How to choose Dividend Policy in China Based on Dividend Life-Cycle Hypothesis

Yingli Shen and Xiaoguang Lu
Business school, Hohai University, Nanjing 211100, China

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Abstract. This study examines the dividend policy for firms listed on the China’s Stock Exchange and test the dividend life-cycle hypothesis. Using the panel data of 2011-2013 years as a sample to construct Logit Panel Model to make empirical research on the choice of Chinese publicly traded firms’ dividend policy. Comprehensive applying related indexes --retained earnings to total assets, growth, profitability to judge the specific life cycle stage of listed corporation. The result shows a highly significant relation between the decision to pay dividends and dividend life-cycle hypothesis. Moreover, all evidences support dividend life-cycle hypothesis, it means that firms should only be required to pay dividends according to their stage or characteristics. Younger firms with higher growth potential tend to distribute stock dividends instead of cash dividends. When firms become more mature as characterized by lower growth potential prefer to distribute more cash dividends.

Keywords: Cash Dividends  Stock Dividends  Dividend Life-Cycle Hypothesis

1. Introduction

Dividend policy is one of the core financial problems, it has been the focus of academic research. Reasonable dividend policy has a significant impact on the company's long-term survival and development, which can not only reflect the company's good operating performance, but also inspire the investors to continuously invest in the company. However, China securities market starts late, in which the system construction is not perfect and the development of domestic research on dividend policy is still in the exploratory stage, so there
are many irregularities listed at the dividend distribution. As the increasing number of listed corporation, enterprise managers, investors, policy makers are all faced with more and more decision-making problems associated with the dividend distribution policy. Therefore, more extensive theoretical and empirical researches can more profoundly reveal the problems of listed Corporations’ dividend policy, to further promote the development of China securities market and protect the interests of investors.

So far, the theories of dividend policy emerge in an endless stream, scholars have formed many schools from different angles. The western dividend theory can be divided into traditional dividend theory and modern dividend theory. Traditional dividend theory include “bird-in-one-hand” theory and MM theory. Modern dividend theories include taxation difference theory, clientele effect, signaling hypothesis and agency cost hypothesis. These theories all have great influence, but so far have not given consistent and convincing conclusion.

Fama E., French K (2001) divided the listed companies into two categories of dividend payments ones and pay no dividend ones, using Logit empirical regression test from the perspective of Profitability, investment opportunities, company size, etc. The results showed that larger firms which with higher profitability, were more likely to pay dividend payments and had higher pay level; while, the companies which with more investment opportunities, low profitability and stronger growth ability, have smaller possibility of paying dividends and low pay level. Thus the company's dividend policy options associated with the life cycle.

Notably, DeAngelo H., DeAngelo L., Stulz R.M (2006) introduced the life cycle theory into dividend policy study for the first time, direct using life cycle theory to explain the motivation of listed corporations’ dividend policy choice. Consequently, they raised the dividend life-cycle hypothesis. They pointed out that the enterprise which is in the young stage of enterprise life cycle, face a lot of investment opportunities, with relative shortage of financial resources, so tend to retain profits for reinvestment; while other companies in mature stage, with fewer investment opportunities, they prefer to distribute cash dividend. They established direct links between the dividend policy and enterprise life cycle, which laid the foundation for the research of dividend life-cycle. Since then, the study of dividend policy had entered a new era.

Subsequent researches draw more or less lessons from the methods of DeAngelo H., DeAngelo L., Stulz R.M (2006), but choosing different financial indicators. For example, Denis D.J. and Osobovl. (2008) also documented the ratio of retained earnings to equity as a significant factor affecting dividend
policies in six developed financial markets (the U.S., Canada, the U.K., Germany, France, and Japan) and got conclusions similar to DeAngelo et al.

MingHui Wang, DayYang Liu and YenSheng Huang (2011) used listed companies in Taiwan as samples to examine dividend life-cycle theory. Empirical studies show that compared to listed companies issuing cash dividends, listed companies issuing stock dividends gained a high asset growth rate significantly. Young firms with high growth potential tend to issue stock dividend; And when the enterprises were more and more mature, they tend to distribute cash dividends.

The Researches on dividend policy theory starts late in China, many scholars get more or less conclusions in empirical studies which support dividend life-cycle hypothesis.

Yang Hanming (2008) used retained earnings to equity (RE/TE) and enterprise value (Tobin’s Q) as the independent variables to exam the willingness of firms disturbing dividend in China. The empirical results show that listed companies pay dividends significantly correlated with enterprise life cycle and enterprise value, dividend payment may lead to the fall in the value of the enterprise. Although Yang Hanming (2008) pointed out that it was not appropriate to take cash dividends of listed companies as a condition of enterprise refinancing. But in this empirical study, they didn’t distinguish between stock dividends and cash dividend, but combine the two essential different dividend policies together for empirical research.

Li changqing, Peng feng (2009) selected A-share non-financial listed companies from 2000 to 2006 as samples, and adopt three indicators--increase rate of main business revenue, capital–expenditure rate, operating net cash flow to total assets, to divide the enterprises’ life into three stages: growth, maturity and decline. The study found that enterprise with better profitability are more likely to pay dividends. They thought the enterprise would decide how to make dividend distribution depending on which life cycle phase it was in. To some extent, this study supports the dividend life-cycle theory. We can refer to its method of dividing the firm life cycle.

Song Futie and Qu WenZhou (2010) found that listed companies’ willingness to pay cash dividend have obvious life cycle characteristics and the cash dividend payment level does not have a life cycle characteristics. Song Futie and Qu WenZhou (2010) did Logit regression by data of every year of 528 Shanghai A-share companies from 2010 to 2008, then take the average value of the coefficient,without setting up panel data. It is obviously not comprehensive to only use retained earnings to total assets as the proxy indicators of enterprise
life cycle. Since then, Song Futie Liang Xinying (2010), Wang Fuqiang (2013), Yi Yanxin, Liu kaikai and Hu Wei (2013) and so on also applied a similar approach to do empirical research, made no major breakthroughs.

To sum up, the dividend policy research from the angle of life cycle theory is relatively mature in the overseas stock market, but the research based on empirical data of China securities market is very rare, what’s more, there are significant limitations in theory and method. Domestic scholars always use cross-sectional logit models to study dividend life-cycle hypothesis. Although someone select multi-year panel data, they still regard it as the cross section data by some way to construct simple cross-section logit model. It is easy to lose a large amount of information formed by time movement of panel data and difficult to make a full and comprehensive explanation about the life cycle characteristics of the dividend policy. In addition, owing to the lack of systematic theoretical study about the division of the life cycle of enterprise evaluation and determination of the proxy indicators, all of the study show a simple and chaos coexisting phenomenon. Obviously, it needs urgently to explore in depth.

Thus, based on the life cycle theory, this paper uses the panel data of 2011-2013 years in China securities market as a sample, and constructs logit panel model and make robustness test to research the choice of Chinese listed firms’ dividend policy. There are a lot of breakthroughs in this paper. Firstly, building the logit panel model, from two angles of cross-sectional and time series, to comprehensive explain the life cycle characteristics of Chinese listed companies' dividend distribution; Secondly, using correlated index – retained earnings to total assets, growth, profitability to comprehensive analyse the listed corporation's life cycle from three different levels and then to study the relationship between the listed corporation management status and dividend policy choices; Finally, applying the robustness test from the development perspective, to improve the effectiveness and universality of the empirical study of the dividend life-cycle hypothesis.

2. Basic Assumption

According to life cycle theory, due to located in different stage of the enterprise's life cycle, enterprise scale, profitability, the investment opportunity, growth opportunity of the firm is also different. Therefore, the enterprise life cycle stage determines its dividend policy. At growth stage, Listed companies have enormous development potential, high growth ability, rapidly increasing market share and profitability, their marginal rate of return on investment is
significantly higher than the social average level. So they tend to retain more surplus profits within the enterprise, take stock dividend policy and continue ongoing endogenous financing; On the other hand, in maturity stage, the listed company's growth capacity, market share and profitability growth rate decrease, while increased profits and reduced investment opportunities within the enterprise makes more retained earnings, however, its marginal rate of investment income is significantly lower than the social average level. Then, it should take the cash dividend policy and exogenous financing.

Based on that concept, the following alternative hypotheses are constructed:

**H1**: Listed companies in rapid growth stage tend to distribute stock dividends

When the listed corporation in rapid developing phase, business scale and market share are rapidly expanding, profit increases at high speed. On the other hand, in good operating condition, with ample cash flow and satisfactory investment returns, so as to the shareholders of the listed corporation, the best choice is the endogenous financing.

Therefore, through using the listed corporation's growth ability, profitability level and endogenous financing situation to reflect the life cycle, we can get the following corollaries.

**H1a**: Listed corporation with good growth ability in rapid growth stage, tend to distribute stock dividends.

**H1b**: Listed corporation with strong profitability in rapid growth stage, tend to distribute stock dividends.

**H1c**: Listed corporation with more endogenous financing in rapid growth stage, tend to distribute stock dividends.

**H2**: Listed companies in mature phase tend to distribute cash dividends.

When enterprises have gradually entered a mature stage, the business scale and market share are no longer expanding, the company's profit stagnates and slowly loses cash flow, return on investment decreases, no longer needs additional incremental capital investment, the shareholders also lose enthusiasm to take endogenous financing. Consequently, we can get the following corollaries.

**H2a**: Listed corporation with low growth ability in maturity stage, tend to distribute cash dividends.

**H2b**: Listed corporation with weak profitability in maturity stage, tend to distribute cash dividends.

**H2c**: Listed corporation with less endogenous financing in maturity stage, tend to distribute cash dividends.

### 3. Data and methodology
3.1. Sample

The data are primarily drawn from the database of CSMAR (China Stock Market & Accounting Research Database). The initial sample consists of all Chinese A-share listed companies from 2011 to 2013. To be included in the sample, the firms must be screened based on the following principles in order to meet the purposes of empirical research. The final sample consists of 1042 firms and 3126 observations for analyses. Then, using EViews6.0 to complete an empirical study.

(1) Eliminating financial, insurance listed companies. As the financial, insurance listed companies’ capital structure, financial systems and business characteristics is significantly different from other industries.

(2) Eliminating listed companies with incomplete data and abnormal value.

(3) Eliminating the ST and * ST company.

(4) Eliminating listed companies which unallocated dividends during 2011-2013 years.

3.2. Variable definitions

(1) Dependent variable

Regarding the probability of whether to issue stock dividends $P$ as the dependent variable.

Given the preference for cash dividends, under the China Securities Regulatory Commission’s provisions and requirements, adjustably dividing the remaining sample data into two types of companies issuing stock dividend ($P=1$) and companies issuing cash dividend ($P=0$). In particular, the first subsample for stock dividends which we can call it subset S, composing of all the firms that issue stock dividend, including companies issuing not only stock dividends but also cash dividends;the second one for cash dividend which we can call subset C, consisting of all companies distributing only cash dividends.

(2) Independent variables

Focusing on the impact of the firms’ development situation to their dividend policy, selecting three independent variables as the growth, profitability, retained earnings to total assets.

Growth variables: Using Tobin’s Q and Total assets growth rate as proxy indexes.

Tobin’s Q is the market value of listed companies to the replacement cost, the higher the value is, the greater the return on investment is. Meanwhile, the growth potential of listed companies is greater, the company may be in rapid growth stage.
Total assets growth rate (TAR) shows the growth size of the enterprise current assets. The larger the value is, the higher the growth of listed companies is, the company may be in rapid growth stage.

Profitability variables: Regarding earnings per share (EPS) and Rate of Return on Common Stockholders’ Equity (ROE) as the proxy indicators to measure the profitability variables.

Earnings per share (EPS) reflects the after-tax profits created by each share. The greater the value is, the more profits are created. When EPS increases steady and fast, the company has strong profitability, the company may be in developing phase.

ROE reflects the interests level of shareholders’ income, the higher the value is, the stronger the enterprise owners’ equity profitability is; the greater the efficiency of companies using private capital profit is, the company may be in rapid growth stage.

Endogenous financing variables (RE/TA): Using the retained earnings to total assets as a proxy indicator. The life-cycle hypothesis posits that When the value is larger, firms are in maturity stage with higher accumulated profits, tend to pay higher cash dividends.

By combining retained earnings to total assets, growth, profitability, comprehensive analysing which life cycle stage the listed company is in. When the listed firm has low retained earnings to total assets, high growth, strong profitability, it is in rapid growth stage; When the listed firm has higher retained earnings to total assets, poor growth, weak profitability, it is in maturity stage.

(3) Controlled variables

Using Company Size, Debt levels, Cash Flow, Industry dummies, Year dummies as controlled variables. All the designed variables are summarized in Table 1

<table>
<thead>
<tr>
<th>Variable Type</th>
<th>Variable Name</th>
<th>Variable Code</th>
<th>Variable Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable</td>
<td>Probability of whether to issue stock dividends</td>
<td>P</td>
<td>companies issuing stock dividend (P=1) and companies issuing cash dividend (P=0).</td>
</tr>
<tr>
<td></td>
<td>growth</td>
<td>TQ</td>
<td>Tobin’s Q = Market Value / (total assets – net intangible assets)</td>
</tr>
<tr>
<td></td>
<td>Total Assets Growth Rate</td>
<td>TAR</td>
<td>Total Assets Growth Rate</td>
</tr>
<tr>
<td></td>
<td>EPS</td>
<td>EPS</td>
<td>EPS= Net profit / total number of shares</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>ROE</td>
<td>ROE= Net profit *2/ (net assets at the beginning of the year + net assets at the end of the year)</td>
</tr>
<tr>
<td></td>
<td>RE/TA</td>
<td>RE/TA</td>
<td>Retained earnings / total assets</td>
</tr>
</tbody>
</table>

Tab. 1. Variable definitions
financing variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Size</td>
<td>SIZE</td>
</tr>
<tr>
<td>Debt levels</td>
<td>LEV</td>
</tr>
<tr>
<td>Cash Flow</td>
<td>CF</td>
</tr>
<tr>
<td>Industry dummies</td>
<td>IND_i</td>
</tr>
<tr>
<td>Year dummies</td>
<td>YEAR_i</td>
</tr>
</tbody>
</table>

3.3 Research methodology

Using the previous design five indexes as independent variables and regarding probability as dependent variable. Two cases of cash dividends and stock dividends are analyzed. Factors that have a significant influence on the dividend policy of listed companies can be concluded.

To test the dividend life-cycle hypotheses, the following Logit model is estimated:

\[
\ln \left( \frac{P}{1-P} \right) = \beta_0 + \beta_1 TQ + \beta_2 TAR + \beta_3 EPS + \beta_4 ROE + \frac{\beta_5 RE}{TA} + \beta_6 SIZE + \\
\beta_7 LEV + \beta_8 CF + \sum_{i=1}^{12} IND_i + \sum_{i=1}^{3} YEAR_i + \varepsilon \quad (1)
\]

Among them, \( P \) is said to reflect the probability of issuing stock dividends, \( 1-P \) is the probability of pure cash dividend distribution, \( \beta_0 \) represents intercept of the model, \( \beta_1 - \beta_8 \) explain the correlation degree between each independent variable and dependent variable, \( \varepsilon \) is random error term. The coefficient of binary Choice Model can not be interpreted as the marginal impact on the dependent variable, only judging from the symbol. If it is positive, indicating that the larger the independent variables is, the higher the probability of issuing stock dividend is; If negative, indicating that the the larger the independent variables is, the higher the probability of issuing cash dividend is.

4. Empirical results

In this section, Verifying the dividend life-cycle hypothesis by logit panel model and robustness test following formula (1) above.

4.1 Descriptive statistics

Table 2 shows descriptive statistics of relevant variables used for analyses between Subsample S and Subsample C.
### Tab. 2. Descriptive Statistics of two subsamples

<table>
<thead>
<tr>
<th>Variables</th>
<th>Subsample S</th>
<th></th>
<th>Subsample C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>Standard Deviation</td>
<td>Mean</td>
</tr>
<tr>
<td>TQ</td>
<td>1.7047</td>
<td>1.3944</td>
<td>1.0416</td>
<td>1.4159</td>
</tr>
<tr>
<td>TAR</td>
<td>0.2780</td>
<td>0.1448</td>
<td>0.4841</td>
<td>0.1438</td>
</tr>
<tr>
<td>EPS</td>
<td>0.6160</td>
<td>0.4800</td>
<td>0.7085</td>
<td>0.4838</td>
</tr>
<tr>
<td>ROE</td>
<td>0.1157</td>
<td>0.0999</td>
<td>0.0758</td>
<td>0.1078</td>
</tr>
<tr>
<td>RE/TA</td>
<td>0.2019</td>
<td>0.1789</td>
<td>0.1131</td>
<td>0.2034</td>
</tr>
</tbody>
</table>

It can be seen from the Table 2 that, on average, Tobin’s Q and total assets growth rate in Subsample S of 1.7047 and 27.80% are relatively high compared to those in Subsample C of about 1.4159 and 14.38%. That is to say, the listed companies issuing stock dividend grow better than that issuing cash dividends. Moreover, the average level of EPS of Subsample S ($EPS_S$) is 0.6160, higher than that of Subsample C($EPS_C$). On average, ROE of Subsample S at about 11.57% appears to be higher than that of Subsample C at around 10.78%. It indicates that the profitability of listed companies issuing stock dividends is superior to those issuing cash dividends. In addition, the retained earnings to total assets of 20.19% in Subsample S, however, is relatively low compared to 20.34% reported in Subsample C. RE/TA of two samples are similar, can be used as a reference index. Combined with the above data we can see that, the enterprise in rapid growth phase, with good growth and strong profitability, prefer to issue stock dividends; while, the firms in maturity phase, with poor growth and weak profitability, tend to distribute cash dividends.

### 4.2 Regression Analysis

Table 3 uses the sample data to make Logit panel regression, in order to examine the effects of independent variables on the dividend distribution of Chinese listed corporation.

### Tab. 3. Regression results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>15.0859</td>
<td>1.0710</td>
<td>14.0859</td>
<td>0.0000</td>
</tr>
<tr>
<td>TQ</td>
<td>0.2406</td>
<td>0.0550</td>
<td>4.3752</td>
<td>0.0000</td>
</tr>
<tr>
<td>TAR</td>
<td>1.6273</td>
<td>0.2228</td>
<td>7.3036</td>
<td>0.0000</td>
</tr>
<tr>
<td>EPS</td>
<td>1.5274</td>
<td>0.1547</td>
<td>9.8729</td>
<td>0.0000</td>
</tr>
<tr>
<td>ROE</td>
<td>1.8593</td>
<td>0.8878</td>
<td>2.0944</td>
<td>0.0362</td>
</tr>
<tr>
<td>RE/TA</td>
<td>-2.8615</td>
<td>0.4783</td>
<td>-5.9825</td>
<td>0.0000</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.7143</td>
<td>0.0498</td>
<td>-14.3564</td>
<td>0.0000</td>
</tr>
<tr>
<td>LEV</td>
<td>1.5260</td>
<td>0.3769</td>
<td>4.0491</td>
<td>0.0001</td>
</tr>
<tr>
<td>CF</td>
<td>-0.2678</td>
<td>0.0484</td>
<td>-5.5321</td>
<td>0.0000</td>
</tr>
</tbody>
</table>
It can be seen from Table 3 that the absolute value of Z statistical value of each independent variable is larger than 1.96 and the corresponding P value is less than 0.05, it means independent variables have significant influence on dependent variables at the level of 5%. On the whole, LR statistical value of 659.6348 is greater than 77.93 and the corresponding P value is equal to 0, which indicates that the whole model is remarkably significant. Moreover, the log likelihood value is equal to -1833.0700 and the Restr. log likelihood value is equal to -2162.8800, they are large, so the model is relatively correct and perfect.

Specifically, Z statistical values of TQ and TAR are 4.3752 and 7.3036 greater than 1.96, both the corresponding P values are 0, so growth ability has very significant impact on its dividend distribution, moreover, their coefficients are positive, indicates that growth ability is positively related to the listed companies’ motivation to issue stock dividends. In addition, Z statistical values of EPS and ROE are 9.8729 and 2.0944 greater than 1.96, the corresponding P values are 0.0000 and 0.0362, so profitability has significant effects on dividend distribution of listed companies at the level of 5%, moreover, their coefficients are positive, shows that profitability is positively related to the listed companies’ motivation to issue stock dividends. Thereby, Inferences 1.1、1.2、2.1、2.2 can be verified. Besides, Z statistical value of RE/TA is -5.9825 less than -1.96, the corresponding P value is 0. Its coefficient is negative, so when the value of RE/TA is higher, listed company is more likely to distribute cash dividends, otherwise, the listed company is more inclined to distribute stock dividends. Inferences 1.1、1.2、2.1、2.2 can be verified. Finally, Z statistical value of Size is -14.3564 less than -1.96, the corresponding P value is 0. Its coefficient is negative, which means that small companies in growth period tend to issue stock dividends.

The regression results in Table 3 reveal that dividend distribution of listed companies has obvious cyclical characteristics. When the listed company in rapid growth stage, with a smaller scale but better growth potential and quickly increasing earnings, faced with more good investment opportunities, is more inclined to distribute stock dividend. On the other hand, when
at maturity stage, the listed company has reached a certain size, but its space to grow up gradually declines and profitability drops slowly. Since lacking investment projects which have higher return than the market average level, the firm with enough accumulated retained earnings, is more inclined to distribute cash dividends. Therefore, Hypotheses 1, 2 are validated.

4.3 Robustness test

In order to further test whether the regression results depends on the particular variable, Table 4 uses other substitution variables to make a test. Using market value (MV) to substitute Tobin’s Q (TQ), using Return on assets (ROA) instead of return on equity (ROE), using retained earnings to equity (RE/TE) instead of retained earnings to total assets (RE/TA). Moreover, assuming that the market value and return on assets have positive correlation with the tendency to issue stock dividends, retained earnings to equity is negatively related to the tendency to issue stock dividends.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>15.9192</td>
<td>1.1070</td>
<td>14.3808</td>
<td>0.0000</td>
</tr>
<tr>
<td>MV</td>
<td>0.0195</td>
<td>0.0053</td>
<td>3.6559</td>
<td>0.0003</td>
</tr>
<tr>
<td>TAR</td>
<td>0.8046</td>
<td>0.1893</td>
<td>4.2508</td>
<td>0.0000</td>
</tr>
<tr>
<td>EPS</td>
<td>1.3504</td>
<td>0.1427</td>
<td>9.4599</td>
<td>0.0000</td>
</tr>
<tr>
<td>ROA</td>
<td>4.0107</td>
<td>1.5653</td>
<td>2.5622</td>
<td>0.0104</td>
</tr>
<tr>
<td>RE/TE</td>
<td>-2.7921</td>
<td>0.3381</td>
<td>-8.2578</td>
<td>0.0000</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.7274</td>
<td>0.0524</td>
<td>-13.8677</td>
<td>0.0000</td>
</tr>
<tr>
<td>LEV</td>
<td>1.3302</td>
<td>0.3488</td>
<td>3.8131</td>
<td>0.0001</td>
</tr>
<tr>
<td>CF</td>
<td>-2.2284</td>
<td>0.6245</td>
<td>-3.5682</td>
<td>0.0004</td>
</tr>
</tbody>
</table>

Table 4 shows that the absolute value of Z statistical value of each independent variable is larger than 1.96 and the corresponding P value is less than 0.05, it means independent variables have significant influence on dependent variables at the level of 5%. On the whole, LR statistical value of 670.2710 is greater than 77.93 and the corresponding P value is equal to 0, which indicates that the whole model is remarkably significant. Moreover, the log likelihood value is equal to -1827.7480 and the Restr. log likelihood value is equal to -2162.8840, they are large, so the model is relatively correct and perfect.

Specifically, Z statistical values of MV and TAR are 3.6559 and 4.2508 greater than 1.96, the corresponding P values are 0.0003 and 0.0000, so growth
ability has very significant impact on its dividend distribution, moreover, their coefficients are positive, indicates that growth ability is positively related to the listed companies’ motivation to issue stock dividends. In addition, Z statistical values of EPS and ROA are 9.4599 and 2.5622 greater than 1.96, the corresponding P values are 0.0000 and 0.0104, so profitability has significant effects on dividend distribution of listed companies at the level of 5%, moreover, their coefficients are positive, shows that profitability is positively related to the listed companies’ motivation to issue stock dividends. Besides, Z statistical value of RE/TA is -8.2578 less than -1.96, the corresponding P value is 0. Its coefficient is negative, so when the value of RE/TE is higher, listed company is more likely to distribute cash dividends, otherwise, the listed company is more inclined to distribute stock dividends. Finally, Z statistical value of Size is -13.8677 less than -1.96, the corresponding P value is 0. Its coefficient is negative, which means that small companies in growth period tend to issue stock dividends. Results are consistent with the previous one. Consequently, It can be concluded that Life cycle theory can well explain the dividend policy of listed company in China.

5. Conclusions

According to the life cycle theory, using panel data of the listed companies in China A-share market from 2011 to 2013 as a sample, constructing Logit panel model to explore how the development status of the listed corporation making influences on its dividend policy. Finally, the study indicates the following conclusions.

In advance, the Chinese listed companies' dividend policy have obvious characteristics of the life cycle, that is to say, dividend life-cycle theory can explain China listing Corporation dividend policy choice well. Dividend policy is the choice made by company, based on the specific stage of listed companies’ life cycle, in accordance with the principle of maximizing the interests of shareholders. When the listed corporation is in rapid developing phase, its profitability increases rapidly. At this time, it has smaller size but more investment opportunities, facing a lot of re-investment funding requirements but the company retained fewer funds, inclined to give out stock dividends, reinvest retained profits to expand business scale and enhance their strength. In mature period, the enterprise with considerable scale but slowly declining level of profitability. At this point, it has many internal retained earnings but lacks good investment projects, so it is more prefer to cash dividends.

Moreover, the dividend policy of listed companies can reflect its operating
situation and investment value, is an effective information for investors to judge the investment value of listed companies.

The study find that the growth and profitability of listed companies issuing stock dividends is better than that of those issuing cash dividends. From the theory, if the listed company wants to issue stock dividends, it must have high growing business profits and cash flow, otherwise it doesn't have the ability to issue stock dividends; At the same time, if listed company wants to issue stock dividends, it must have ideal and higher marginal return on capital than the market average level, otherwise according to the principle of the maximization of shareholders' equity, controlling shareholder as an insider will not choose to issue stock dividends; In addition, the distribution of stock dividend also means that the market price of the stock is undervalued, then only endogenous financing is preferred. Therefore, the dividend policy of listed companies can reflect its operating situation and investment value, is an effective information for investors to judge the investment value of listed companies.

Last but not least, investors can significantly on the basis of China's securities market dividend enterprise life cycle characteristics, combined with other aspects of information, make scientific and rational investment.

In the actual investment activities, investors face with a specific listed companies and their shares, should take into account the industry and region, shareholder structure and capital structure, management, technical advantage and scale and field management, cost control and marketing etc. They need to combine the comprehensive indicators of listed companies' operating performance from different angles and different levels, to make comprehensive investment analysis according to the profitability of listed companies, the investment income, the development trend and so on. Therefore, under the asymmetry information environment, small and medium investors should judge the listed company's stage of enterprise life cycle from its dividend policy to decide the investment decision-making.

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