

## What Type of Firms in China is Giving Cash Dividends?

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### Abstract

China has the fourth largest stock market worldwide, with more than 2000 companies listed at the Shanghai Stock Exchange (SSE) ([www.sse.com.cn](http://www.sse.com.cn)) and more than 2500 companies went public at the Shenzhen Stock exchange (SZSE) ([www.szse.cn](http://www.szse.cn)). The two main ways for listed firms in China to pay dividends are cash dividends and stock dividends. Just like the listed companies in other countries, only a fraction of firms pays cash dividends, and this brought financial economists' attention to why some pay cash dividends while others do not. By applying conditional (fixed-effects) logistic regression, based on total of 548 firms from the year of 2012 to 2015, the result with statistical significance suggests that larger and more profitable Chinese firms and those with less growth opportunities but greater proportion of earned equities tend to pay cash dividends, presenting as additional evidence on determinants of cash dividend policy.

**Keywords:** Cash dividend payers in China, Dividend policy, International  
**JEL codes:** G32, G35

### 1. Introduction

Before making decisions on whether to give cash dividends, firms need to decide whether they should pay dividends at all. According to the rule set by both Shanghai Stock Exchange and Shenzhen Stock exchange, the prices of the dividend-paying stocks drop by the amount of the dividends on the ex-dividend date. Investors or existing shareholders are being rewarded by dividends but also responsible for the dividend tax typically for the shareholders who held the stocks less than one year. The dividend tax is 20% for people who held stocks within one month and 10% for those who held stocks at more than one month but less than a year. If we simply think about the content of tax policy that relates to the dividend, then a good explanation for why some firms give dividends can be attracting new investors respective to the "fall of stock price" after dividend and discouraging short-term speculators on another hand. So, would this be the answer for why firms give dividends? Maybe, or maybe not. People usually think that the value of the firm goes down once the firm distributes the dividends to their shareholders, especially on the case of the cash dividends. But in fact, under the assumptions of the Modigliani-Miller theorem (Miller and Modigliani, 1961), also called capital structure irrelevance principle, the firms which are paying no dividends have the same value if they would have paid. Based on the question of why firms give dividends, the author Fischer Black mentioned some other possible answers in his paper, "Dividend Puzzle." For example, he states, the nonpayers are demonstrating confidence that they have attractive investment opportunities and paying dividends might lead to miss the opportunities (Black, 1976). He also suggests that the dividend problem is like a puzzle and the more we look into the picture of the dividend the harder to fit those pieces together (Black, 1976), to emphasize the complexity of the question about why some firms give dividends while others do not.

There might not be a consistent answer to why firms give dividends, being applicable to every firm, but finding out what types of firms are giving dividend can be useful for reapproaching this question. Igor Osobov and David Benis (2007) have already done some remarkable analysis across countries like US, Canada, France, Germany, UK, and Japan, to see what types of firms tend to pay dividends. The result indicates that payers tend to be large and profitable but also with greater proportion of earned equity mix. Noticing that those evidence are mainly based on developed countries, this triggers some scholars to think about if any instrumental evidence can also be found in developing countries. Following this concern, this paper provides a discussion based on China — one of the largest developing countries in the world. Rather than doing the all-type dividend analysis again, my topic focuses on one specific type of dividend — cash dividends, and this leads to the main question of the paper: *What type of firms are giving cash dividends in China?*

Cash dividends are paid directly in money to the shareholders, unlike the stock dividend or other forms of value. The firms' market shares and growth opportunities can be two determinants for the propensity of cash dividends. If we categorize the firms into four groups based on the definitions from growth-share matrix (1970s), a cash cow type of firms is most likely to pay the cash dividends, where the firms have relatively low market growth but high market share. The exemplary cash cow firm can be the Coca-Cola company, typically having four cash dividends per year. Another thing worth mentioning, firms' expectations of the future economy can also be a possible factor that influences the decision-making process on dividends. For example, firms are more likely to keep the cash in their hands rather than giving out cash to their shareholders, as part of cash reservations preparing for economic downturn, when they hold negative expectations of the future economy. It's not easy to quantify variables, such as the firms' expectations of the future economy, which are highly affected by changes in economy. As a consequence, this paper uses the time interval between 2012 and 2015, assuming that the variables like the firms' expectations stay similar across time, where the global economy is more stable concerning the foregoing financial crisis from 2007 to early 2009 (Adrian and Shin, 2010) and the following Covid starting at 2019 (Qiu, Chen and Shi, 2020).

## 2. Sample selection and data description

The sample comes from five separate data collected via China Stock Market & Accounting Research Database (CSMAR). The first data mainly provides a general dividend information for all listed firms from 1990 to 2022. It records the period of time and the amount of cash dividends that were distributed. The second and third data bring a yearly report of total asset, total liability and retained earnings for listed firms from 1990 to 2022. The fourth data contains each year's total profit, net profit, interest expense and taxes information for firms from 1991 to 2022. Finally, the fifth data allows us to track every firm's market value of equity since 1991. After merging all five data pieces into a single panel data, and then keeping the firms only with complete information, a total of 6920 observations have been included, corresponding to 1730 firms between the year 2012 and 2015.

## 3. Methodology/Model

Similar to what Igor Osobov and David Benis have done in their paper, my analysis results are based on the conditional (fixed-effects) logit model:

$$Y_{it} = X_{it}'\beta + \varepsilon_{it} \quad (1)$$

Conditional (fixed-effects) logistic regression can sometimes be seen as a special case of multinomial model, where the values of Y are constrained by 1 and 0 (a binary variable), and the regression predicts  $\hat{y}$  as a probability from 0 to 1:

$$P_{it} = \frac{e^{X_{it}'\beta}}{\sum_{m=1}^M e^{X_{im}'\beta}} \quad (2)$$

Table 1 gives the variable definitions. In my model, the dependent variable equals one if a Chinese listed firm gives cash dividends in year t and zero otherwise. Independent variables are: the size of the Chinese firm (the percentile rank based on the market value of total capital), the proportion of the market value of total capital to the book value of total assets ( $V_t/A_t$ ), the percent change of a firm's total asset ( $dA_t/A_t$ ), the proportion of earnings before interest to the book value of total assets ( $E_t/A_t$ ), and the proportion of retained earnings to total book equity ( $RE_t/BE_t$ ). The main purpose of this paper is to see the tendency for a Chinese listed firm to give cash dividends based on four aspects: profitability, growth opportunity, firm size, and earned equity. In the model,  $V_t/A_t$  and  $dA_t/A_t$  are seen as the measurements of a firm's growth opportunity, while  $E_t/A_t$  refers the profitability of a firm.

**Table 1.** Variable Definitions

| Variable    | Definition  |
|-------------|---|
| $Y_{it}$    | 1 if the listed Chinese firm gives cash dividends in year t, otherwise equals to 0                                |
| Size        | The percentile rank based on the market value of total capital, with the range from 0 to 100                      |
| $V_t/A_t$   | The proportion of the market value of total capital to the book value of total assets, with the range from 0 to 1 |
| $dA_t/A_t$  | The percent change of a firm's total asset, calculated by $(A_t - A_{t-1})/A_{t-1}$ , between 0 and 1             |
| $E_t/A_t$   | The proportion of earnings before interest to the book value of total assets, with the range from 0 to 1          |
| $RE_t/BE_t$ | The proportion of retained earnings to total book equity, with the range from 0 to 1                              |

Note:  $V_t, A_t, E_t, RE_t, BE_t$  are in "yuan"

#### 4. Results and Discussion

Table 2 reports average characteristics of cash dividend payers and nonpayers over the period of 2012-2015. Comparing with the average values for all firms, we see that cash dividend payers have averagely bigger values in  $E_t/A_t$ ,  $RE_t/BE_t$  and Size but smaller values in  $V_t/A_t$  and  $dA_t/A_t$ , while cash dividend nonpayers have smaller values in  $E_t/A_t$ ,  $RE_t/BE_t$  and Size but greater values in  $V_t/A_t$  and  $dA_t/A_t$  on average. At this point, it appears to fit the arguments from the all-type dividend cases, where firms with larger proportion of earned equity tend to pay dividends (Osobov and Benis, 2007) and dividend payers are likely to be the more profitable and larger ones but with less growth opportunities than the nonpayers (Fama and French, 2001). However, if we look closer to the details for each year, by referring figure 1-5, the claim of earned equity seems to be untenable in 2012, where the cash dividend payers actually have relatively lower  $RE_t/BE_t$  than cash dividend nonpayers. Because of this one incongruity, whether the firm's earned equity gives implications to the propensity of cash dividend becomes a question. Hence, it would be needed to take a look on the significant levels for corresponding coefficients by running a conditional (fixed-effects) logit regression to reaffirm any factors that truly affect the cash dividend decision making. From Table 3, it clearly shows that the firm's size, profitability and earned equity have positive effects on propensity of cash dividends, where all coefficients show statistical significance, while the effect of the growth opportunity shows in negative. Moreover, see figure 6, notice that the number of firms that gave cash dividends in China were gradually dropping from 2012 to 2015. This can be mainly explained by the sharply increases in  $V_t/A_t$  (growth opportunity) and decreases in  $E_t/A_t$  (profitability) since 2013, regarding the magnitudes and positivity of the corresponding coefficients from the conditional logit regression.

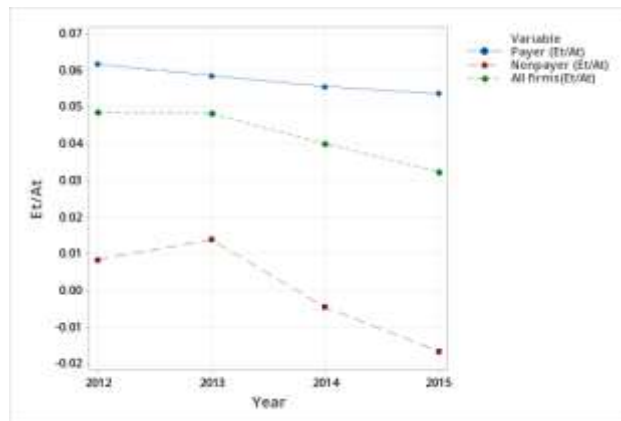
**Table 2.** Payer vs. Nonpayer

|           | Profitability | Growth    | Opportunities | Firm Size | Earned Equity |
|-----------|---------------|-----------|---------------|-----------|---------------|
|           | $E_t/A_t$     | $V_t/A_t$ | $dA_t/A_t$    | Size      | $RE_t/BE_t$   |
| All firms | 0.0423        | 2.9835    | 0.4608        | 50        | 0.1626        |
| Payer     | 0.0574        | 2.4078    | 0.2872        | 53.0166   | 0.2978        |
| Nonpayer  | -0.0007       | 4.6236    | 0.9554        | 41.4066   | -0.2225       |

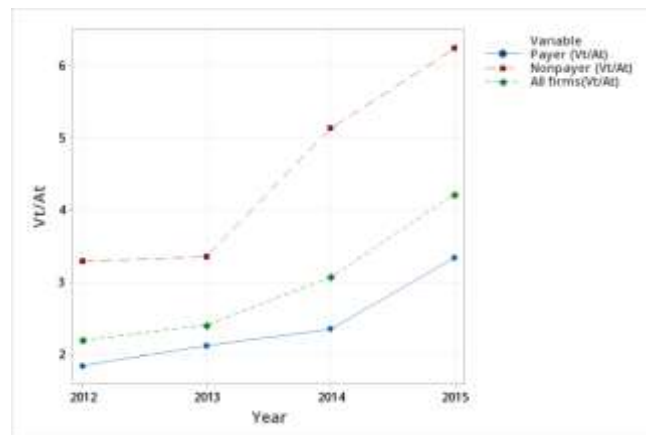
**Table 3.** Probability of Cash Dividends (conditional logit regression)

|             | Coef.      | Robust Std. Error. | P >  z |
|-------------|------------|--------------------|--------|
| Size        | 0.0200***  | 0.0067             | 0.003  |
| $V_t/A_t$   | -0.2502*** | 0.0503             | 0.000  |
| $dA_t/A_t$  | -0.0402    | 0.0288             | 0.163  |
| $E_t/A_t$   | 34.6163*** | 3.2972             | 0.000  |
| $RE_t/BE_t$ | 0.0199**   | 0.0096             | 0.037  |

Note: \*\*\* significantly different from zero at the 1 percent level.  
 \*\* significantly different from zero at the 5 percent level.



**Figure 1.** The average  $E_t/A_t$  (2012 - 2015)



**Figure 2.** The average  $V_t/A_t$  (2012 - 2015)

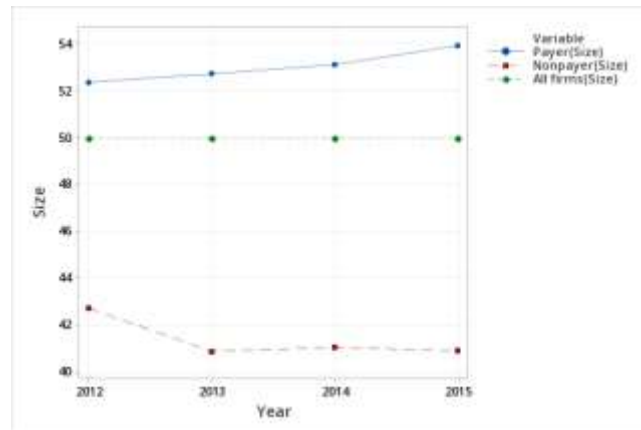


Figure 3. The average size (2012 - 2015)

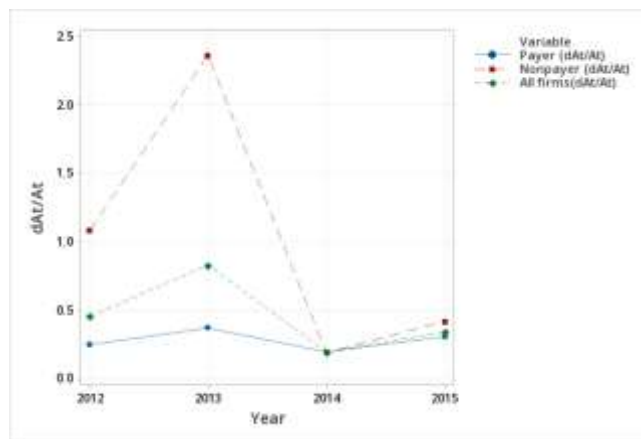


Figure 4. The average  $dA_t/A_t$  (2012 - 2015)

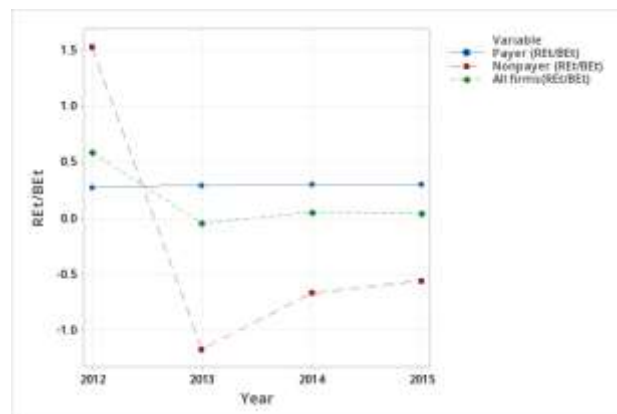


Figure 5. The average  $RE_t/BE_t$  (2012 - 2015)

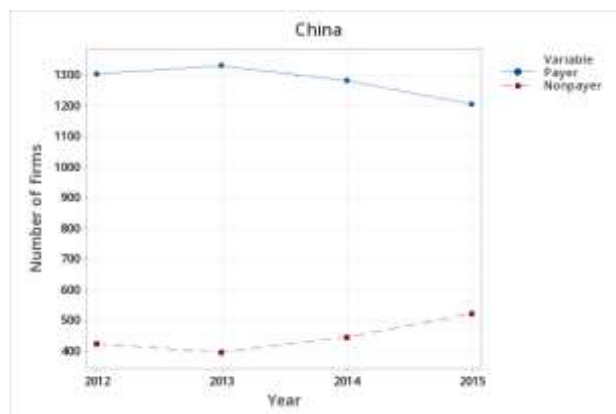


Figure 6. The number of cash payers/nonpayers

## 5. Conclusion

This paper, by using the conditional logit regression model, empirically discusses the evidence found in China about the determinants of giving cash dividends. From the results, a firm's size,  $V_t/A_t$ ,  $E_t/A_t$ , and  $RE_t/BE_t$  are showed significantly at 5% confidence level, but  $dA_t/A_t$ , as a part of measurements of a firm's growth opportunity, is not significant. The insignificance in  $dA_t/A_t$  is more likely due to the short time periods of the panel data. But overall, it is sufficient to conclude that the larger, more profitable firms with less growth opportunities but higher proportion of earned equities tend to give cash dividends in the case of China, and this consists with Fama and French (2001) and also matches the claim made by Osobov and Benis (2007) about the earned equity in the all-type dividend case. At the sight of this, it would be efficient for the firms with mentioned characteristics distributing cash dividends as a form of rewards or encouragements to long-term loyal shareholders, while holding appropriate amount of cash on hands would be a better choice for growing firms. From the investors' point of view, it would be helpful to look up firms' histories of cash dividends as a reference for further determinations on their potentials and conditions of the future returns.

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