

Capital Structure, Cost of Debt and Dividend Payout of Firms in New York and Shanghai Stock Exchanges

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ABSTRACT: The Study collects panel data of listed firms in New York Stock and Shanghai Stock Exchanges during 1992 to 2008. The data are used to perform panel regression estimates for firms in each stock market. The main purpose is to compare the decision on dividend payout of listed firms in the two stock markets. The results from fixed effect estimates show that factors that can explain dividend payout of firms in New York Stock Exchange poorly explain dividend payout of firms in Shanghai Stock Exchange. This paper adds to the literature in that it provides an evidence of difference in dividend policy of firms between advanced and emerging stock markets. For policymakers in the Chinese economy, implementation of measures to enhance the advancement of bond market is necessary. Additionally, firms in Shanghai Stock Exchange should adjust their capital structure to provide room for investors to diversify and adjust their portfolios of stocks and bonds.

Keywords: Dividend payout; debt financing; equity financing; cost of debt; panel regression; stock markets

JEL Classifications: G35; G30

1. Introduction

The decision on the capital structure is important in providing the supportive funds and monitoring the creditors' involvements. The capital structure might comprise a mixture of more equity and lower debt, and vice versa. Therefore, it should be planned and budgeted for future operations. If the firm incurs higher debt in the present, it will have a burden to pay higher interest in the future even though certain tax shielding can be beneficial to the firm. On the other hand, if the firm issues more equity, the increasing amount of outstanding shares imposes the pressure on the firm to pay higher dividends in the future. As a result, the firm will experience less available cash flows for maintaining its sustainable growth. Recognizing the executives' influences on the execution of policy and operation, managers of the firm have an obligation to make business decisions, not only hinge on contractual agreement of wealth maximization via profit creation, but also on personal benefits and utility, which can result in the so called agency problem. In general, the existence of asymmetric information may induce executives to advocate less effort to generate real free cash flows for the firm if they expect that the adverse impact on the firm is not harmful to their career. Another possibility is that executives may concentrate on the amount of dividend distributed to shareholders. Investors and shareholders do not only act as the principal, but also act as consumers by consuming the products produced by the firm in the sense of overall aggregation. In addition, the shareholders possess the right to switch their investment from stocks to bonds issued by the firm or switch their investment to other firms. A change in dividend payment can cause misunderstanding and even conflicts among partners due to the distrusts and uncertain decision on dividend policy. Theoretically, there are crucial determinants of dividend policy that simultaneously reach a possible equilibrium solution for both firm and its investors.

In the era of rising Asian economies, emerging stock markets are evolving themselves in the direction of more maturity and advancement. This can be observed by rising trend in market capitalization during the past decades. Emerging market economies have experienced a dramatic change and growth starting from 1994. This phenomenon was more pronounced from the year 2002 to 2003. The increased market capitalization in emerging stock markets further causes the characteristics of dividend behavior to change, especially the size of dividend yield and the determinants for dividend payouts. The upward movement of dividend yield shows an improvement of return on capital investment in emerging markets.

The present study aims to apply an empirical model to the data of firms from New York and Shanghai Stock Exchanges. The reason for choosing these two stock markets is that the New York Stock Exchange (NYSE) is the well-developed stock market while the Shanghai Stock Exchange (SSE) is an emerging one. Previous empirical studies indicate that dividend policy behavior of corporations operating in emerging markets is significantly different from the widely accepted dividend policy in developed markets (Adaoglu, 2000, among others). In addition, dividend policy of firms in developed markets is stable while that of emerging markets is unstable. Contrary to the finding of Adaoglu (2000), Aivazian *et al.* (2003) find that firms in the U. S. market and emerging markets exhibit similar dividend behavior. However, emerging market firms are more sensitive to some variables, which indicate the greater financial constraints under which they operate. Furthermore, emerging market firms seem to be affected by asset mix, which seems to be due to their greater reliance on bank debt under bank-dominated environments. We use firm-level panel data of listed firms in NYSE and SSE. The data are retrieved from the *Data Stream*. The period covers the year 1992 to 2008. The Shanghai Stock Exchange is the typical representative of largest size compared to those of other emerging markets. The fast economic recovery coupled with the recent economic strength cause China to play more important role in the world market. Our empirical results reveal that financial leverage of firms (or debts), equity issuance, financial cost of debts considering tax shield, interaction between equity finance and certain types of investment strategy, and combination effects of all factors jointly explain dividend behavior of NYSE listed firms. On the contrary, these factors poorly explain dividend behavior of SSE listed firms.

The organization of our paper is as follows. The following section reviews the previously related studies on dividend policy of firms. The third section presents our empirical dividend policy model, the sample data and the estimation method. The empirical results are presented in the fourth section. The last section gives concluding remarks.

2. Literature Review

Earlier empirical evidence of the impact of dividends on share prices is contributed by Cambell and Beranek (1955), which indicates that dividends can signal information of firms to shareholders with different characteristics of tax preference. Lintner (1956) proposes a path-breaking mathematical dividend policy model explaining how companies decide on dividend rates. The emergence of dividend model proposed by Miller and Modigliani (1961) states that managed dividend policies neither increase nor decrease shareholders' wealth in a complete and perfect capital market unless they cause the investment policies of companies to change. A number of studies have focused on the so-called dividend puzzle. This puzzle called by Black (1976) stipulates that a substantial portion of firms' earnings are paid as dividends. Researchers have tried to investigate this puzzle empirically. One of the main themes of previous empirical studies is to examine the influence of various factors on the dividend behavior of companies in both developed and emerging stock markets.

There seems to be no consensus as to what factors affecting corporate dividend policy. Furthermore, it is not clear how these factors interact. Even though a number of theories have been proposed, extensive theoretical proposition is based on information asymmetry. This theory documents on whether or not dividends convey information about current and future earnings (Bhattacharya, 1979; Miller and Rock, 1985, among others). On the other hand, the agency theory proposed by Easterbrook (1984) indicates the importance of agency costs to dividend payout. When firms pay dividends, agency cost will increase because agencies will monitor and discipline the financial markets due to their expectations that firms will raise additional capital through these markets.

In the finance literature, dividend policy is the practice of management decision on the size and pattern of cash distributions to stockholders over time. This practice can be observed by dividend payout behavior of firms. Some previous studies have paid attention to what factors determine dividend policy or dividend payout ratio. Glen *et al.* (1995) find that emerging market firms tend to have a target dividend payout ratio like those in developed markets, but are less concerned with dividend volatility over time. Therefore, dividend smoothing over time may be less important. Adaoglu (2000) finds the evidence similar to that of Glen *et al.* (1995). In addition, there are significant differences between dividend policies of firms in the Istanbul Stock Exchange and those in developed markets.

Some empirical studies have focused on the impacts of capital structure and cost of debt on dividend payout ratio. Jalilvand and Harris (1984) examine financing decisions of U. S. firms by paying attention to capital structure and dividend targets. Using individual firm data, they find that financing decisions on the issuances of long-term and short-term debts, maintenance of corporate liquidity, issuance of new equity and payment of dividends are interdependent. Furthermore, firm size, interest rate condition, and stock price levels affect the speeds of adjustment to long-run financial targets even though the speeds of adjustment may vary among companies. The cost of debt can be controlled by firms when they decide on the capital structure. An increase in the cost of debt is attributed by the decision to pay more for bondholders when firms decide to borrow. The important factor that affects both cost of debt and cost of capital is the tax rate. Suppose higher tax rate is imposed on dividend and capital gain, stocks will become less attractive to investors if the tax rate on interest income is constant.

The conflict between bondholders and stockholders can cause the agency cost of debt to rise. The principal-agent model of Jensen and Meckling (1976) can explain this phenomenon. Kim and Sorensen (1986) test the relation between agency-principal problem and debt policy. They find that firms with higher insider ownership have greater debt ratio than those with lower insider ownership. In addition, high growth firms use less debt and the size of firms is not related to the level of debt. Mello and Parsons (1992) demonstrate the contingent claim model and show that the agency costs of debt arise from the conflicts among agencies. Jensen *et al.* (1992) find that insiders' ownership, investment spending on debt and dividend policy are directly and indirectly related across firms. Their results support a modified 'pecking order' hypothesis¹. In addition, firms with high insider ownership choose lower level of debt and dividends. Leland (1998) examines the joint determination of capital structure and finds that optimal capital structure reflects the tax advantages of debt. Furthermore, agency costs restrict leverage and debt maturity of firms, but their importance is small. Faccio *et al.* (2001) find that firms in Western Europe pay more dividends than those in East Asia due to better shareholder protection. Their finding implies that East Asian firms are likely to incur higher cost of debt resulting from lower dividend payment than interest income payment. Frank and Goyal (2003) test the pecking order theory using a broad cross section of publicly traded U. S. firms over the period 1971-1988. They find that internal financing is not sufficient to cover investment spending on average, but external financing is heavily used instead. However, debt financing does not dominate equity financing. This evidence is contrary to previous empirical findings. Fama and French (2002) indicate that more profitable firms and firms with fewer investments have higher dividend payouts. This finding confirms the trade-off and pecking order theory. Their finding that more profitable firms have lower leverage confirms the pecking order model, but contradicting the trade-off model, which indicate that firms will balance the cost and benefit when deciding on equity and debt financing. In short, they find negative relationship between leverage and dividend payment. In general, firms with more current investment have lower long-term dividend payouts. Gul and Kealey (1999) find that the Korean corporate sector is dominated by Chaebol (giant conglomerates) and is likely to encourage more debt financing. Results based on 411 firms show that the giant conglomerates carry higher debt. Moreover, growth options of firms are negatively related to leverage and dividend. They conclude that firms in the Korean corporate sector behave differently from those in the U. S. Employing a cross-section of the largest Chinese listed firms; Tong and Green (2005) find a significantly positive correlation between past dividends and current leverage from debt financing. Some studies find

¹ Pecking order theory posits that firms finance their projects by giving priority to internal funds first, followed by debt and equity financing. The modified theory stipulates that these financing strategies are related.

negative relationship between leverage and dividend payout (see Al-Twajiry, 2007 for Malaysian firms and Al-Malakawi, 2008 for Jordanian firms). When shareholders are well-protected, the ability of firms to issue debt instrument is limited. Milton (2004) shows that firm-level corporate governance and country-level investor protection are associated with higher dividend payouts. These two factors help reduce agency problem of firms in emerging market. However, Brockman and Unlu (2009) use a large sample of firms in 52 countries to test the notion that creditor rights can influence dividend policies. They find that the agency costs of debt play a more decisive role in determining dividend policies than the agency costs of equity.

3. Methodology

3.1 Empirical Model

A simple model of determinants of dividend payout is expressed as the following function:

$$\ln Div_{it} = a_0 + a_1 \ln ER_{it} + a_2 \ln RE_{it} + a_3 \ln CIT_{it} + e_{it} \quad (1)$$

where ER is earnings per share, RE is retained earnings, and CIP is corporate income tax rate. However, the simplified model may not be able to sufficiently capture dividend policy of a firm. More complicated model should be used.

The dividend policy model is based on the two-period dividend theory. The model with asymmetric information proposed by Miller and Rock (1985) among others is important in deriving optimal dividend payout. Certain variables or determinants are relevant to the dividend policy of a firm. The optimal level of dividend policy should accommodate satisfactions from the firm, agency and principal. We emphasize crucial variables that are relevant to dividend policy of the firm. The optimal dividend can be expressed in the following function:²

$$\ln Div_{it} = \beta_0 + \beta_1 \ln(B_{it}) + \beta_2 \ln(E_{it}) + \beta_3 \ln(CB_{it}) + \beta_4 \ln(EK_{it}) + \beta_5 \ln(COM_{it}) + \varepsilon_{it} \quad (2)$$

where B denotes debt financing and E represents the equity financing of the firm, which in fact is the sum of originally assumed equity in one unit and additional shares issued. This is simply the book value of equity, because only the book-value of equity represents the actual amount of capital that the firm raises from issuing stock, rather than the market value of stock or market capitalization. CB is the cost of debt financing, which is equal to one plus the after-tax rate of return. Pedhazur and Schmelkin (1991) suggest using multiple effects in multiple regression. If multiple effects are not included, the interpretation of each individual variable may be misleading. Therefore, EK is the interaction effect of equity financing and market investment preferences. This variable represents the interaction between equity financing and investors' preferences, specifically the impact of equity financing on investors' preferences in the capital market. We follow the procedure proposed by Desai and Dharmapal (2008) who demonstrate how important the interaction effect is. The last variable COM is the combination effect redefined as the factor that represents the combined effects of equity financing and debt financing along with other factors, i.e., cost of capital, tax shield, personal income tax on dividend, and investment strategy.

Financing policy of the firm is based on issuance of stock (equity instrument) and bonds with different maturities (debt instrument). A change in firm's capital structure over a certain time period exhibits a change in financing preference. In other words, a change in the ratio of equity to debt is a good proxy of firm's capital structure. Firms may rely on increasing debts when tax saving from deduction of interest expenses and the gain from issuing debt are higher than the cost paid for loans. Furthermore, the monitoring effect by stockholders may be working on improving the performance of firms. Otherwise, it will be the loss to firms using debt financing. On the contrary, issuing more shares of stock saves interest payments and increases the degree of distribution of dividends to shareholders. In fact there are passive and active effects of debt and equity financing. There should be changes in capital structure that accommodate the optimal dividend payment to shareholders.

Investors' investment strategy is difficult to observe. We rely on the assumption of theoretical model of principal's utility maximization, which allows wealth transferring among two periods and a switch between debt and equity instruments by investors. Investment strategy and dividend policy are

² We employ the log-linear equation because it provides the interpretation of the estimated results in terms of elasticity, which are easy to understand.

related by the fact that all firms in different industries face the same or similar investment preferences of investors in any given time period. Without losing generality, the growth rate of GDP can represent the accumulation of wealth. In addition, stock market capitalization can be a proxy showing that the amount of wealth will flow into the capital market. An increasing trend of growth rate over time causes changes in investors' preferences. Therefore, the proportion of stock market capitalization and GDP should not be constant.

3.2 Data

The annual data of 378 listed companies in Shanghai Stock Exchange are collected. The period of this study covers the year 1992 to 2008, which is 17 year period. The data in this study are panel data that include each firm's variables: interest expenses, capital structure, growth of dividends and personal tax on dividends, and investment strategy. For the New York Stock Exchange, we choose 537 listed firms with annual data of the same variables from the year 1992 to 2008. All the data are obtained from Data Stream. The collected data are used to formulate the dependent variable (dividend payout) and four independent variables (debt financing, equity financing, interaction effect, and combination effect). These four determinants or independent variables are expected to affect dividend payout. All variables in our panel regression are transformed to logarithmic data.

3.3 Estimation Method

We use panel regression for both stock markets. First, we employ pooled data least square estimate of equation (2). In pooled regression, the results are not reliable since the estimated coefficients may be biased. Furthermore, it is difficult to overcome serial correlation that may be present. Therefore, performing an analysis of fixed and random effects should be more preferable. The fixed effect estimation with cross-section fixed is performed on equation (3). However, we decide to include the time dummies in the fixed effect analysis. This fixed effect model assumes that the slopes are constant, but the intercepts differ according to time. The equation to be estimated is the following equation:³

$$\ln Div_{it} = \beta_0 + \beta_1 \ln(B_{it}) + \beta_2 \ln(E_{it}) + \beta_3 \ln(CB_{it}) + \beta_4 \ln(EK_{it}) + \beta_5 \ln(COM_{it}) + \lambda_1 D_{1992} + \lambda_2 D_{1993} + \dots + \lambda_{16} D_{2007} + u_{it} \quad (3)$$

where D denotes time dummy variable for each year from 1993 to 2007. In estimating the time fixed effect, we use sixteen dummy variables for 1992 to 2007. In the analysis, we treat the year 2008 as the base year. We then perform the random effect least-square estimate. Finally, the Hausman tests are used to test whether the random effect model is suitable in the analysis.

4. Empirical Results

We conduct the fixed and random effect analyses. The results of cross-section fixed effect are reported in Table 1. The results for the two stock markets are quite different. The estimated coefficient of debt financing of firms in NYSE is positive and significant at the 10 percent level while that of firms in SSE is insignificantly positive with a negligible size. For firms in NYSE, a one percent increase in debt financing causes dividend payout to increase by 0.852 percent while an increase in debt financing has no effect on dividend payout of firms in SSE. However, the estimated coefficients of equity financing are significantly negative for firms in both markets with a large coefficient for firms in NYSE. This indicates that a one percent rise in equity financing causes dividend payout in decrease by 3.936 and 0.315 percent for firms in NYSE and SSE respectively. The different relationship between dividend payout and cost of debt in the two markets can be observed by the negative coefficient for firms in SSE and the positive one for firms in NYSE. A one percent rise in the cost of debt causes dividend payout to rise by 1.098 percent for firms in NYSE, but causes dividend payout to fall by 0.006 percent for firms in SSE. The effects of interaction and combination of factors are not significant in SSE, but are highly significant in NYSE. The combined effect of variables is negatively related to dividend payout of firms in NYSE. In addition, the high value of R² explicitly suggests that there is high percentage of variation in dividend payout that is explained by the combination of all variables. This is not true for firms in SSE, i. e., the fixed effects at cross-section that the slopes are fixed and the intercepts vary over time reject the notion that these two variables (interaction and combination effects) are crucial determinants of dividend policy of firms for SSE. The

³ The dummy variables are added to equation (2) to detect the role of time fixed effect in panel regression.

coefficient of determination or R^2 is 0.916 and 0.654 for the cases of NYSE and SSE respectively. The estimated equation for firms in NYSE gives significant coefficients for all variables. However, the positive relationship between leverage and dividend found for firms in NYSE is contradictory to the prediction by Fama and French (2002). For SSE, only two determinants (equity financing and cost of debt) impose no impact on dividend policy of firms. The results also show that equity financing is more important than debt financing in both stock markets, which is contrary to the prediction of the pecking order theory.

Table 1. Results of Fixed Effect Least-Square Estimates: Cross-Section fixed

	New York Stock Exchange	Shanghai Stock Exchange
Variable	Coefficient	Coefficient
Debt financing	0.852* (0.484) [1.762]	0.001 (0.005) [0.239]
Equity financing	-3.936*** (1.361) [2.892]	-0.315*** (0.063 0) [-4.979]
Cost of debt	1.098* (0.618) [1.779]	-0.006*** (0.017) [-3.459]
Interaction effect	5.228*** (0.281) [2.791]	-0.060 (0.008) [-0.782]
Combination effect	-0.784*** (0.280) [-2.790]	0.032 (0.025) [1.256]
R^2	0.916	0.654
F-statistic	11.566	11.313
Mean dependent variable	-0.997	0.021
S. D dependent variable	14.443	0.945

Note: The interaction effect is between equity finance and market preference while the combination effect is between equity and debt finance along with other crucial factors. The number in parenthesis is standard error, and the number in bracket is t-statistic. ***, **and * denote significance at the 1, 5 and 10 percent respectively.

We further analyze the random effect using least square method, and the results are reported in Table 2. The results are almost the same as those in Table 1. However, the R^2 for firms in both market from random effect estimates are substantially lower than those of fixed effect estimates. This implies that are lower variations in dividend payout that is explained by all independent variables. In a similar manner, the results from random effect estimates show that estimated coefficients of all variables are significant in NYSE with the prominent size of coefficients for equity finance and interaction effect. On the contrary, the size of estimated coefficients of variables in SSE is quite small. It can be concluded that these results show that crucial factors affecting firms' dividend policy in NYSE cannot explain dividend policy of firms in SSE.

We compare the results from fixed and random effects under the null hypothesis that individual effects are uncorrelated to explanatory variables in our panel regression. The Gauss-Markov assumptions should not be violated. If the null hypothesis of no correlation is rejected, the random effect is biased. Therefore, the results from fixed effect will be more preferable. We use the Hausman test by Hausman (1978) and the results are reported in Table 3. The results show that the Chi-square statistics for both NYSE and SSE are large enough to reject the null hypothesis that individual effects are uncorrelated. This test indicates that the random effect model should be rejected. Thus the fixed effect results are suitable for both stock markets.

Table 2. Results of Random Effect Least-Square Estimates

	New York Stock Exchange	Shanghai Stock Exchange
Variable	Coefficient	Coefficient
Debt financing	0.941** (0.428) [2.201]	0.001 (0.004) [0.340]
Equity financing	-5.272*** (1.231) [-4.248]	0.227*** (0.267) [8.506]
Cost of debt	0.689* (0.484) [1.423]	-0.017*** (0.006) [-3.054]
Interaction effect	5.973*** (1.613) [5.134]	-0.113*** (0.014) [-9.277]
Combination effect	-1.151*** (0.268) [-4.287]	0.028 (0.021) [1.331]
R ²	0.411	0.039
F-statistic	121.933	19.618
Mean dependent variable	-4.409	-0.022
S. D dependent variable	6.587	0.634

Note: The interaction effect is between equity finance and market preference while the combination effect is between equity and debt finance along with other crucial factors. The number in parenthesis is standard error, and the number in bracket is t-statistic. ***, **and * denote significance at the 1, 5 and 10 percent respectively.

Table 3. Results of Hausman Test

A. New York Stock Exchange				
Test summary	Chi-square	df	p-value	
Cross-section random	61.909	5	0.000	
Variable	Fixed	Random	Var(diff.)	p-value
Debt financing	0.852	0.941	0.051	0.692
Equity financing	-3.937	-5.272	0.337	0.022
Cost of debt	1.098	0.689	0.147	0.286
Interaction effect	5.228	5.973	0.792	0.402
Combination effects	-0.784	-1.151	0.007	0.000
R ² = 0.916				
F-statistic = 11.566				
Mean dependent variable = -9.997				
S.D. dependent variable = 14.443				
B. Shanghai Stock Exchange				
Test summary	Chi-square	df	p-value	
Cross-section random	102.149	5	0.000	
Variable	Fixed	Random	Var(diff.)	p-value
Debt financing	0.001	0.001	0.000	0.839
Equity financing	-0.315	-0.227	0.003	0.000
Cost of debt	-0.006	-0.017	0.000	0.045
Interaction effect	-0.060	-0.133	0.000	0.000
Combination effects	0.032	0.028	0.001	0.778
R ² = 0.654				
F-statistic = 11.313				
Mean dependent variable = 0.021				
S.D. dependent variable = 0.945				

Note: The interaction effect is between equity finance and market preference while the combination effect is between equity and debt finance along with other crucial factors.

Based on the results in Table 1, dividend policy of firms in NYSE and SSE is determined by different factors. This confirms the finding of Aivazian *et al.* (2003) that emerging market firms are sensitive to some factors relating to greater financial constraints under which they operate.

Relying on the results from fixed effect analyses, we can conclude that all variables in the estimated equations are important in determining dividend policy of firms in NYSE. However, only equity financing and cost of debt play important roles in dividend policy of firms in SSE, but with minimal impacts.

The Chinese bond market is not well-developed even though it has been growing quite fast in the last few years. However, the bond outstanding is much smaller than those of more mature markets. In addition, the composition of bonds has been heavily biased towards government bonds (See Aglietta and Maarek, 2007). The situation forces firms in China to rely more on bank credits than issuing bonds. Furthermore, the significant impact of cost of debt on dividend policy of firms in NYSE implies that managers perceive the monitoring pressure from bondholders. However, the case cannot be applied to firms in SSE. Even if incurring liability can benefit firms via tax shield, investors will prefer investing in government bonds. Therefore, debt financing by issuing corporate bonds play no role in dividend policy of Chinese firms. Furthermore, the insignificance of the combination effect of all factors in SSE firms shows that the level of advancement and management intelligence are much more inferior to those of NYSE. The implication from the results of this study is that firms in an emerging stock market should change the capital structure by relying more on debt financing such that it will not delay their future expansion. The suggestion is that the Chinese financial system should not be heavily tilted towards the role of commercial banks. The well-developed bond market is desirable because it encourages firms to borrow more. Also, investors can invest more on corporate bonds with higher level of safety without taking high default risk.

5. Concluding Remarks

In previous empirical studies, there has been an argument about which factors influence the dividend policy of corporations. In this paper, we attempt to identify factors influencing dividend payouts of firms in NYSE and SSE. We use the panel data of 378 listed firms in SSE and select 537 listed firms in NYSE. These data are annual data from 1992 to 2008. In the panel data analysis, we conduct the fixed and random effect regressions. We then compare the results from fixed and random effects under the null hypothesis that individual effects are uncorrelated to explanatory variables. The results of Hausman test indicates that the results from fixed effect regression are preferable to draw a conclusion because the random effect model is rejected.

The fixed-effect panel regression estimates show that equity financing is more pronounced in determining dividend payout of firms in NYSE than those in SSE. When the time is fixed, we find that debt financing is less important for firms in SSE than in NYSE. Other variables such as interaction effect and combination effect play no role in determining dividend payout SSE. This evidence implies that investors care more for dividend than interest payment of firms in an emerging stock market. The main implication from our study is that firms in an emerging stock market, SSE in our study, should consider the optimal capital structure by relying more on debt financing such that investors can invest more on fixed-income securities. This will provide room for investors to diversify their portfolios. Moreover, policymakers should implement measures to enhance the advancement of Chinese bond and stock markets. The development of bond market should be the main focus so that firms will not rely heavily on bank loans. Furthermore, investors can invest more on corporate bonds with lower level of default risk.

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