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FACTORS AFFECT TO TRADING VOLUME OF LISTED CORPORATE BONDS IN VIETNAM

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Corporate bond market plays an important role in forming long-term capital for enterprises. In particular, the secondary market has the effect of increasing liquidity and determining the price of corporate bonds issued on the primary market. Therefore, the secondary market has made a development for the corporate bond market. In Vietnam, the annual trading volume of listed bonds shows that the size of secondary market is still too small. Hence, studying the factors affecting the corporate bond's trading volume isnecessary for developing appropriate solutions to promote the development of the market. To assess the impact of these factors, the construction of econometric models is very necessary.

Keywords: *corporate bond, trading volume, age, credit rating*

1. Introduction

The secondary corporate bond market is still smaller than the primary one. The liquidity on the secondary market is very low, with few trading transactions recorded. According to statistics on Stock Exchanges, the number of trades at Stock Exchanges is very low compared to the number of bonds issued. In which, there were no bond listed and traded on Hanoi Stock Exchange (HNX) in the period of 2012 – 2017. On Ho Chi Minh Stock Exchange (HSX), there were very few transactions recorded.

In the period of 2012 - 2015, trading volume of

Table1: *Transactions of Corporate bonds on Stock Exchanges in 2012 - 2017*

Year	Number of transactions	Number of bonds	Total value (Billions VND)
2012	56	25.638.260	2.333
2013	68	44.689.440	3.912
2014	49	33.661.500	3.218
2015	120	48.538.356	4.990
2016	522	102.133.469	10.471
2017	1.313	165.994.858	17.212
Total	2.128	420.655.883	42.136

(Source: HSX)

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listed bonds was only few trillionVND, averaging over 3.8 trillionVND per year. In 2016, trading volume reached over 10 trillion VND. The transaction scale is only a few trillion, averaging over VND 3.8 trillion per year, in 2016 reaching over VND 10 trillion, an average of 2016 - 2017, each year there are VND 7 trillion worth of corporate bonds trading on the secondary market. The period of 2012 - 2015 is the period when trading volume was very low, reflected in the number of bonds traded, the number of transactions and the transaction value. After that, the trading volume has increased dramatically and peaked in 2017. However, the value of listed bonds traded per the value of outstanding bondswas very low, averaging from 0.1 to 0.6%. There are only 28 bonds of 10 businesses had transactions, of which VIC, BID and NVL were the most traded.

Table 2: *Trading volumeof listed bonds*

Code/Year	2012	2013	2014	2015	2016	2017
ANC11601					10.954.771	51.221.850
BID1_106	12.172.510	22.325.460	11.016.860	23.342.580	4.600.000	
BID1_206	7.150.000	14.358.900	16.931.780	3.403.000		
BID10107	3.311.000					
BID10306	1.900.000	7.500.000	5.700.000	2.100.000	12.300.600	
CII1709						2.301.265
CII11713						300.000
CII41401			12.860	72.860	6.560	2
HCM_0507				450.000		
HCM_0706	840.000					
HCMA0206	260.000	440.000				
KBC11710						4.062.740
MSN11718						549.450
NVL11605						9.196.883
NVL11708						1.700.163
NVL11714						3.122.968
NVL11715						1.892.178
NVL21602						881.178
NVL21603						6.510
NVL21604						850.599
TDH41029	4.750	65.080				
VIC11501				19.169.916	22.010.298	13.013.312
VIC11502					22.859.772	14.161.363
VIC11503					12.165.413	13.832.888
VIC11504					17.236.055	19.636.972
VIC11707						19.273.121
VIC11711						8.345.272
VIC11716						1.646.144

(Unit: Bond)

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On the Over - the - counter (OTC) market, there are no statistics about trading of corporate bonds. According to Le Thu Ha (2018) - analyst of Viecombank Security Company (VCBS) - less trading transactions of corporate bonds were done because most of corporate bonds are held by commercial banks and they are often considered as secondary debts. Investors often keep them until their due or convert into stocks.

2. Literature review

There are many studies on the development of secondary corporate bonds market and factors affecting the trading volume of corporate bonds. In particular, the study of Alexander et al (2000) is a typical study on this issue. Subsequent studies by Hotchkiss and Jostova (2017) or Wahyudi and Robbi (2009) have similar conclusions. Accordingly, the trading volume of listed bonds is affected by issue size, age, default risk and price variability of bonds.

According to Alexander et al. (2000), the larger issue size, the larger trading volume. This research shows that brokers can still easily manage large diversified portfolios, so holding more and more bonds will help brokers reduce management costs for investors. This will help bonds to be traded more often. Studies of Hotchkiss and Jostova (2017) and Wahyudi and Robbi (2009) consolidate the above conclusions. Moreover, age of bonds is also a factor that has a strong impact on trading volume. A bond becomes more seasoned it becomes less liquid. Alexander et al. (2000) explained that bonds are long - term assets with relatively stable interest rates. So, after issuance, they will often be kept in the portfolio of investors who prefer to hold bonds until due or for a long time. Over time, these investors will increasingly have more bonds and only trade a very small amount of bonds. With a small amount of bonds traded, brokers require higher costs and bonds will become less liquid. Alexander et al. (2000), Hotchkiss and Jostova (2017) and Wahyudi and Robbi (2009) also point out that bonds are most often traded in the first 2 years after issuance.

These studies also show the relationship between default risk and trading volume of bonds. Bankruptcy risk is the risk that businesses cannot pay off their debts. Bankruptcy risks increase during recessions, crises, or external shocks. Alexander et al. (2000) argue that lower grade bonds are more likely to reflect firm specific information. So that, they document more trading in bonds with higher credit risk. Otherwise, Hotchkiss and Jostova (2017) and Wahyudi and Robbi (2009) pointout that default risk makes investors worry about bonds' liquidity and do less trading.

Research by Harris and Raviv (1993) on the relationship between the price and trading volume of bonds suggests that these two factors have a positive relationship. This means that the higher the price volatility, the more traded bonds will be. The reason is that price volatility reflects different opinions of investors. The study of Alexander et al. (2000) also showsimilar results as trading volume increased when bond prices were more volatile. However, Hotchkiss and Jostova (2017) argue that bonds with large profit volatility are less traded.

3. Methodology

3.1. Variables

Based on researches of Alexander et al (2000) and Hotchkiss and Jostova (2017), this paper will focus on building econometric models to evaluate the factors effect to trading volume of listed corporate bonds on Vietnam stock market.

Dependent variable:

Trading volume of bonds is measured through many aspects, including: number of bonds traded, number of transactions and turnover (Alexander et al.,2000). The measurements of trading volume are as follow:

- Number of trades
- Number of bonds traded
- Turnover
- Value of bonds traded/Value of outstanding bonds

Independent variables:

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As we said before, there are 4 independent variables that affect to trading volume of corporate bonds:

- Issue size: par value

- Age: Years since issuance. Age is dummy variable: = 1 if in the first 2 years, = 0 if out the first 2 years, = -1 if not yet issued.

- Default risk: credit rating of bonds. However, because of credit rating for corporate bondshave not been implemented in Vietnam, we use issuers' credit rating for replacing.

- Price variability: the difference between Volume Weighted Average Price (VWAP) this year and last year.

In which: u_itis the normal random error, which is assumed to satisfy the standard conditions of the Ordinary Least Square method (OLS); c_ishow the characteristics of changing over time and unobservable of each individual; γ_tis an unobserved feature at each time and there is no difference between individuals (businesses, provinces, cities,…) such as the country's macroeconomic conditions.Depending on the features of these unobserved factors, different estimation methods are provided to finding the best estimated coefficient.

Considering the model withoutγ_t:

$Y_{it}= \beta_1+\beta_2 X_{2it}+\cdots+\beta_k X_{kit}+c_i+u_{it}$

Table 3: *Variables and expected signs*

Variables	Expected signs	Source
Trading volume		Alexander et al. (2000); Hotchkiss and Jostova (2017); Wahyudi and Robbi (2009)
Issue size	+	Alexander et al. (2000); Hotchkiss and Jostova (2017); Wahyudi and Robbi (2009)
Age(in the first 2 years)	+	Alexander et al. (2000); Hotchkiss and Jostova (2017); Wahyudi and Robbi (2009)
Default risk	+/-	Alexander et al. (2000); Hotchkiss and Jostova (2017); Wahyudi and Robbi (2009)
Price variability	+/-	Harris and Raviv (1993); Alexander et al. (2000); Hotchkiss and Jostova (2017).

3.2. Methodology

The data of the article is collected on bonds and at different milestones is called the panel data. Withpanel data, index i is often used to refer to an individual (household, firm, bank,...), i = 1, 2,..., n; and t is the time index, be it year, month, week, day,..., t = 1,2,..., T.

According Nguyen Thi Minh et al. (2014), model of panel data has the following form:

$Y_{it}= \beta_1+\beta_2 X_{2it}+\cdots+\beta_k X_{kit}+c_i+\gamma_t+u_{it}$

Basing on c_i, there are 3 estimation methods: Pooled OLS (POLS), Random Effects Model (REM), Fixed Effects Model (FEM).

The process to choosing the most suitable model is testing the existence of c_i. If c_idoesnot exist, POLS and its corrections will be used. If c_i exists, we will check correlation between this factor and independent variables. If there is correlation, FEM is selected. In contrast, REM is selected. There is chart of the process to choosing model of panel data:

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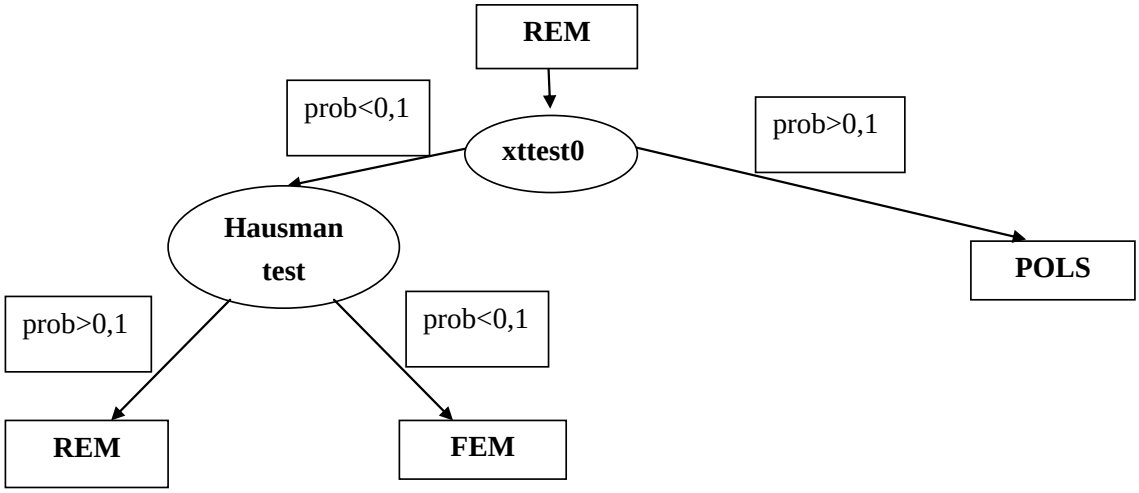

Source: Nguyen Thi Minh et al. (2014)

Chart 1: *The process of choosing model of panel data*

3.3. Model and hypotheses

Variables and scales:

$TOVER_{it}= \alpha_0+\alpha_1 SIZE_{it}+\alpha_2 AGE_{it}+\alpha_3 RATING_{it}+\alpha_4 DVWAP_{it}+c_i+u_{it}$ (3)

Table 4: *Variables and scales*

Variable	Scales	Symbol	Unit
Trading volume	Number of trades	TIMES	Number
	Number of bonds traded	NBOND	Bond
	Turnover	TOVER	Billions dong
	Value of bonds traded/Value of outstanding bonds	VOL	%
Issue size	Ln(Issue size in face value)	LSIZE	Thousands dong
Age	= -1 if bond have not been issued = 1 if bond's age ≤ 2 years = 0 if bond's age > 2 years	AGE	Dummy
Default risk – Credit rating	= 1 if firm's rating is A grade = 0 if firm's rating is B grade	RATING	Dummy
Price variability	The difference between VWAP this year and last year	DVWAP	%

Expected models:

$TIMES_{it}= \alpha_0+\alpha_1 SIZE_{it}+\alpha_2 AGE_{it}+\alpha_3 RATING_{it}+\alpha_4 DVWAP_{it}+c_i+u_{it}$ (1)

$NBOND_{it}= \alpha_0+\alpha_1 SIZE_{it}+\alpha_2 AGE_{it}+\alpha_3 RATING_{it}+\alpha_4 DVWAP_{it}+c_i+u_{it}$ (2)

$VOL_{it} = \alpha_0+\alpha_1 SIZE_{it}+\alpha_2 AGE_{it}+\alpha_3 RATING_{it}+\alpha_4 DVWAP_{it}+c_i+u_{it}$ (4)

Where the subscript i refers to a bond (28 bonds) and the subscript t refers to a year (2012, 2013,…, 2017).

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Hypotheses:

- Hypothesis 1: Issue size should have a positive impact on trading volume of listed corporate bonds in Vietnam.

- Hypothesis 2: Bonds which age is in the first 2 years should have a positive impact on trading volume of listed corporate bonds in Vietnam.

- Hypothesis 3: Default risk should have a positive/negative impact on trading volume of listed corporate bonds in Vietnam.

- Hypothesis 4: Price variability should have a positive/negative impact on trading volume of listed corporate bonds in Vietnam.

4. Results

4.1. Data description of variables

mainly bonds with a term more than 10 years (BID, HCM).

Credit rating of corporations could be divided into 3 grades: A category, B category and not ranked. From 2016, Credit Information Centre (CIC) have used new ranking criteria. However, the new criteria do not change to much in comparison with the old ones. Corporations with a category have very low default risk (less than 2%), corporations with B category have low default risk. Because of ANC was established in 2014, it was not ranked in 2012 and 2013. HCMA is a state capital management company so it does not raise capital from commercial banks and CIC does not do credit rating for it.

Table 5: *Data description of dependent variables*

	Mean	Std. Dev.	Minimum	Maximum
TIMES	12,667	37,806	0,000	244,000
NBOND	2503,904	6554,663	0,000	51221,850
TOVER	250,806	660,226	0,000	5211,648
VOL	0,311	0,870	0,000	8,465

Bank for Investment and Development of Vietnam (BIDV), NoValand and Vingroup are corporations which have the most traded listed bonds. These bonds also have the largest issue size in total listed bonds.

Bonds with transactions in period of 2012 - 2017 are not much, they are mainly newly bonds issued from 2015 and have term less than 3 years (CII, NVL, VIC). Bonds issued before 2007 are traded in this period were

The Average of VWAP also tends to increase sharply over time, corresponding to the increasing trend of the number of bonds traded and trading turnover. The greatest growth speed is from 99 thou-

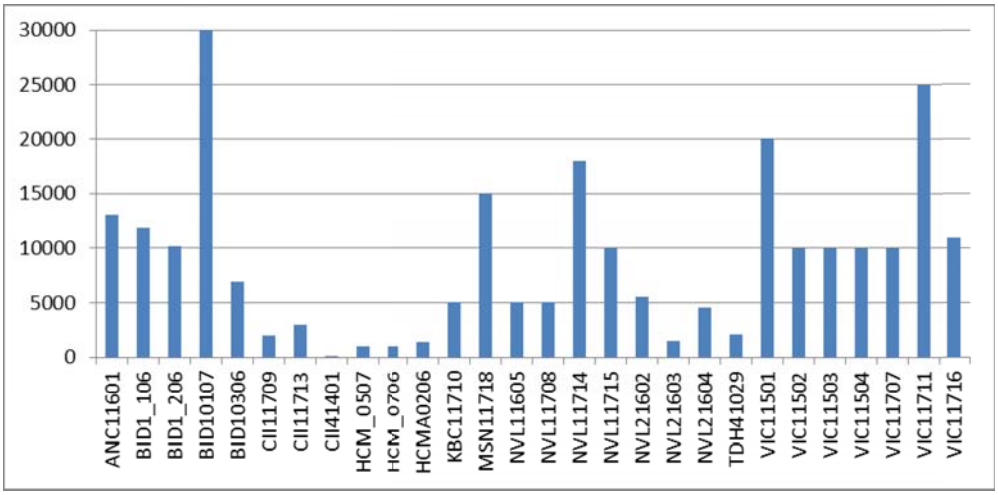

Figure 1: *Issue size of listed corporate bonds*

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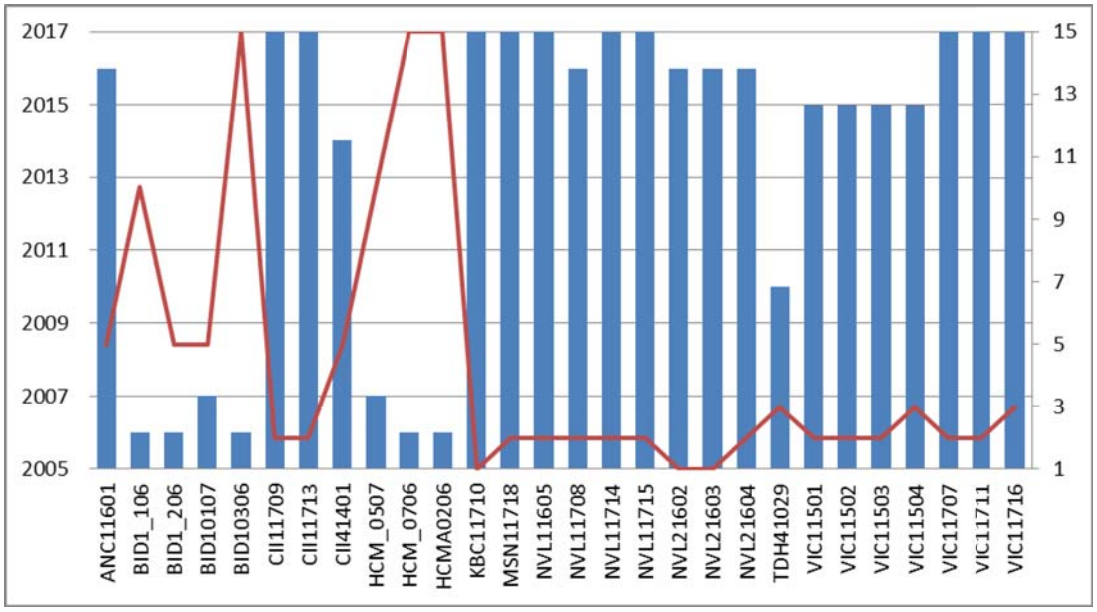

Figure 2: *Issued year and Term of listed corporate bonds*

Table 6: *Credit rating*

STT	Code	2012	2013	2014	2015	2016	2017
1	**ANC**	N/A	N/A	AA+	AAA+	A2	A3
2	**BID**	B+/B2	B+/B2	B+/B1	B+/B1	B+/B1	B+/B1
3	**CII**	BB+	BB+	BBB+	BBB+	A3	B1
4	**HCM**	AA+	AA+	AA+	AA+	A2	A3
5	**HCMA**	N/A	N/A	N/A	N/A	N/A	N/A
6	**KBC**	B-	B-	B-	B-	A3	A3
7	**MSN**	A+	BBB+	BBB+	A+	A3	A3
8	**NVL**	BBB+	B-	BB+	BB+	A3	A2
9	**TDH**	BBB+	BBB+	BBB+	BBB+	A2	A2
10	**VIC**	BBB+	A+	BBB+	BB+	A2	A2

Source: CIC

sand VND/bond in 2016 to 192 thousand VND/bond in 2017.

4.2. Correlation analysis

We examine the correlation between dependent variables and the correlation between dependent variables and independent variables. Variables have a close relationship when the correlation coefficient is greater than 0.7 (Nguyen Quang Dong và Nguyen Thi Minh, 2013). Results are as follow:

The minimum correlation coefficient of dependent variables is greater than 0.5. In which, the correlation of TIMES, NBOND and TOVER is quite close (the correlation coefficient is greater than 0.8). The correlation of VOL and other variables is low, but it can be accepted because of the correlation coefficient is greater than 0.5. This shows the correlations of this dependent variables is quite close and they can be used to measure trading volume of listed corporate bonds.

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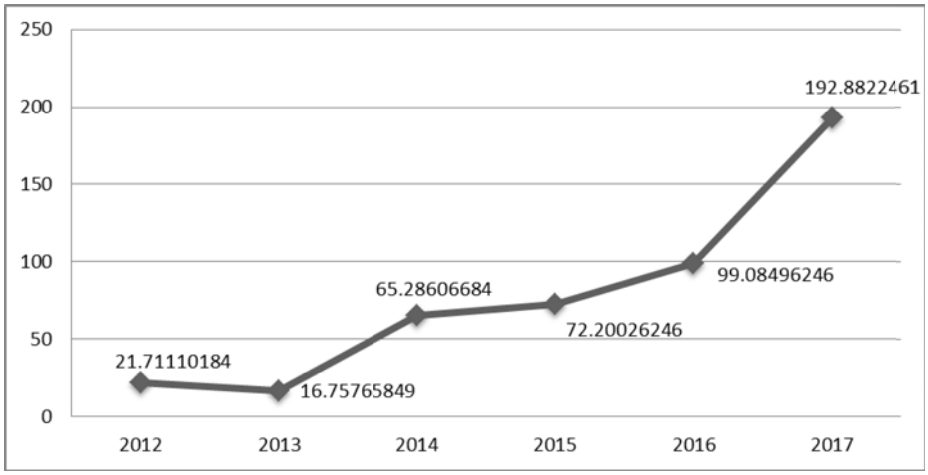

Figure 3: *The averageof VWAP (thousand VND/bond)*

Table 7: *The correlation of dependent variables*

	TIMES	NBOND	TOVER	VOL
TIMES	1			
NBOND	0.822	1		
TOVER	0.842	0.998	1	
VOL	0.531	0.607	0.617	1

Table 8: *The correlation between dependent variables and independent variables*

Dependent variables / Independent variables	TIMES	NBOND	TOVER	VOL
SIZE	0.119	0.169	0.170	-0.040
AGE	0.428	0.431	0.439	0.446
RATING	0.285	0.129	0.145	0.068
DVWAP	0.239	0.227	0.235	0.209

The correlation coefficients between dependent variables and independent variables are lower than 0.7. This ensures the model is suitable because there is no multicollinearity (Nguyen Quang Dong và Nguyen Thi Minh, 2013).

4.3. Analysis for results of estimating

Basing on table 9 and chart 1, model (1) and model (2) areestimated by FEM, model (3) is estimated by REM and model (4) is estimated by POLS. Results are as follow:

4 models are significant at 1% (Probabilities are equal to 0.000). The R2 coefficient shows how many percentages which independent variables explain the change of the dependent variables (Nguyen Quang Dong and Nguyen Thi Minh, 2013). The results of model (1), (2), (3) and (4) are 39.79%, 60.48%, 57.6% and 25.77%respectively. The remaining changes of the dependent variables are explained by other factors.

Table 9: *Results of selecting regression method*

Dependent variables / Results	TIMES	NBOND	TOVER	VOL
	9.73	18.17	9.52	1.15
xttest0	*0.0009*	*0.000*	*0.0010*	*0.142*
	10.25	15.45	6.67	x
Hausman	*0.0365*	*0.0038*	*0.1542*	x
Method	FEM	FEM	REM	POLS

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Table 10: *Results of 4 regression models*

Dependent variables	TIMES	NBOND	TOVER	VOL
Method	FEM	FEM	REM	POLS
R^2 - within	0.5990	0.7592	0.6013	x
R^2 - between	0.0124	0.2465	0.5075	x
R^2 - overall	0.3979	0.6048	0.5760	0.2577
F-statistic	*50.79*	*107.20*	*231.60*	*11.25*
Probability	0.000	0.000	0.000	0.000

Table 11: *Estimated results of model (1)*

Independent variables	Coefficient	Std.Dev.	Probability
LSIZE	x	x	x
AGE_2	1.887	0.400	0.000
AGE_3	2.235	0.313	0.000
RATING	0.252	0.211	0.236
DVWAP	0.005	0.003	0.056
CONS	-0.203	0.132	0.128

Model (1) is used FEM method, so that LSIZE - have not changed over time - have not significant, or do not affect to dependent variable (Table 11). Age is set to dummy variables:

- AGE_1 = 1 if bonds have not been issued, = 0 if in contrast.
- AGE_2 = 1 if bonds' age is more than 2 years, = 0 if in contrast.
- AGE_3 = 1 if bonds' age is less than or equal 2 years, = 0 if in contrast.

Estimated results show AGE_2 and AGE_3 are significant at 1%, DWAP is significant at 10%. RATING is not significant at 10% because of issuers are big corporations or state - owned corporations which have low default risk. Therefore, model (1) has a form as follow:

TIMES = - 0.203 + 1.887AGE_2 + 2.235AGE_3 + 0.005DVWAP + e

In which:

Model with bond's age is over 2 years (AGE_2 = 1; AGE_3 = 0):

TIMES = - 0.203 + 1.887 + 0.005DVWAP + e

Model with bond's age is less than or equal to 2 years (AGE_2 = 0; AGE_3 = 1):

TIMES = - 0.203 + 2.235 + 0.005DVWAP + e

Bonds which their age is less than or equal to 2 years have number of transactions (TIMES) is greater than bonds which their age is over 2 years. Moreover, DVWAP also has positive effect tonumber of transactions.

Model is estimated by using FEM method, so that LSIZE has no significant or LSIZE does not affect to trading volume. The results show that AGE_2, AGE_3 and DVWAP is significant at 1% and RATING is not significant at 10%. Model (2) about number of bonds traded (NBOND) has the form as follow:

NBOND = -0.506 + 10.162AGE_2 + 8.327AGE_3 + 0.063DVWAP + e

In which:

Model with bond's age is over 2 years (AGE_2 = 1; AGE_3 = 0):

NBOND = -0.506 + 10.162+ 0.063DVWAP + e

Model with bond's age is less than or equal to 2 years (AGE_2 = 0; AGE_3 = 1):

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Table 12: *Estimated results of model (2)*

Independent variables	Coefficient	Std.Dev.	Probability
LSIZE	x	x	x
AGE_2	10.162	1.381	0.000
AGE_3	8.327	1.081	0.000
RATING	-0.104	0.729	0.887
DVWAP	0.063	0.009	0.000
CONS	-0.506	0.457	0.270

NBOND = -0.506 + 8.327+ 0.063DVWAP + e

The results of model (2) show that DVWAP has the positive effect to NBOND. It is similarwith the results of model (1). In contrast, bonds which their age is over 2 years have number of bonds traded is greater than bonds which their age is less than or equal 2 years. It is because of BID bonds (bonds of BIDV) which have many bonds traded in this period. They are long-term bonds, were issued from 2006 or 2007. They will be due in the period of 2012-2017.

Because of using REM method, LSIZE will have significant in model (3). LSIZE, AGE_2, AGE_3, DVWAP are significant at 1% and RATING is not significant at 10%. Model (3) about turnover has the form as follow:

TOVER = -9.552 + 0.623LSIZE + 3.5AGE_2 + 3.939AGE_3 + 0.017DVWAP + e

In which:

Model with bond's age is over 2 years (AGE_2 = 1; AGE_3 = 0):

TOVER = -9.552 + 0.623LSIZE + 3.5 + 0.017DVWAP + e

Model with bond's age is less than or equal to 2 years (AGE_2 = 0; AGE_3 = 1):

TOVER = -9.552 + 0.623LSIZE + 3.939+ 0.017DVWAP + e

We can see that LSIZE and DVWAP have positive effects to turnover of listed corporate bonds.

Table 13: *Estimated results of model (3)*

Independent variables	Coefficient	Std.Dev.	Probability
LSIZE	0.623	0.140	0.000
AGE_2	3.500	0.475	0.000
AGE_3	3.939	0.543	0.000
RATING	-0.494	0.339	0.145
DVWAP	0.017	0.005	0.000
CONS	-9.552	2.207	0.000

Table 14: *Estimated results of model (4)*

Independent variables	Coefficient	Std.Dev.	Probability
LSIZE	-0.081	0.041	0.052
AGE_2	0.499	0.163	0.003
AGE_3	1.439	0.231	0.000
RATING	-0.314	0.133	0.019
DVWAP	-0.003	0.002	0.089
CONS	1.398	0.657	0.035

Besides,bonds which age is less than or equal 2 years have greater turnover.

POLS is used for model (4). AGE_3 is significant at 1%, AGE_2 and RATING are significant at 5%, LSIZE and DVWAP are significant at 10%. The form of model (4) is as follow:

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VOL = 1.398 – 0.081LSIZE + 0.499AGE_2 + 1.439AGE_3
– 0.314RATING – 0.003DVWAP + e

In which:

Model with bond's age is over 2 years (AGE_2 = 1; AGE_3 = 0):

VOL = 1.398 – 0.081LSIZE + 0.499– 0.314RATING – 0.003DVWAP + e

Model with bond's age is less than or equal to 2 years (AGE_2 = 0; AGE_3 = 1):

VOL = 1.398 – 0.081LSIZE + 1.439– 0.314RATING – 0.003DVWAP + e

The results of model (4) are different from the results of other models. LSIZE, RATING and DVWAP have negative effects to VOL. It may be due to the low correlation between dependent variable and independent variables of model (4). However, this model also shows bonds which are 2 years old or younger have greater VOL than bonds which are more than 2 years old.

4.4. Discussion

There are some our comments about this paper's results:

- Theories about the factors affecting the trading scale of listed bonds show similarities and feasibility in empirical research in Vietnam.

- According to the results of 4 models, issue size, age, default risk and price variability have impacts to trading volume of bonds. In which:

+ Number of transactions, turnover and value of bonds traded per value of outstanding bondsof bonds have been outstanding 2 years or less are greater than those of bonds have been outstanding over 2 years. This results is the same with studies of Alexander et al. (2000), Hotchkiss and Jostova (2017) and Wahyudi and Robbi (2009). In contrast, bonds have been outstanding over 2 years have number of bonds traded greater than bonds have been outstanding 2 years or less.

+ Price variability has positive effect to trading volume of listed corporate bonds. It is similar to studies of Harris and Raviv (1993)andAlexander et al. (2000).

+ Issue size has positive effect to turnover but negative effect to value of bonds traded per value of outstanding bonds. It is not quite the same with studies of Alexander et al. (2000), Hotchkiss and Jostova (2017) and Wahyudi and Robbi (2009).

+ In contrast to previous studies, default risk has uncertain effect to trading volume. It can be explained by the fact that corporate bonds are not ranked and almost of issuers are big enterprises or state - owned enterprises which have low credit risk in Vietnam.

Table 15: *Results of 4 models*

Independent variables	CoefficientNTIMES	CoefficientNBOND	CoefficientTOVER	CoefficientVOL
LSIZE	x	x	0.623***	-0.081*
AGE_2	1.887***	10.162***	3.500***	0.499***
AGE_3	2.235***	8.327***	3.939***	1.439***
RATING	0.252	-0.104	-0.494	-0.314**
DVWAP	0.005*	0.063***	0.017***	-0.003**

*In which: *: significant at 10%, **: significant at5%, ***: significant at1%*

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- Some limitations of this study: (1) The scope of this studyis only listed corporate bonds. Trading volume of listed corporate bonds is very small in comparison with private trading volume. So that, it is not completely representative of the size of the secondary corporate bondmarket; (2) There are only 4 independent variables which do not fully reflect the factors affecting to trading volume of listed corporate bonds.

5. Conclusions

The secondary corporate bond market plays a very important role for the operation of the business and the economy of a country. Understanding the factors affecting the development of the market becomes an urgent and inevitable issue. This paper has developed an econometric model that specifically shows the correlation between the impact factors and the trading volume of listed corporate bonds. This paper also gives specific results about the change of trading volume when the impact factors change. The research results show that the age, price variability, issue size and default risk are factors affect to trading volume of listed corporate bonds in Vietnam. In particular, the age of bonds is the most powerful factor affecting trading volume. Bonds which have been outstanding 2 years or less have greater trading volume than those which have been outstanding over 2 years. Therefore, in order to increase the liquidity of listed bonds, issuers can issue bonds with shorter terms, about 3-5 years.In addition, due to specific characteristics in Vietnam, credit rating does not show a clear relationship with trading volume. This does not mean that there is no need to consider the default risk of bonds. On the contrary, the State should issue specific regulations on information transparency and bond credit ratings. This will help investors to make right decisionsand help small and medium enterprises to raise capital by bonds and increase the liquidity of issued bonds.◆

References:

1. Alexander Gordon J., Amy K. Edwards và Michael G. Ferri (2000), *The determinants of trading volume of high-yield corporate bonds*, Journal of Financial Markets, Vol 3,177 - 204.

2. Harris Milton và Artur Raviv (1993), *Differences of Opinion Make a Horse Race*, The Review of Financial Studies,Vol 6(3), 473-506.

3. Hotchkiss Edith và Gergana Jostova (2017), *Determinants of corporate bond trading: A comprehensive Analysis*, Quarterly Journal of Finance,Vol 7(2),1-30.

4. Le Thu Ha (2018), *Report 2017: Corporate bond, VCBS*, Hanoi.

5. Nguyeng Quang Dong and Nguyen Thi Minh (2013), *Econometric, 2nd Edition*, National Economics University, Hanoi.

6. Nguyen Thi Minh, Hoang Bich Phuong, Trinh Trong Anh, Vu Duy Thanh và Pham Bao Lam (2014), *Vietnamese demographics and some socio-economic issues*, Lao Dong, Hanoi.

7. Wahyudi Imam và Abdu Robbi (2009), *Exploring Determinant Factors of Bond Trading with Inventory Management Theory (Case Study of Indonesian Capital Market, January - March 2009)*, Indonesian Capital Market Review,87-108.

Summary

Thị trường trái phiếu doanh nghiệp (TPDN) có vai trò quan trọng trong việc hình thành vốn dài hạn cho doanh nghiệp. Trong đó, thị trường trái phiếu thứ cấp có tác dụng tăng tính thanh khoản và xác định giá của các trái phiếu được phát hành trên thị trường sơ cấp. Từ đó, thị trường thứ cấp tạo ra động lực phát triển cho thị trường sơ cấp nói riêng và toàn bộ thị trường nói chung. Tại Việt Nam, quy mô của thị trường trái phiếu doanh nghiệp nói chung và thị

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trường thứ cấp nói riêng vẫn còn rất nhỏ bé. Điều này được thể hiện rõ nhất ở quy mô giao dịch hàng năm của các trái phiếu được niêm yết. Vì thế, xem xét các yếu tố tác động tới quy mô giao dịch trái phiếu hàng năm là cơ sở để tìm kiếm các giải pháp phù hợp nhằm thúc đẩy sự phát triển của thị trường. Nghiên cứu đã xây dựng mô hình kinh tế lượng về một số yếu tố tác động đến quy mô giao dịch của TPDN niêm yết trên thị trường chứng khoán Việt Nam. Kết quả kiểm định cho thấy tuổi của trái phiếu, biến động lợi nhuận và quy mô phát hành là những yếu tố có tác động rõ rệt tới quy mô giao dịch của TPDN niêm yết.

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