Dividends Distribution and Earnings Persistence: Evidence from Chinese Listed Companies

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Abstract: Dividends distribution of Chinese listed companies is irregular, and the level of dividends can't match that of earnings persistence. This paper empirically investigates the relationship between dividends distribution, including payout policy and level of cash dividends, and earnings persistence. Different from current literature, this paper is the first to investigate the relationship between dividends and earnings persistence from the perspective of different earnings components. New findings of this paper are as follows. First, the company which distributed dividends, has a stronger earnings persistence than those not. Second, core earnings persistence of listed companies that distributed dividends is significantly stronger than non-core earnings persistence. In addition, the company which distributed cash dividends, has a stronger earnings persistence than those just paid stock dividends, and the higher the level of cash dividends is, the stronger earnings persistence shows. These findings have implications for Chinese listed companies to improve earnings persistence by increasing operating income, and for the guidance of properly developing the company cash dividends distribution policy according to its core earnings persistence.

Keywords: dividends distribution, earnings persistence, earnings components

1. INTRODUCTION

The relation between dividends and earnings persistence is an important issue, which has been focused by relevant research and is attached to regulate dividends distribution and protect minority shareholders' interests. However, among the research relevant, prior literature hardly take account of earnings components. To provide greater insight into earnings structure and the relationship between dividends and core earnings persistence against a background of accounting reforms in a broad sense [1], this paper investigates the components, the relationship between dividends and core earnings persistence among Chinese Listed Companies.

This study is primarily motivated by the unique environment of Chinese emerging market. Another motivation comes from the fact that Chinese listed companies is showing cash dividends based, low paid and lack of persistence characteristics. However, although the number of companies that distributed dividends increases as the number and gross profits of listed companies increase, the dividends payout ratio still shows a declining trend. During 2008-2012, A-share listed company's overall dividends payout ratio fell from 41.57 percent to 29.42 percent, which is far below the growth rate of the total net dividends.

Consistent with the literature, this paper finds that existing literature is more concerned about the motive of the dividends distribution, and the signal theory test are mostly from the perspective of the market reaction. Only a few literature are on the relationship between the company's future earnings and dividends policy directly from the perspective of accounting earnings. Given that China's main industry earnings ratio of listed companies is not high, and core earnings persistence is weak. This paper addresses the topic by studying two

research questions. The first is what the relationship between dividends and earnings persistence is. The second issue that this paper investigates is whether earnings structure has an impact on the relationship mentioned above [2].

Main differences from current literature in this field is: (1) Classify dividends policies into stock dividends, cash dividends and integrated dividends, based on the differences between Chinese market and foreign ones; (2) Divide earnings into core earnings and non-core earnings and examine the persistence of different earnings components between dividends.

The paper proceeds as follows. Section 2 reviews relevant literatures. Section 3 presents theoretical analysis and testable hypotheses. Section 4 describes the data set, variables and empirical method. Section 5 describes the empirical tests and discusses the results. Finally, Section 6 presents conclusions.

2.   LITERAUE REVIEW

Earnings persistence is related to earnings quality, as it is linked to the predictive value of the earnings. For the meaning of earnings persistence, existing literature mainly involves two aspects. One considers overall earnings, and earnings persistence is defined as the possibility of current earnings to continue growing in the future [3]. The other is from the perspective of changes in actual earnings compared with its expected earnings, and earnings persistence is described as unexpected changes in current earnings which can be expected to correct future earnings in the same direction to the same degree [4].

Dividends policy is an important part of company's financial theory. The theoretical analysis is divided into two factions: relevant dividends view and irrelevant dividends view. In the modern financial theory, signaling model of information asymmetry plays an important role [5], which associates dividends policy and accounting earnings together.

Existing studies examine the relationship between dividends policy and future earnings mainly from the perspective of dividends changes. Changes in dividends can be seen as an intentional signal about changes of future earnings [6]. Losses along with the cut of dividends is more durable, but the one which is not accompanied by dividends cuts is more likely to reverse [7]. A company which has a lasting change in earnings may also tend to have a dividends that is likely to change [8]. Compared with other changes in the dividends market information and accounting data, dividends change provides information on the profitability of the following year. And dividends change has a positive correlation between earnings changes for each year during the after two years of changes [9]. Skinner not only from the perspective of changes in the dividends to examine the relationship between dividends policy and future earnings, he also treat earnings persistence as a proxy variable of earnings quality, and studied the relationship between dividends policy and earnings quality [1].

In summary, there is no study about the relationship between dividends and different earnings structure persistence, including core and non-core earnings. So, in this study, the core issue is the components, the relationship between dividends and core earnings persistence among Chinese Listed Companies.

3.   THEORETICAL ANALYSIS AND HYPOTHESES

Gordon proposed a cash dividends hypothesis that company's stock price can convey information [10]. Based on signal theory, corporate managers have inside information about existing investment or investment opportunities, and if these can have a positive impact on the company's future cash flows, then the internal information is valuable to managers and they will use dividend to pass this information [11]. Therefore, propose the first hypothesis to be tested:

H1-a: Dividends policy will reflect the company's earnings persistence, the one that continued to pay dividends has a stronger earnings persistence.

Fama and French found that the higher the level of profitability of the company is, the more likely it is to distribute cash dividends [12]. Meanwhile, because of the stability of main business, cash dividends will not affect the company's future profitability. However, for the poor operating companies, which doesn't have corresponding profitability, if the distribution of cash dividends is forced to pass "blue chip " information , the cost will be quite expensive [5]. Stock dividends only needs to be done in book entries, which makes it easily to imitate, and therefore makes it cannot distinguish company between high earnings quality and low quality. With the emphasis of China's securities market to protect interests of investors and capital return, cash dividends has become an important means to reward investors. Therefore, propose another hypothesis:

H1-b: Earnings persistence of listed companies which paid cash dividends is significantly stronger than the stock dividend ones.

Ramakrishnan and Thomas considered that different components have different accounting earnings persistence, they divided accounting earnings by persistence into three parts: First, the permanent earnings, such as the company's main business profit; Second, transitory earnings, such as the company gains or losses on disposal of fixed assets. Third is price irrelevant earnings, which is caused by changes in the company's accounting policy [13]. Permanent earnings represents the company's future lasting profitability, while transitory earnings and price irrelevant earnings cannot be expected to bring future cash flows.

In 2006, China issued new accounting standards, which led earnings structure changed. Non-core earnings is included in operating profit, the persistence of which is weaker than core earnings. Given that China's listed companies have higher non-recurring gains and losses, and the proportion of main industry earnings is low, this paper divides earnings into two parts: core earnings and non-core earnings. Core earnings is from operating income, which has a strong persistence. Non-core earnings comes from company's non-operating income, whose persistence is relatively poor. In contrast with the non-core earnings, core earnings have a stronger persistence [14] [15]. Therefore, propose the second hypothesis to be tested:

H2: In the distributed dividends listed companies, the core earnings persistence is significantly stronger than non-core earnings.

An important part of the cash dividends policy is to determine what proportion of current profits is used to distribute dividends. Obviously, the level of cash dividends payout ratio will affect the company's future operating funding demands, thereby affecting the company's business situation. But in signal theory, the cash dividends distribution ratio reflects management's expectations from future business conditions, the better the future persistence of earnings is, the higher company's cash dividends payout ratio might be. Skinner used U.S. companies as research samples and found that companies with high dividends payout ratio, have a stronger earnings persistence than others. From the point view of Chinese listed companies' dividends in practice, the differences in cash dividends payout ratio are variable [16]. Therefore, propose the third hypothesis to be tested:

H3: Companies with different level of cash dividends payout ratio will have differences in earnings persistence, and among cash dividends paid companies, core earnings persistence is significantly stronger than non-core earnings.

4. RESEARCH DESIGN

This paper empirical examines the relationship between dividends policy and earnings persistence of listed companies and investigate different earnings structure in response to dividends.

First, use first-order autoregressive model to check whether listed companies paid dividends distribution have different earnings persistence from those not, and then divide dividends into cash dividends and stock dividends to investigate different dividends' impact on earnings persistence. Secondly, divide earnings into core and non-core earnings to investigate different earnings' response to dividends distribution.

4.1 Model

This paper builds model 1 to test hypothesis 1, where Be is the total profit in the income statement, that is total earnings; Div is the dummy variable of whether the company distributed dividends, which equals 1 if listed companies paid dividend, and zero otherwise; and the others are remaining control variables. Earnings persistence is the ability of current earnings to predict future earnings for a period or two periods, therefore, current total earnings and current dividends are distributed as core explanatory variables, and the total earnings of next period is defined as the dependent variable. This paper mainly tests the symbol and significant of current earnings and current dividends distribution's cross-term Div * Be coefficients. Compared with companies with no-payment of dividends, the one that distribute dividends has stronger earnings persistence, which means the cross-term Div * Be coefficient α3 is significantly greater than 0.

$$E_{it+1} = \alpha_0 + \alpha_1 Div_{it} + \alpha_2 E_{it} + \alpha_3 Div_{it} * E_{it} + \sum Year_k + \sum Ind_j + \varepsilon_{it} \tag{1}$$

This paper builds model 2 to test hypothesis 2, where Core and Nce are core and non-core earnings. This paper divides earnings into core earnings and non-core earnings, based on the hypothesis 1 to investigate different earnings' response to dividends distribution. In model 2, current core earnings, non-core earnings and current dividends are distributed as core explanatory variables, the total earnings of next period is defined as the dependent variable. This paper mainly tests the symbol and significant of current core earnings, current non-core earnings and current dividends distribution's cross-term Div*Core 、 Div*Nce coefficients. If the core earnings persistence is stronger than non-core earnings, the cross-term Div * Core coefficient α4 will be significantly greater than the cross-term Div * NCE coefficient α5.

$$E_{it+1} = \alpha_0 + \alpha_1 Div_{it} + \alpha_2 Core_{it} + \alpha_3 Nce_{it} + \alpha_4 Div_{it} * Core_{it} + \alpha_5 Div_{it} * Nce_{it} + \sum Year_k + \sum Ind_j + \varepsilon_{it} \tag{2}$$

This paper builds model 3 and 4 to test hypothesis 3, model 3 is used to test total earnings persistence under different cash dividends ratio, model 4 is used to test core and non-core earnings persistence under different cash dividends ratio. This paper sorts and divides sample companies that distribute cash dividends according to the level of the cash dividends payout ratio into three categories, the highest 10% dividends payout ratio is Higd and the lowest 10% dividends payout ratio is Lowd, others are moderate faction, companies that did not paid cash dividends is Nod. Model 3 mainly investigate the coefficient of cross-term of three main current payout ratio and total earnings to test three payout ratio's impact on earnings persistence; model 4 mainly test the symbol and significant of three cash dividends and current earnings structure's cross-term to test the difference of earnings structure persistence under different cash dividends payout ratio.

$$E_{it+1} = \alpha_0 + \alpha_1 E_{it} + \alpha_2 Nod_{it} * E_{it} + \alpha_3 Lowd_{it} * E_{it} + \alpha_4 Higd_{it} * E_{it} + \sum Year_k + \sum Ind_j + \varepsilon_{it} \tag{3}$$

$$E_{it+1} = \alpha_0 + \alpha_1 Core_{it} + \alpha_2 Nce_{it} + \alpha_3 Nod_{it} * Core_{it} + \alpha_4 Nod_{it} * Nce_{it} + \alpha_5 Lowd_{it} * Core_{it} + \alpha_6 Lowd_{it} * Nce_{it} + \alpha_7 Higd_{it} * Core_{it} + \alpha_8 Higd_{it} * Nce_{it} + \sum Year_k + \sum Ind_j + \varepsilon_{it} \tag{4}$$

4.2 Data and variables definition

Table 1 shows model and the descriptions of main variables

The data set of dividends data are obtained from Wind database, and financial data are obtained from CSMAR database, the sample companies are Shanghai and Shenzhen Main Board listed non-financial A-shares companies, the sample time period is 2008-2012.

Table 1.   Descriptions of main variables

Variable	Description
Divit	dummy variable of dividend distribution (include cash dividend and stock dividend), paid 1, otherwise 0
Cdit	dummy variable of cash dividend distribution, paid 1, otherwise 0
SDit	dummy variable of stock dividend distribution, paid 1, otherwise 0
Nod	dummy variable of no paid companies, no paid 1, otherwise 0
Lowd	dummy variable of low paid companies, low paid 1, otherwise 0
Higd	dummy variable of high paid companies, high paid 1, otherwise 0
Eit	Total profit
COREit	Core earnings= Operating income - Operating costs - Business tax and surcharges - Selling expenses - Administrative expenses - Finance costs
NCEit	Non-core earnings=BE-CORE

In addition, to deal with outliers, this paper does 1% level Winsorize processing to all continuous variables, and this paper also excludes samples whose asset-liability ratio is greater than 1.

Table 2.   Descriptions of the sample

Variable	Mean	Median	Max	Min	Sd
Div	0.689	1	1	0	0.463
Cd	0.659	1	1	0	0.474
Sd	0.209	0	1	0	0.406
E1	0.071	0.048	0.609	-0.1	0.096
E	0.071	0.047	0.408	-0.1	0.075
Core	0.061	0.047	0.392	-0.1	0.069
Nce	0.009	0.004	0.161	-0.091	0.027

Table 2 shows that during the four years between 2008-2011, more than 60% of China's listed companies distributed dividends, companies paid cash dividends accounted for 68.9%, and stock dividends accounted for 20.9%, indicating that China's listed companies prefer to pay cash dividends.

5.   EMPIRICAL TESTS AND RESULTS

5.1 Dividends distribution and earnings persistence

Table 3 presents the regression results of dividends distribution and earnings persistence:

Table 3.   Dividends distribution and earnings persistence

	E1 (t-statistic)	E1 (t-statistic)	E1 (t-statistic)
Cons	0.0322 (1.43)	0.0328 (1.63)	0.0218 (1.03)
Div	-0.00897** (-3.44)	-0.00879 (-2.34)	-0.00705** (-3.70)
E	0.778*** (7.11)	0.821*** (9.98)	0.905*** (11.81)
E*Div	0.239*** (6.80)		
E*Cd		0.197*** (6.32)	
E*Sd			0.163** (5.09)
year	control	control	control
industry	control	control	control
N	5282	5282	5282
F test value	384.14	382.43	381.24
Aj-R²	0.604	0.603	0.602

Note: E1 is the total earnings of t+1, E is the total earnings of t; Div is the dummy variable of whether the company distributed dividends (including cash dividends and stock dividends), which equals 1 if paid dividends, and zero otherwise

t statistics in parentheses   * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Cross-term E * Div coefficient is significantly greater than 0, indicating that the payment of dividends of listed companies have a stronger earnings persistence than the one don't distribute dividends, and verify the hypothesis 1. In addition, regression results show cross-term E * Cd coefficient is significant greater than the coefficient of the cross-term E * Sd, indicating that cash dividends of listed companies have stronger earnings persistence than stock dividends companies, which means cash dividends has a stronger signal effect.

5.2 Earnings structure and persistence

Table 4 presents the regression results of earnings structure and persistence:

Table 4.   Earnings structure and persistence

	E1 (t-statistic)	E1 (t-statistic)	E1 (t-statistic)
Cons	0.0410 (1.86)	0.0415 (2.13)	0.0311 (1.47)
Div	-0.0116*** (-6.88)		
Cd		-0.0117** (-4.36)	
Sd			-0.0104** (-3.99)
Core	0.787*** (7.23)	0.829*** (10.12)	0.915*** (12.17)
Nce	0.0533 (1.18)	0.0440 (0.85)	0.106** (3.50)
Core*Div	0.248*** (6.18)		
Nce*Div	0.147 (1.77)		
Core*Cd		0.207*** (6.37)	
Nce*Cd		0.170 (1.79)	
Core*Sd			0.174** (4.96)
Nce*Sd			0.158** (4.76)
year	control	control	control
industry	control	control	control
N	5282	5282	5282
F test value	353.16	351.76	349.94
Aj-R^2	0.605	0.605	0.603

Note: E1 is the total earnings of t +1, CORE is the total core earnings of t; NCE is the total non-core earnings of t

t statistics in parentheses   * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

CORE * Div coefficient is significantly greater than 0, and Nce * Div coefficient is not significant, indicating that among the listed companies that distributed dividends (including cash dividends and stock dividends), core earnings has strong persistence, but non-core earnings does not have remarkable persistence features. In the only paid cash dividend listed companies, Core * Cd coefficient is significantly positive, while Nce * Cd coefficient is not significant, indicating that core earnings has strong persistence, non-core earnings doesn't show persistence characteristics. In the only paid stock dividends listed companies, both the core and non-core earnings show strong earnings persistence, and core earnings' is much stronger. All of these empirical results validate the hypothesis 2.

5.3 Different cash dividends ratio and earnings persistence

Table 5 presents the regression results of different cash dividends ratio and earnings persistence:

Table 5. Different cash dividends ratio and earnings persistence

	E1 (t-statistic)	E1 (t-statistic)
Cons	0.0333* (1.67)	0.0454** (2.27)
E	0.960*** (63.87)	
Core		0.969*** (63.50)
Nce		0.234*** (5.20)
E*Nod	-0.0491* (-1.87)	
E*Lowd	-0.0493 (-1.15)	
E*Higd	0.0738** (2.45)	
Core*Nod		-0.0353 (-1.35)
Nce*Nod		-0.237*** (-3.71)
Core*Lowd		-0.0619 (-1.48)
Nce*Lowd		0.167* (1.86)
Core*Higd		0.0940*** (3.12)
Nce*Higd		-0.167 (-1.39)
year	Control	control
industry	Control	control
N	5282	5282
F test value	361.65	308.83
Aj-R2	0.600	0.602

Note：Nod is dummy variable of no paid companies, no paid 1, otherwise 0; Lowd is dummy variable of low paid companies, low

paid 1, otherwise 0; Higd is dummy variable of high paid companies, high paid 1, otherwise 0;

t statistics in parentheses   * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Coefficient of the cross-term E * Nod is significantly negative, E * Lowd coefficient is negative but not significant, E * Higd coefficient is significantly positive, indicating that no cash dividends listed companies has poor earnings persistence, and as the level of cash dividends raising, earnings persistence is getting stronger. In model 4 regression coefficients result of cross-term shows core earnings is significantly higher than non-core earnings, indicating that as the level of cash dividends raise, core earnings shows stronger persistence.

6. CONCLUSIONS

This paper empirically examines the relationship between dividends policy and earnings persistence of listed companies and investigates different earnings components in response to dividends during 2008 and 2012.

The main conclusions are as follow. Firstly, this paper finds that companies that distributed dividends has stronger earnings persistence compared with listed companies which did not distribute dividends, and the form of dividends will impact the strength of earnings persistence. Companies that distributed cash dividends have stronger earnings persistence than stock dividends ones. Further, among all distributed dividends listed companies, especially which only distributed cash dividends, core earnings persistence is much stronger, indicating core earnings is the foundation of dividends, which means cash dividends is a strong signal of earnings persistence. Moreover, there are also some differences among earnings persistence of listed companies which have different levels of cash dividends; the higher the level of cash dividends is, the stronger earnings persistence shows. And among high cash dividends companies, core earnings persistence is significantly stronger than non-core earnings.

These new findings have implications for both investors and managers. For investors, through dividing earnings into core and non-core earnings, our new findings suggest that relationship between cash dividends and

the persistence of different earnings components can provide investors more information content. For managers, it implies that they can improve earnings persistence by increasing operating income and for the guidance of properly developing the company's cash dividends distribution policy according to its core earnings persistence.

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