

Empirical Analysis of Cash Dividend Capability of China's Listed Home Appliance Companies based on Free Cash Flow

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Abstract. Stock Price of GREE Electric Appliance, Inc. fell sharply without cash dividends distributed in GREE annual report on April 25, 2018. Based on free cash flow and surplus free cash flow, this paper presents the evaluation criteria of dividend capability. Using the detailed data of sampled China's listed home appliance companies, free cash flows, surplus free cash flows, and their cumulative values are computed. The capabilities of cash dividends are judged and comparatively analyzed. The results show that white goods companies have the best capabilities of cash dividends. Especially, the GREE's cash dividend capability is investigated based on free cash flow. The results reveal that GREE has good cash dividend capability without diversified development. The forced dividends under CSRC leads to "Ponzi dividends", and discourage from the promotion of core competitiveness and the development of listed companies to a certain extent.

Keywords: Free cash flow; Surplus free cash flow; Listed home appliance company; Cash dividend; Ponzi dividend.

1. Introduction

On April 25, 2018, GREE Electric issued the company's annual report, but it clearly stated that it did not distribute cash dividends, did not pay dividends, and did not convert public reserves into share capital. As a star blue chip stock with continuous dividends for 11 years, the report led to a sharp fall in stock prices every other day. GREE Electric was forced to response with a mid-term dividend and explained that non-dividend behavior was the long-term need for diversified development.

In fact, China Securities Regulatory Commission (CSRC) has established strict regulations on cash dividends for China's listed companies. In February 2001, CSRC issued the "Administrative Measures on the Issuance of New Shares of Listed Companies", which stipulated that the listed company without cash dividends and reasonable explanations in the latest three years is not approved to issue new shares. In October 2008, CSRC issued the "Decision on Amending Certain Provisions on Cash Dividends of Listed Companies", which stipulated that the accumulated cash dividends must be not less than 30% of the annual distributable profits in the latest three years, and the listed company must clarify the cash dividend policy in the charter to maintain continuity and stability. The policies made impacts on the cash dividend decision of the listed companies. Under the pressure of CSRC, the listed companies with insufficient free cash flow were forced to distribute dividends, which led to "Ponzi dividend". Is it reasonable for CSRC to force listed companies to pay dividends? How to correctly evaluate and analyze the cash dividend capabilities of listed companies to avoid the phenomenon of "Ponzi dividend"?

In 1986, Michael C. Jansen proposed the "free cash flow hypothesis", which investigated free cash flows from an economic perspective and defined it as the portion of cash flow remaining after meeting the funds required for all investment projects with positive net present value [1]. Uzi Yaari et al. proposed a method for calculating unbiased free cash flow [2]. Kwangmin Park & SooCheong (Shawn) Jang conducted an integrated analysis of the relationship among capital structure, diversification, corporate performance and free cash flow [3]. Giriati revealed that there was a significant positive correlation between free cash flow and dividend payout rate [4]. Xin Chen et al. studied the relationship among free cash flow, corporate governance and over-investment in Chinese listed companies, and showed that the greater the free cash flow, the more serious the over-investment phenomenon [5].

Domestically, Liu Shulian proposed that free cash flow of equity was the source of the company's cash dividend [6]. Xie Deren conducted comprehensive analysis and theoretical researches on the

existing free cash flow calculation method, and proposed an operational free cash flow calculating method and an evaluation criterion for cash dividend capability [7]. Xie Deren and Lin Le showed that most of China listed companies with outstanding dividends had poor cash dividend payout capabilities, which are “Ponzi dividend” [8]. Li Rong believed that the accounting profits based on accrual system cannot effectively evaluate the operating performance of listed companies, while free cash flow based on payment system can report the real business conditions and real surpluses [9].

In the context of GREE Electric's “dividend event”, this paper calculated free cash flows, residual free cash flows and their cumulative values of China listed home appliance companies. Based on the results, this paper objectively analyzed and evaluated cash dividend capabilities of China listed home appliance companies.

2. Computational Method of Free Cash Flow and Evaluation Criteria of Cash Dividend Capability

How to correctly and effectively calculate free cash flow and make cash dividend capability evaluation criteria based on free cash flow is the key to assess the cash dividend capability of listed companies.

2.1 Computational Method of Free Cash Flow

Free cash flow is the portion of the cash flow remaining after meeting all the funds required for an investment project with a positive net present value. The freer cash flow, the stronger the ability to reproduce, reinvest, distribute dividends and repurchase stocks, and the better the future development trend. Based on free cash flow, we can comprehensively assess the operating ability of listed companies, the ability of long-term and short-term debt repayment and the capability of cash dividend payout. From the perspective of shareholder value creation, the free cash flow computational method based on payment system is shown in formula (1) [7].

$$\text{Free Cash Flow} = \text{Operating cash flow} - \text{Interest expenses} + \text{Investment cash flow} \quad (1)$$

where operating cash flow and investment cash flow are cash inflows from corresponding activities minus cash outflows; interest expenses are interest actually paid by the company to financial institutions in the current period.

2.2 Evaluation Criteria of Cash Dividend Capability

The necessary and sufficient condition of cash dividend capability at a certain point of time is that the retained earnings of the company are positive and there is free cash from free cash flow, that is, company dividends are subject to the double boundary of free cash and retained earnings derived from free cash flow. For ease of evaluation, the surplus free cash flow is defined as shown in formula (2) [8].

$$\text{Surplus free cash flow} = \text{Free cash flow} - \text{Cash dividends} \quad (2)$$

And cumulative free cash flow is defined as the sum of the company's free cash flow by the end of the current year; cumulative surplus free cash flow is the sum of the company's surplus free cash flow by the end of the current year.

According to the calculation results of free cash flow and surplus free cash flow, the evaluation criteria of the company's cash dividend ability can be summarized as follows:

(1) If free cash flow is less than zero in the current year, the company does not have the capability of dividend payout in the current year; if dividend payout, it is “Ponzi dividend”.

(2) If free cash flow is greater than zero and surplus free cash flow is less than zero in the current year, it is “Ponzi dividend” in the current year.

(3) If free cash flow and surplus free cash flow are both greater than zero in the current year, the company has the capability of dividend payout in the current year, and it is not “Ponzi dividend”.

(4) If cumulative free cash flow is less than zero, the company does not have the continuous capability of dividend payout; if dividend payouts, it is “Ponzi dividend”.

(5) If cumulative free cash flow is greater than zero and cumulative surplus free cash flow is less than zero, the company's dividends exceed its dividend-payout limit, and it is “Ponzi dividend”.

(6) If cumulative free cash flow and cumulative surplus free cash flow are both greater than zero, the company has the capability of continuous dividend payouts, and it is reasonable dividends within its capability.

3. Empirical Analysis and Evaluation

3.1 Empirical Samples

From the China listed home appliance companies, the 25 large-scale and representative companies are selected for cash dividend capacity analysis, and the financial data from 2010 to 2017 are analyzed. For ease of analysis, all the 25 companies are categorized to three types according to the business nature, which are 10 white goods companies, 5 audio-visual home appliance companies, and 10 kitchen and bathroom appliance companies.

3.2 Statistical Data

According to the formula (1) and (2), average cash dividends, average free cash flow, average surplus free cash flow, and their cumulative values of the three types of home appliance companies from 2010 to 2017 are computed as shown in Table 1. Table 1 reveals that all the average values of white goods companies are higher than that of audio-visual home appliances and kitchen and bathroom appliances companies in the same year. The cash dividend capabilities of white goods companies are significantly higher than that of the other type companies. Therefore, white goods companies play a leading role in home appliance companies.

The free cash flows of all of three type companies are fluctuated, but the cash dividend payouts rise continuously with a rapid rate. Even for audio-visual and kitchen and bathroom companies with negative cumulative free cash flow, the cumulative cash dividend payouts are also rising. Inevitably, it leads to “Ponzi dividends”. The white goods companies show their best continuous cash dividend payout capabilities except for in 2017.

3.3 Analysis and Evaluations

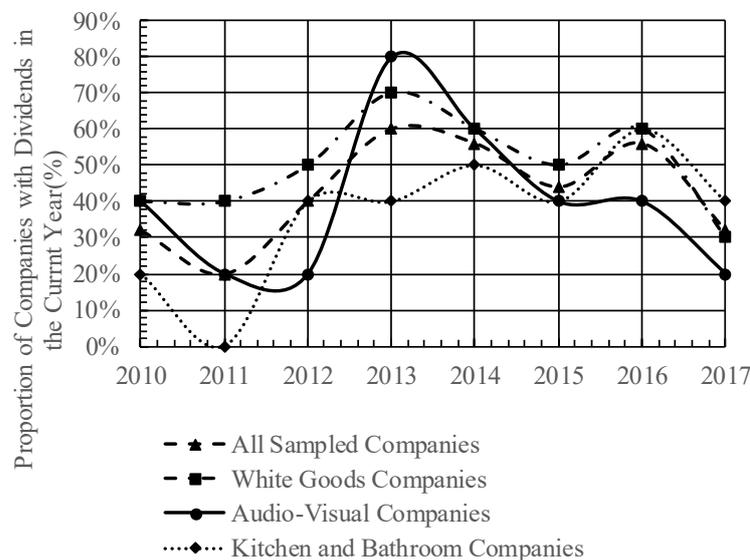


Fig. 1 Proportions of companies with cash dividend capability in the current year

Table 1. Statistical Average Values of Samples (Unit: 0.1 Billion Yuan)

Samples	Year	Cash Dividends	Cumulative Cash Dividends	Free Cash Flow	Cumulative Free Cash Flow	Surplus Free Cash Flow	Cumulative Surplus Free Cash Flow
White Goods Companies	2010	1.86	1.86	3.48	3.48	1.62	1.62
	2011	1.49	3.35	2.28	5.77	0.80	2.42
	2012	2.49	5.46	20.35	25.48	17.87	20.01
	2013	4.31	9.22	25.66	48.59	21.35	39.36
	2014	10.41	19.63	14.87	63.46	4.46	43.82
	2015	16.27	35.90	43.58	107.03	27.31	71.13
	2016	17.69	53.59	-24.70	82.33	-42.39	28.74
	2017	21.45	75.05	-54.43	27.90	-75.88	-47.14
Audio-Visual Companies	2010	0.21	0.21	-12.10	-12.10	-12.31	-12.31
	2011	0.42	0.63	-41.54	-53.64	-41.96	-54.27
	2012	0.91	1.54	-9.40	-63.04	-10.32	-64.59
	2013	1.73	3.28	9.19	-53.85	7.46	-57.13
	2014	2.19	5.47	-13.32	-67.17	-15.51	-72.64
	2015	3.00	8.47	-24.76	-91.92	-27.76	-100.40
	2016	3.05	11.53	-22.60	-114.53	-25.66	-126.05
Kitchen and Bathroom Companies	2017	4.39	15.92	-18.68	-133.20	-23.07	-149.12
	2010	0.91	0.91	-0.23	-0.23	-1.14	-1.14
	2011	1.86	2.64	-0.57	-0.77	-2.43	-3.40
	2012	0.61	2.92	-0.26	-0.93	-0.87	-3.84
	2013	1.24	4.16	0.44	-0.49	-0.81	-4.65
	2014	1.32	5.02	1.73	1.29	0.40	-3.73
	2015	2.06	7.08	2.38	3.67	0.32	-3.41
All Sampled Companies	2016	2.39	8.76	5.57	8.87	3.18	0.11
	2017	2.95	11.71	0.63	9.50	-2.32	-2.21
	2010	0.99	0.99	-2.95	-2.95	-3.94	-3.94
	2011	1.26	2.21	-13.28	-16.21	-14.53	-18.42
	2012	1.34	3.31	3.56	-12.83	2.23	-16.14
	2013	2.43	5.55	11.76	-1.92	9.34	-7.47
	2014	4.64	10.04	1.09	-0.81	-3.55	-10.85
2015	7.11	17.15	7.07	6.26	-0.04	-10.89	
2016	7.71	24.63	-13.91	-7.77	-21.62	-32.40	
2017	9.60	34.22	-24.16	-31.93	-33.76	-66.16	

All of financial data are published by Tonghuashun stock software and the annual reports of the selected companies.

According to the evaluation criteria in 2.2 and Table 1, the proportions of companies with cash dividend capability in the current year are computed as shown in Fig. 1. As can be seen from Fig. 1, the changing trends of three type companies are roughly the same as the overall trend of all sampled companies. There are valley points in 2011, peak points in 2013, then fluctuations back to original point in 2017. Among them, audio-visual companies fluctuate the most, followed by kitchen and bathroom companies, while white goods companies are the most stable with the proportion not less than 40%.

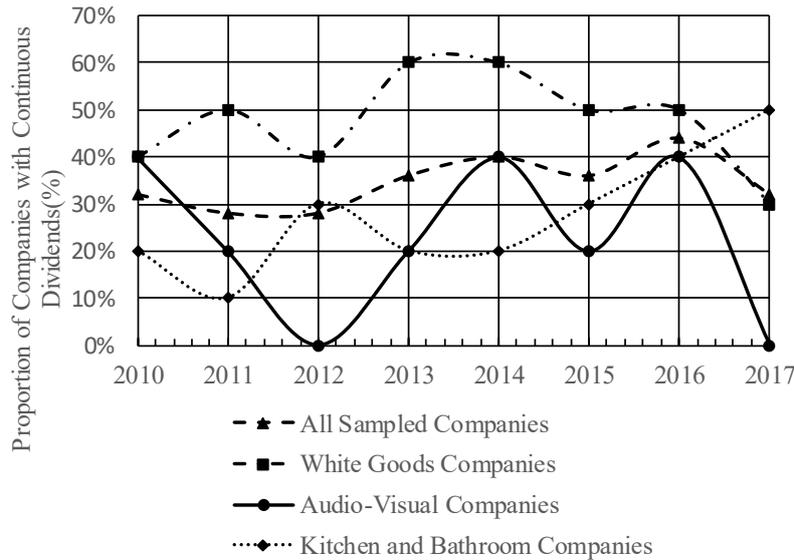


Fig. 2 Proportions of companies with continuous cash dividend capability by the current year

Fig. 2 shows the proportions of companies with continuous cash dividend capability by the current year. Comparing Fig. 2 with Fig. 1, it can be known that the proportions of companies with continuous cash dividend payout capability by the current year are significantly different from that of companies with cash dividend payout capability in the current year, and more significantly fluctuated with many peaks and valleys. Except for 2017, the proportion of white goods companies with continuous cash dividends is still the highest of all. The proportions of audio-visual and kitchen and bathroom companies with continuous dividends are below 40%, and the proportion fluctuations of kitchen and appliance companies are relatively small.

3.4 Empirical Analysis of GREE's Cash Dividend Capability

Table 2. Statistical Data and Results of GREE Electric Appliance (Unit: 0.1 Billion Yuan)

Year	Cash Dividends	Cumulative Cash Dividends	Free Cash Flow	Cumulative Free Cash Flow	Surplus Free Cash Flow	Cumulative Surplus Free Cash Flow	Current Cash Dividend Capability	Continuous Cash Dividend Capability
2017	108.28	396.84	-467.14	271.35	-575.42	-125.49	No	No*
2016	90.24	288.56	-46.97	738.49	-137.21	449.93	No	Yes
2015	90.24	198.32	391.88	785.47	301.64	587.15	Yes	Yes
2014	45.12	108.08	158.49	393.59	113.37	285.51	Yes	Yes
2013	30.08	62.96	105.57	235.10	75.49	172.14	Yes	Yes
2012	15.04	32.88	139.67	129.53	124.63	96.65	Yes	Yes
2011	8.45	17.84	4.16	-10.13	-4.29	-27.97	No*	No
2010	9.39	9.39	-14.29	-14.29	-23.68	-23.68	No	No

Note: No* indicates that it is able to pay cash dividends, but the payouts exceed the dividend capability, and it is “Ponzi dividends”.

As shown in Table 2, GREE Electric was unable to pay dividends in 2010, 2016 and 2017 because of the negative free cash flows; and from 2012 to 2015, the positive free cash flow and the positive surplus free cash flow led to the reasonable dividends. In 2011, because of the positive free cash flow and the negative surplus free cash flow, it was “Ponzi dividend”.

Similarly, the positive cumulative free cash flow and the positive cumulative surplus free cash flow by 2016 made GREE Electric be capable of continuous cash dividend payout in spite of the negative free cash flow in 2016. But, the positive cumulative free cash flow and the negative

cumulative surplus free cash flow by 2017 led to “Ponzi dividend”. According to GREE Electric's annual report on April 25, 2018, due to diversification, the net cash flow of GREE Electric's investment in the past two years increased significantly compared with the previous years. As a result, the free cash flow, the surplus free cash flow and the cumulative surplus free cash flow was insufficient, which led to the loss of dividend payout in 2017, and the forced dividend led to “Ponzi dividend” by 2017.

4. Conclusion

Based on the financial data of 25 sampled representative China listed home appliance companies, this paper empirically analyzes the dividend payout capabilities from the perspective of free cash flow. The results show that free cash flow and surplus free cash flow are simple and effective tools for the capability of cash dividend payout. It is easy to judge the “Ponzi dividend” by surplus free cash flow. The diversification in the short-term such as GREE Electric leads to dividend decline; however, the promotion of core competitiveness will improve the dividend capability.

From the empirical analysis, the forced dividends lead to “Ponzi dividends”, which is harmful to core competitiveness and the developments of listed companies.

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