. Realistically, given the strong encouragement of Vietnamese Government, the size of corporate bond market has reached approximately 21% of national GDP (VCCI, 2022) illustrating a considerable attention of potential investors and local businesses on this typical capital raising instruments. However, from both academic and society perspectives, there has been a research gap in the extant literature review on the underlying reasons for corporate bond demand in an emerging country. Hence, the study aims to comprehensively examine the determinants of investor demand for corporate bond in the context of Vietnam. The research objectives are achieved by applying both qualitative and quantitative approaches. While the qualitative method which based on VCCI (2022) questionnaires to identify and document the corporate bond demand, the quantitative method provides statistical evidences on determinants of corporate bond demand. The research result show that the credit risk and bond market presence are significant attributes for investor demand. These indicators are more pronounced during the crisis period which is explained by information asymmetry theory and the benefit of diversifications. The research findings are consistent with prior studies of Hotchkiss and Ronen (2002), Hale and Santos (2008) stating that high investor demand shorten the time for subsequent bond issuance events and potentially reduces the corporate's cost of capital. Therefore, the research is beneficial to the Government, corporate bond issuers and researchers.

KEYWORDS: corporate bond, corporate bond demand, corporate bond market, Vietnam

1. INTRODUCTION

Generally speaking, corporate bond market serves multiple functions. Apart from providing borrowers an alternative to bank finance, corporate bonds can lower the cost of long-term funding by commercial banks. Banks are typically constrained in lending long-term because their liabilities are relatively of a shorter tenor. An efficient corporate bond market with lower costs and quicker issuing time can offer an efficient and cost-effective source of longer term funds for corporates. Several studies show that high – security demand can have meaningful economic benefits as issuance firms have greater flexibility in setting the final terms of their offering (Cornelli and Goldreich, 2003; Dirrien, 2005).

From a macroeconomics perspective, a well-developed corporate bond market serves to spread risks away from the banking system. Banks are key to financial stability, as they provide liquidity services, credit and payment systems to the economy, and it is important to regulate their risk-taking activities. A market-based source of finance, such as corporate bond market, therefore, is more effective in dissipating risk across a much wider category of investors, thereby contributing to overall financial stability. However, there is a lack of comprehensive literature review on the issues.

In the context of Vietnam businesses can utilize different forms of capital raising to reduce overdependence on the current traditional banking system - a form of capital mobilization. However, the credit market seems to be overloaded due to short-term capital supply and poses a great risk to the participants. Therefore, in order to minimize risks, the businesses themselves may issue corporate bonds that have several benefits including increases return on equity (ROE), can mobilize long-term capital, more diversified forms of mobilization to attract potential investors, enhance the promotion of the image of the business. It is not deniable on the benefits of corporate bonds; however, the bonds issuers need to have a better understanding on the motivation of potential investor on this type of debt instrument.

From the above criteria, the objectives of this paper are firstly, to comprehensively develop literature review on corporate bond demand. Secondly, the study empirically examines determinants affect the corporate bond demand from investors' perspectives. In order to achieve the above objectives, the paper is structure as follows: Section 2 provides extant literature review on research issues and propose research hypotheses. Section 3 presents research methodology which includes description of data collection, regression model analysis and robustness tests. Section 4 is the discussion on research findings, research limitation and direction for future research.

2. LITERATURE REVIEW ON DETERMINANTS OF CORPORATE BOND DEMAND

2.1. Credit Risks

The investor's demand for corporate bond has been addressed in literature review recently as an effective capital raising instrument. Understanding the determinants of corporate bond demand is vital important for not individual firms but also for the Government agencies to mange risks in fixed income securities. The literature review mentions about the term corporate credit risk illustrating the impact of yield differential spread on corporate bond demand (Elton et al, 2001). In accordance with Chen et al (2007), Duffie et al (2007), the credit risk of the issuing firm has been linked to the demand of investors for their securities in the inefficient liquidation, asymmetric information situation and portfolio theories.

It is interesting to note that corporate bonds of big sized companies are more attractive than small and medium sized which often face difficulties in obtaining a loan, regardless of their financial situation and development prospects (Hale and Santos, 2008). In this case, the market capital investors them shelves examine and assess the issuers' condition and creditworthiness on an ongoing basis (Massa et al, 2013). Credit risk exists in the literature review as a considerable factor that affects. Another researchers such as Berlinn and Loeys (1988), Cantillo and Wright (2000) find that bond issues from higher risk firms are associated with more difficulties of renegotiation with multiple creditors. The theory of underinvestment also predicts that bond investors purchase fewer securities from companies with a higher risk of portfolio.

The portfolio choice theory argues that investors would seek a mean variance efficient portfolio of capital raising instruments (Markowitz, 1952). In turn the potential investors will demand both lower and higher-risk corporate bonds depending on their availability and risk – return portfolio of their investments.

From this above point of view in the literature review, the paper proposes the following hypothesis:

Hypothesis 1: Lower credit risk increases investors' demand on corporate bond

2.2. Bond Market Presence

Existing literature review addresses two theories explaining the investors demand on corporate bonds. The first theory is information asymmetry predict that bond investors have more demand on securities form firms with greater bond market presence. As explained, the theory argue that this is driven by the greater amount of information available on existing bond issuers, reducing bond investors adverse selection concerns. Several researchers such as Hale and Santos (2008) identifies that issuing firms which have relationship with bank will lower the yield spread. This phenomenon suggests new bond issuers need to have relatively stronger attributes to encourage investors. In addition, the Government regulators requires firms to publish more information to reduce the situation of asymmetric information. As a result, the existence of various types of debt markets can reduce the information asymmetry and potentially increase the demand of investors. Especially in the case of emerging economies, the barriers to the development of corporate bond market include the lack of legal acts regulating trading and standards that would facilitate the classification and transparency (Khanna and Varottil, 2012).

Portfolio choice theory predicts that bond investors will purchase a lower number of securities from firms with greater bond market presence (Wibaut and Wilford, 2012). In spite of the fact that, this theory provides opposite argument on the impact of bond market presence on investor demand, evidences from literature review proves that there has been a connection between two research issues.

From this above point of view in the literature review, the paper proposes the following hypothesis:

Hypothesis 2: The bond market presence increases investors' demand on corporate bond.

3. RESEARCH METHODOLOGY

3.1. Data collection

The sample of corporate bond issues is derived from the list of the two biggest stock exchange market in Vietnam that are Hanoi Stock Exchange (HNX) and Hochiminh Stock Exchange (HOSE) from 2015 to 2022. In turn, there are 1140 observations which are non – financial and are not commercial banks or insurance companies. Basing on the legal criteria the chosen sample must also qualifies the following requirements:

- The current corporate bonds status must be in operation at least 60 months from 31/12/2022.
- The corporate bonds are not exchangeable bonds, international agency bonds and private instruments as they have a different cash flow structure from a typical straight corporate bond.

- The secured corporate bonds are excluded due to their distinct credit risk profile.

3.2. The proposed regression model of corporate bond demand

The study apply panel data approach which takes into account the individual dimension as well as the time dimension for the analysis (Baltagi, 2005). Based on this analysis, the following fixed effects regression equation is proposed:

$$\mathbf{CBD_{it} = \alpha_{it} + \beta X_{it} + u_{it}}$$

CBD is Corporate Bond Demand

X_{it} is the vector of determinants of corporate bond demand as independent variables

β is the coefficient on the independent variables

α is the individual fixed effects

u_{it} is the random error term

i is the corporate bond

t is the time

The fixed effect model is used to control for the individual specific time variant heterogeneity.

3.3. Dependent, independent and control variables' measurements

3.3.1. The dependent variable

The investor demand for corporate bond is measured by (1) Orderbook_Size which is calculated by the natural logarithm of the total Vietnamese Dong of all orders placed and (2) Oversubscription which is calculated by Issue Size.

3.3.2. The independent variables

Credit Risk

Theoretical perspectives have taken credit risk as an important determinant of corporate bond demand and various studies use different proxies to capture the credit risk such as the volatility of equity index (Chen et al, 2015; Landschoot, 2008; Radier et al, 2016). Because of the difficulty involved in the calculation of firm's future volatility, this paper use the leverage ratio of the issuer as the proxy for firm's credit risk (Covitz and Downing, 2007; Champagne et al, 2017). The leverage ratio is calculated by total debt divided by total assets.

Bond Market Presence

Bond market presence is measured using issue frequency which is a forward – looking method that counts the total number of transactions issued by a firm during a specific period. The measurement provides an indication of the capital market access. The frequency of market access is calculated by number of transactions during the sample period.

3.3.3. The control variables

A range of control variables that are followed previous studies of Denis and Mihov (2003) indicating corporate characteristics namely firm size and issue size.

In accordance with Costantini and Sousa (2022) highlight the firm size which is measured by total assets, have an impact on corporate bonds demand. It could be explained by information asymmetry theory that great firm have more chance to access corporate bond market.

Issue size which is measured by natural logarithm of average issue volume is expected to have an influence on corporate bonds demand. Prior research of Krebbers et al (2023) confirms that the larger the issue size, the smaller would be the orderbook size or the lower investors' demand on corporate bonds, all else equal.

4. EMPIRICAL ANALYSIS AND RESULTS

4.1. Descriptive statistics

Table 1 represents the descriptive statistics of variables that used in the research. The statistical analysis illustrates the investor demand for corporate bonds characteristics (Oversubscription) across the ranges of independent variables. The result for the proxies for Credit risk shows a greater demand for higher – risk bonds. Specifically, mean of oversubscription for low, medium and high credit risk are 508, 593 and 612, respectively. It highlights that lower – rated bonds, although potentially unattractive in isolation, can contribute to an investor's mean variance efficient portfolio, leading to higher demand for these securities. The phenomenon suggests that investor prefer corporate bonds with lower financial risks.

When it comes to bond market presence variable, the figure shows the average Oversubscription of 532, 501 and 478 for low, medium and high issue frequency issuers, significantly different at the 1% level. This result is consistent with several research of Rauh and Sufi (2010), Lo et al (2004) which argue that the bonds of infrequent issuer firms are a scare commodity for investors and are therefore attractive from the concept of diversifying holding across multiple issuers. Basing on the transaction costs associated with purchasing bonds in the secondary market and the decline in the secondary market liquidity surrounding the crisis placing larger primary market orders for the bonds of infrequent issuers is the optimum time for investors to create their own diversification strategy (Kou and Varotto, 2008).

Table 1. Descriptive statistics for independent variables

	Status	Mean	Median	ANOVA	Kruskal-Wallis
Credit Risk					
Leverage	Low	612	4356	3289	0.002
	Medium	593	3789	3102	
	High	508	3403	3006	
Bond market presence					
Frequency					
	Low	532	5231	4375	0.001
	Medium	501	4902	4291	
	High	478	4678	4120	

Source: Author's self assessment

4.2. Analysis on regression model

Table 2 reports regression result of Ln(Orderbook_Size) of companies during specific research period. Standard errors clustered at the firm level are in parenthesis. The significant level at the 1%, 5% and 10% respectively. The result illustrates the impact of credit risk on the investor demand measured by Oversubscription. The coefficient for leverage has a significant positive relation with Oversubscription at the 1% level supporting the information asymmetry theory that investors are interested in lower – risk bonds to eliminate the potential risk in their portfolio and also to enhance the risk-adjusted return. The result is consistent with studies of Hotchkiss and Ronen (2002), Liang et al (2016) confirm that holding constant a firm's business profile with higher leverage ratio will reduce management's incentives to invest in profitable projects.

When it comes to the market presence variable analysis, the result presents the issue frequency coefficient is negative and significant at the 1% level, consistent with the scarcity argument where investors seek to diversify the holdings away from the frequent issuers. This result is not consistent with arguments of Diamond (1991a) that stronger bond market presence can lead to higher investor demand.

It is also interesting to identify that control variables representing by the value of assets and the size of issue volume have no impact of corporate bond demand.

In summary, basing on the statistical result, the paper concludes that the findings of higher investor demand for high credit risk issuers, given expected contribution to a mean – variance efficient bond portfolio. The bond market presence is also found to be significantly comparable.

Table 2. Determinant of corporate bond demand: Credit risk

	Dependent variable: Corporate bond demand (CBD)
Credit Risk	1.891^{***} (0.001)
Bond Market Presence	-0.012^{***} (0.000)
Ln (Assets)	-0.299 (0.076)
Ln (Issue size)	-0.362^{*} (0.0181)
Constant	4.012 (0.617)
Observations	1140
R^2	0.750
Adjusted R^2	0.173
F statistic	16.601^{***}
Robust standard errors in parenthesis *p<0.1; **p<0.05; ***p<0.01	

Source: Author's self assessment

4.3. Research contribution and limitation

From the academic perspectives, the findings contribute to the primary bond market literature review by identifying credit risk (which is measured by leverage ratio) and bond market presence (which is measured by issue frequency) to be important attributes of investor demand. In detail, empirical evidences show that lowered levelm infrequency issuers receive higher demand for their bond issuance. This finding contrasts with the other research proposing that firms with greater credit market reputation have easier access to bond markets (Diamond, 1991a).

However, the research maintains several limitations. In the scope of the research, we do not directly test the volume of portfolio diversification benefits for individual investors. In addition, the research only provides the evidence relating to the fixed regression model, therefore the robustness tests should be presented to prove the reliability of other research models.

5. CONCLUSION

The study aims to empirically examine the determinants of corporate bond demand in Vietnamese bond market. Specifically, the study applies the asymmetry information and portfolio investment theory to identify independent variables affect dependent variables namely credit risk and bond market presence. Overall, the result of regression research model indicates the ability of determinants implied by the theoretical framework to explain the research issue. Specifically, the credit risk and bond market presence show significant effect on the investors' demand of corporate bond.

Basing on this result, some implications have been identified for the Government agencies to consider new regulations for the development of corporate bond market. From macroeconomics perspectives, credit risk should be eliminated and controlled by facilitating a stable inflationary condition in the Indian economy.

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