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Ye Liu Changjiang Lyu

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Research on methods of IPO earnings management: case of Guirenniao

IPO earnings management

Ye Liu and Changjiang Lyu

School of Management, Fudan University, Shanghai, China

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Abstract

Purpose – The performance of the first batch of listed companies since the restart of new initial public offerings (IPOs) in January 2014 and their accounting information face repeated and volatile questioning from different sides. This paper aims to take Guirenniao (China) Co. Ltd. (GRN for short), one of the first batch of listed companies in 2014 that suffered performance decline, as an example to analyze how it managed earnings before IPO.

Design/methodology/approach – This paper examines earnings management signs that exist in GRN through analysis of its financial statements compared to those of its industry peers. This paper then uses the modified Jones model to detect its accrual earnings management and build three models, which are abnormal levels of cash flows from operations, abnormal production costs and abnormal discretionary expenses, to detect real earnings management.

Findings – This paper finds that GRN managed earnings through accrual and real activities in 2012 and 2013. Finally, this paper provides evidence on the specific methods of earnings management, which are easing credit policy to recognize revenue in advance, abnormal expansion, decreasing costs and connected transactions.

Originality/value – This paper examines earnings management signs exist in GRN through analysis of its financial statements comparing to those of its industry peers. This paper then uses the modified Jones Model to detect its accrual earnings management and build three models which are abnormal levels of cash flows from operations, abnormal production costs and abnormal discretionary expenses to detect real earnings management.

Keywords IPO, Accounting earnings management, Real activities earning management

Paper type Case study

1. Introduction

Since the Commission announced initial public offering (IPO) restart in 2014, there are 48 IPOs in the first quarter, while more companies have been ready for issuing. However, many companies' share price continued to fall after a short rise, some even below the issue price. Media questioned why this phenomenon existed. What is the real reason for the decline in performance after IPO and how do companies manage earnings? In this paper, we attempt to delve into this issue through case analysis.

Among the IPO companies last year, Guirenniao (GRN for short) is especially worthy of our attention. When listed on January 24, its first-day closing price was 15.26 yuan. Stock price continued to fall after four days, a decrease of 22.8 per cent. Even worse, after the company released its first quarterly report in early April, the stock price dropped down directly below the issue price. During the great depression



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of the sports industry between 2012 and 2013, the performance of GRN continued to grow. However, in the latest quarterly report after IPO, the performance has dropped dramatically. Furthermore, the company which has just raised 943 million through IPO announced that it will issue 800 million of corporate bonds. Such acts have been questioned.

We find that GRN is a typical family firm which has a pyramid ownership structure. The largest shareholder is GRN Group (Hong Kong) Limited, 100 per cent held by the chairman of the board of GRN Lin Tianfu, which means that Lin Tianfu controls 78.89 per cent ownership of GRN indirectly. The second largest shareholder is Yixing Investment Company controlled by Lin Guoqing and Tang Xiangrong, who are GRN's important clients. The third and fourth largest shareholders are also controlled by Lin Tianfu's brother and nephew. Through a complex indirect ownership structure, the controlling family is likely to change the listed company into the cash dispenser by connected transactions and equity pledge. The possible result of tunneling is that minority shareholders' interests are encroached.

Prior research has documented that firms manage earnings before IPOs. Teoh *et al.* (1998) and Ducharme *et al.* (2001) provide evidence suggesting that the company will manage earnings before the IPO to raise stock price, followed by poor stock return and poor earnings performance. In addition to the US market, Roosenboom *et al.* (2003) analyze 64 IPO samples in The Netherlands and find that managers will manage earnings in the first year before IPO and that the extent of earnings management is negatively correlated with the performance in the next three years. Consistent with these studies, Cormier and Martinez (2006) and Ahmad *et al.* (2011) yield similar conclusions in France and Malaysia, respectively. In China, Wang and Liu (2003) find that issuers will modify reports through earnings management to force up prices due to serious information asymmetry between issuers and investors, and the stock price will return to true value of firm with more disclosure of financial information. The more the firm manages earnings, the lower the stock returns are. Huang and Xie (2014) provide more details that listed firms manage earnings through R&D expenditure choice. When Cai and Mi (2010) studied the influence of earnings management on IPO issuance after the reform of shareholder structure, they reported evidence that the abnormal accruals are significantly positive. Consistent with Cai's finding, Cai *et al.* (2013) find that firms conduct real earnings management apart from accrual earnings management.

Literature researching earnings management is mainly based on an empirical approach, in which the extent of earnings management is affected by industry and cannot be researched in multiple perspectives in depth. Due to the limitation of empirical study, we use case study to analyze the specific earnings management methods based on industry characteristics. Through analysis of a specific example in depth, we can dig into detailed information corresponding to abnormal accruals, abnormal cost and abnormal discretionary expenses in the model. As for connected transaction, case study can analyze specific connected transactions in accordance with the company's situation. In addition, as GRN belongs to the sports industry, which has experienced the process from peak to decline before GRN's IPO, the way it manages earnings is inextricably linked with the development of the industry. Considering no comparable listed companies in the sports industry, it is appropriate to research GRN by case study.

Based on the earnings management literature analysis, we choose GRN as a case from accruals and real earnings management activities to research how the company managed earnings through a combination of empirical and case study approaches. To capture accrual-based earnings management, we follow prior studies that use the cross-sectional Jones model. To capture real earnings management, we estimate abnormal cash flows from operations, discretionary expenses and production costs, as shown in Figure 1. We expect to provide some references for regulators to regulate the listed firms and for investors' decision-making.

Through these studies, we find GRN conducts accrual and real earnings management by easing credit policy to recognize revenue in advance, a significant expansion by opening new stores, reducing costs and connected transactions. While it shows an outstanding pre-IPO performance, the decline in performance after listing will result in stock price falling back to the real market value.

We may make two contributions to the literature. First, we provide possible explanations for the cause of the performance decline after IPO, i.e. accrual and real earnings management. Second, we provide a specific path how companies manage earnings, which builds a foundation for measuring real earnings management in large sample analysis.

The rest of the paper is organized as follows: Section 2 reviews the related literature. Section 3 briefly introduces GRN. Section 4 empirically researches accrual and real earnings management. Section 5 analyzes specific means of earnings management. Section 6 concludes.

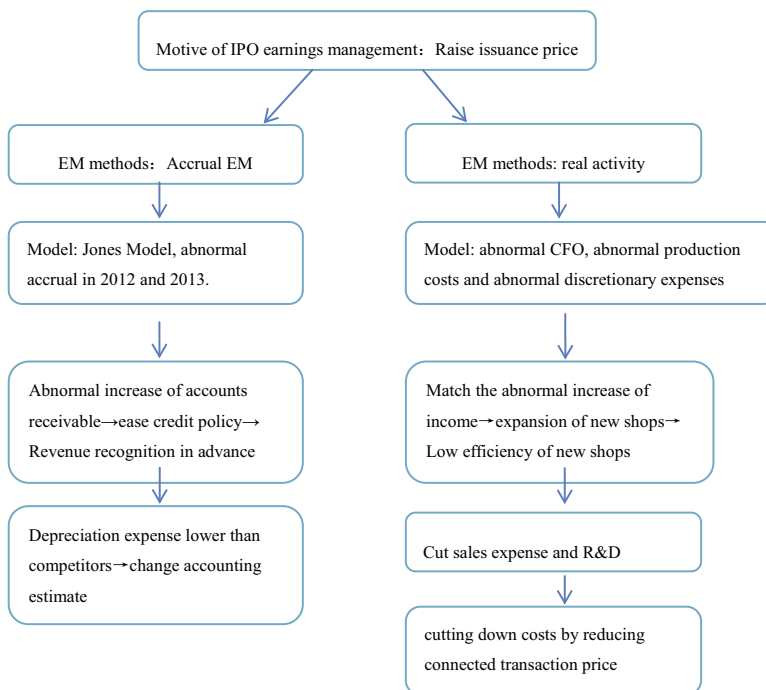


Figure 1.
The way of GRN earnings management

2. Literature review

2.1 Accrual and real earnings management

Since [Roychowdhury \(2006\)](#) found evidence that listed companies manage earnings through real activities manipulation in addition to accrual-based activities, real earnings management has come in focus. [Zang \(2012\)](#) and [Cohen et al. \(2008, 2010\)](#) found that executives weigh the costs and benefits between accrual manipulations and real earnings management and that real earnings management is not easily perceived despite high costs. In China, [Li et al.'s \(2011\)](#) research on income tax reform in 2007, [Fan et al.'s \(2013\)](#) research on internal control and auditors' industry specialty and [Lin et al.'s \(2013\)](#) research all provide evidence that companies choose the way to manage earnings based on external environment and costs of earnings management, which exert great influence on future performance.

2.2 The way of real earnings management

[Roychowdhury \(2006\)](#) found evidence that companies avoid reporting losses or achieve analysts' expectations in three ways:

- (1) boosting sales through price discounts;
- (2) lowering costs of goods sold through overproducing; and
- (3) reducing aggregate discretionary expenses to improve margins.

[Zhang and Li \(2008\)](#) came to a similar conclusion when studying micro surplus companies.

[Graham et al. \(2005\)](#) found that managers would decrease discretionary spending on R&D, advertising and maintenance and that they would delay starting a new project to meet an earnings target. [Mcvay \(2006\)](#) found that managers will deliberately classify some costs into special projects to reduce expense. [Baber et al. \(1991\)](#) provide evidence that managers cut R&D expenditure. [Bartov \(1993\)](#) found that companies choose the time to sell long-term assets to smooth profits.

The ways Chinese companies manage earnings include share transfer, merger and acquisition, asset replacement and so on. These transactions are mainly between related parties ([Xu, 2005](#); [Cheng and Tan, 2013](#); [Meng and Zhang, 2006](#)).

2.3 Ownership concentration and earnings management

[Berle and Means \(1932\)](#) and [Demsetz and Lehn \(1985\)](#) report evidence that ownership concentration is positively correlated to risk of earnings management and that dispersed ownership motivates shareholders to be free riders. In China, concentrated ownership structure is widespread. [Chen and Chen \(2011\)](#) examined Chinese small and medium listed companies and found that the correlation between ownership concentration and firm performance is U-shaped. [Jiang and Wang \(2011\)](#) reached the similar conclusion when studying how ownership concentration influences real earnings management.

2.4 Industry competition and earnings management

Recent literature has begun to focus on the relationship between industry competition and the choices of earnings management. [Datta et al. \(2013\)](#) find that industry competition is positively correlated to earnings management. [Zhou and Zhou \(2014\)](#) argue that the industry competition fails to play a governance role to manage earnings.

Zhang (2014) found that companies in a competitive industry tend to use accrual earnings management, whereas companies at a disadvantage in a competition tend to use accrual and real earnings management. Li and He (2012) provide evidence that in a competitive industry, executives conduct real activity manipulation to evade a high-quality external audit.

2.5 *The economic consequence of earnings management*

Accrual-based earnings management is to adjust gain or loss through accounting estimates and accounting policies. Its economic consequences reflect in the performance change which results from the reversal of accounting estimates and other consequences as a result of a signal. Ritter's (1991) research on IPO and Ducharme *et al.*'s (2004) research on SEO attribute the decline in post-operating performance primarily to accrual reversals. Liao and Xu (2005) compared the accrual item and below-line items and found that accrual earnings management has a significantly negative impact on company's performance, which will be highlighted three years later. Both Lu and Wei's (2006) examination of earnings management before SEO and Su and Lin's (2010) research on stock option and earnings management report performance decline afterwards. Wang *et al.* (2014) found that companies which meet the earnings threshold deliver a positive signal to the market through accrual earnings management, which has a positive effect for future performance.

Prior research reached an agreement that the cost of real earnings management is higher compared to accrual earnings management. Ewert and Wagenhofer (2005) found that managers object to increasing surplus through real activities manipulations on the cost of deviating from normal business practices. Cohen *et al.* (2010) found that real earnings management before SEO led to more deviation of ROA after SEO. Gunny (2010) provide evidence that firms engaging in real management to just meet earnings benchmarks have relatively better subsequent performance than firms that do not engage in real management and miss or just meet the benchmarks. Li and Zhang (2010) found that companies suspected of sales manipulation have lower stock return and investment level in later three years; that is, real earnings management would weaken the ability to gain and investment. Zhang and Zhang (2011) confirm that increasing real sales competitive behavior of non-meager profit firms would be beneficial to keeping competitive advantage, and meager profit firms which have earnings management motivation perform excessive real sales manipulation, which would offset most of its positive effect of keeping a competitive advantage. Li *et al.* (2012) studied companies with private equity placement and found that accrual earnings management leads to short-term performance decline, whereas real earnings management leads to long-term decline. Wang's (2013) empirical research shows that the higher the extent of sales manipulation, costs manipulation and discretionary expenses manipulation is, the higher the cost of equity capital.

Through literature review, we can find that existing literature has overall research on accrual and real earnings management. While existing research empirically analyzes accrual and real earnings management in specific scenarios, this paper is based on microscopic individual cases to research how companies manage earnings behind models, which supplements large sample research. In addition, as existing literature has formed conclusions on how ownership structure affects earnings management and the

economic consequences of earnings management, we focus on the evidence of accrual and real earnings management in case.

3. Case analysis

3.1 Introduction of GRN

Guirenniao Limited Corporation (GRN for short) was established in 2004. It operates mainly in the range of producing, developing and wholesaling sporting shoes, clothing, bags and so on. GRN has formed the production model, which combines independent production and outsourcing production, and the business model, which is mainly based on dealers' sale.

GRN was listed on the Shanghai Stock Exchange on January 24, 2014, with IPO of 89 million shares. Its issue price was 10.60 yuan per share and closed at 15.26 yuan per share. Stock price began to fall after a short rise post IPO, even below the issue price after disclosure of the first quarterly report.

GRN is a typical family business and its main controlling shareholders are Lin family members, who hold 95.26 per cent shares totally.

3.2 Comparisons with industry peers

According to the prospectus of GRN, its business conditions show an uptrend from 2010 to 2012. Its operating incomes from 2010 to 2012 were 1.535 billion, 2.649 billion and 2.855 billion, respectively, and growth rates were 72.57 and 7.78 per cent. Net profits were 222 million, 408 million and 528 million, and growth rates were 83.78 and 29.41 per cent. Its gross margins were 31.82, 38.65 and 40.70 per cent. However, in the 2013 annual report disclosed after IPO, the operating income and net profit began to decline.

As "2012 China Sporting Goods Industry White Paper" shows, since the Olympic fever slowly faded, the Chinese sports industry which had boomed dramatically is now facing a winter-like situation, i.e. a slowdown in development/stagnation or even bankruptcy. In the industry, GRN's major competitors include companies focusing on the domestic sports market, such as Anta, Xtep, 361 Degrees and so on. Their comparison is shown in [Tables I and II](#).

As shown in [Table I](#), the explosive growth ended in 2011. Since 2012, the operating income of competitors declined sequentially and the net profit declined more compared to income, respectively, 34 and 43 per cent on average. Even so, GRN reported growth of income and profit in 2012, and the growth rate achieved was exceptional, 30 and 4 per cent, respectively.

Another point worth noting in the prospectus is that accounts receivable grow with income and profit, respectively, 407 million, 592 million and 862 million from 2010 to

	2013 January to June (%)	2012 (%)	2011 (%)	2010 (%)
GRN	-11.45	7.80	72.59	153.72
Lining	-25.11	-24.52	-5.80	13.02
Anta	-14.43	-14.40	20.20	26.11
Xtep	-19.54	0.19	24.29	25.72
361 Degrees	-30.36	-11.10	14.84	40.69
Peak Sports	-27.28	-37.53	9.36	37.30
Average	-23.34	-17.47	12.58	28.57

Table I.
The growth rate of
operating income[1]

2012. The accounts receivable in the first quarter of 2014 even reached 1.6111 billion and had turned over twice from 2010 to 2014. We reasonably conjecture that GRN loosens credit and extends credit period to increase sales.

From the analysis above, we can find signs of earnings management of GRN in the IPO prospectus. The following section will research earnings management in accrual and real activities.

4. Earnings management model and empirical results

4.1 Accrual earnings management

We use the modified Jones model to study accrual earnings management:

$$\frac{TA_{it}}{A_{i,t-1}} = \beta_0 \frac{1}{A_{i,t-1}} + \beta_1 \frac{\Delta REV_{it}}{A_{i,t-1}} + \beta_2 \frac{PPE_{it}}{A_{i,t-1}} + \varepsilon_{it}$$

TA: Total accruals, defined as the earnings before extraordinary items (NI) – operating cash flows (CFO).

A : Total assets.

ΔREV : Change in revenues.

PPE : The gross value of fixed assets.

The coefficient estimates are used to estimate the non-discretionary accruals (NDA) for sample firms:

$$NDA_{it} = \hat{\beta}_0 \frac{1}{A_{i,t-1}} + \hat{\beta}_1 \frac{(\Delta REV_{it} - \Delta REC_{it})}{A_{i,t-1}} + \hat{\beta}_2 \frac{PPE_{it}}{A_{i,t-1}} + \varepsilon_{it}$$

ΔREV : Change of accounts receivable.

Discretionary accrual is the difference between total accruals and the fitted non-discretionary accruals:

$$DA_{it} = \frac{TA_{it}}{A_{i,t-1}} - NDA_{it}$$

Considering the short life of some listed firms, we use the industry modified Jones model. The industries selected include textile (C11); clothing and other fiber manufacturing (C13); shoemaking (C1340); fur tanning (C1410); and leather, fur, feather and products

	2013 January to June (%)	2012 (%)	2011 (%)	2010 (%)
GRN	-4.10	29.46	83.39	180.48
Lining	-	-	-65.19	17.36
Anta	-18.69	-21.47	11.54	24.00
Xtep	-27.13	-16.18	18.77	25.66
361 Degrees	-65.54	-37.58	15.28	55.49
Peak Sports	-62.49	-60.06	-5.42	30.87
Average	-43.46	-33.82	-5.00	30.67

Table II.
The growth rate of net profit[1]

manufacturing (C14). We analyze the period from 2011 to 2013. Data come from Wind, CSMAR and so on.

We compare the discretionary accrual of GRN to the industry average and use the *t*-test to analyze, as shown in Table III.

In 2012 and 2013 near IPO, the discretionary accrual was significantly higher than the industry average and there was even a substantial increase from 2011 to 2013 when the industry average was decreasing. The evidence confirms our conjecture that GRN managed earnings through accrual in 2012 and 2013. We have to note that the discretionary accrual of GRN in 2011 was significantly lower than industry average. A possible explanation is that the selected industry was suffering a slump in 2011 while the sports industry was at the peak; that is, the companies in the selected industry may manage earnings while GRN does not have to.

4.2 Real earnings management

As in the study by Roychowdhury (2006), we use three metrics to measure the level of real activities manipulations: the abnormal levels of cash flow from operations (CFO), discretionary expenses and production costs.

$$\frac{CFO_{it}}{A_{i,t-1}} = \beta_0 \frac{1}{A_{i,t-1}} + \beta_1 \frac{REV_{it}}{A_{i,t-1}} + \beta_2 \frac{\Delta REV_{it}}{A_{i,t-1}} + \varepsilon_{it}$$

$$\frac{PROD_{it}}{A_{i,t-1}} = \beta_0 \frac{1}{A_{i,t-1}} + \beta_1 \frac{REV_{it}}{A_{i,t-1}} + \beta_2 \frac{\Delta REV_{it}}{A_{i,t-1}} + \beta_3 \frac{\Delta REV_{i,t-1}}{A_{i,t-1}} + \varepsilon_{it}$$

$$\frac{DISX_{it}}{A_{i,t-1}} = \beta_0 \frac{1}{A_{i,t-1}} + \beta_1 \frac{REV_{i,t-1}}{A_{i,t-1}} + \varepsilon_{it}$$

CFO : Cash flow from operations.

PROD: Production costs, defined as the change of inventory plus the change of COGS.

DIXS : Discretionary expenses, defined as sales expense plus administration expense.

The other definitions are the same as the modified Jones model.

The coefficient estimates in models are used to estimate the normal CFO, non-discretionary expenses and non-discretionary production costs for sample firms. Then we can get abnormal CFO, abnormal discretionary expenses and abnormal production costs. Firms that manage earnings may have lower abnormal CFO, higher abnormal discretionary expenses and lower abnormal production costs.

For Model 1, we examine the abnormal CFO (Table IV).

Table III.
Comparison of
discretionary accrual
and *t*-test

Year	<i>N</i>	Industry average DA	SD	GRN DA	Difference between industry average and GRN
2013	76	0.0542	0.0487	0.0894	-0.0352***
2012	77	0.0672	0.0607	0.0869	-0.0196***
2011	72	0.0848	0.0792	0.0563	0.0285***

For Model 2, we examine abnormal discretionary expenses (Table V).

In Model 2, variable $\Delta REV_{i,t-1}/A_{i,t-1}$ cannot be computed when $t = 2011$. As $\Delta REV_{i,t-1}$ is the difference between operating income in 2010 and 2009, but some sample firms have not listed yet in 2009 and 2010 and the data are not available, this results in a big quantity gap. Hence, there are no data in 2011 in Model 2.

For Model 3, we examine abnormal production costs (Table VI).

As Tables I and III report low R^2 , we compare abnormal discretionary expenses of GRN to the industry average and use the t -test to analyze, as shown in Table VII.

In 2012 and 2013 near IPO, the discretionary accrual was significantly higher than the industry average, which confirms our conjecture that GRN managed earnings through real activities in 2012 and 2013.

5. Analysis of earnings management

5.1 Ease credit policy and recognize revenue in advance

The sales pattern of GRN is similar to that of most of the sports product companies: dealership mode, which means that the sports product company distributes sports products to dealers through wholesale sale, and supports and manages dealers' sales network expansion in a variety of ways, but does not get involved into the operations of the retail business (GRN Co. Ltd, 2016). First, GRN organizes ordering conventions for the four seasons in which dealers make the order and deposit down payments. While

Year	n	R^2	$\hat{\beta}_1$	$\hat{\beta}_2$
2013	77	0.144	0.005	0.017
2012	78	0.096	0.023	0.051
2011	73	0.043	0.050	-0.055

Table IV.
Abnormal CFO model and coefficients

Year	n	R^2	$\hat{\beta}_1$	$\hat{\beta}_2$	$\hat{\beta}_3$
2013	77	0.87	0.936***	-0.094	-0.082
2012	77	0.913	1.008***	-0.304***	-0.338***

Table V.
Abnormal discretionary expenses model and coefficients

Year	n	R^2	$\hat{\beta}_1$
2013	77	0.074	0.055***
2012	77	0.100	0.070***
2011	73	0.160	0.113***

Table VI.
Abnormal production costs model and coefficients

Year	N	Industry average DA	SD	GRN DA	Difference between industry average and GRN
2013	76	0.1804	0.3060	-0.1257	-9.618***
2012	76	0.1624	0.4220	-0.2596	-19.412***

Table VII.
Comparison of abnormal discretionary expenses and t -test

GRN owns a small number of direct-sale stores, in most cases, it finishes manufacturing the products and distributes to dealers, and the dealers further sell them to retailers or directly sell the products through retail terminals. GRN recognizes revenue by the principal of buyout sales, which means it recognizes revenue only when the product is delivered to the first carrier authorized by the dealer and when the collection right is obtained (GRN Co. Ltd, 2016). The dealer sales revenue accounts for 99.5 per cent of GRN's sales revenue, which means that the company's main business income depends on dealers.

According to GRN's prospectus, there are altogether 22 actual controllers for dealers spread over 43 regions selling GRN's sports shoes and apparel products. The sales of the top 5 dealers accounted for 47.72 per cent of GRN's main business income in 2010, and this figure rose year by year as 51.47 per cent in 2011, 52.66 per cent in 2012 and 55.27 per cent in the first half year of 2013. The sales of the top 5 dealers account for more than half of GRN's main business income, so the major dealers have entirely controlled the lifeline of the company. The percentage of the sales revenue of the top 1 dealer and the top 5 dealers to the main business income of other companies in the sports product industry is listed in Table VIII.

It is obvious that GRN, compared to its industry peers, has a much higher degree of large dealer concentration, which provides a great convenience for the company to boost its sales revenue. Taking the largest customer of GRN, Chenchun and Yinxiaojun couple, as an example, their sales revenue accounts for 20.24 per cent of GRN's main business revenue, and they control altogether four dealer companies: Sichuan Hongtao, Shijiazhuang Hongtao, Shanghai Hongtao and Nanjing Wangsheng. As the information in the prospectus is limited, the number of regional sales terminals of only three dealer companies (Sichuan Hongtao, Shanghai Hongtao and Nanjing Wangsheng) can be found, and their sales revenues are listed.

It can be seen from Table IX that from 2010 to 2011, Chenchun and Yinxiaojun couple contributed sales growth worth 340 million RMB, and this 340 million RMB comes from the vast expansion of regional sales terminals, which means that the 130 new shops contributed a sales revenue 1.34 times more than the sales revenue of the previous 408 shops, which is highly unreasonable. Among all the sales terminals, in Shanghai, there were 128 stores in 2010 and 186 in 2011, so 58 new stores were opened simply in Shanghai in 2011. However, GRN mainly focuses on second-tier, third-tier and fourth-tier cities, so it is considered irregular to open so many new stores in a first-tier city like Shanghai. GRN only needs to deliver the products to dealers to recognize

Table VIII.
The ratio of dealer sales to operating income[1]

	GRN (%)	Lining (%)	Anta (%)	Xtep (%)	361 Degrees (%)	Peak Sports (%)
Top 1 customer	20.24	6.7	4.5	5.1	14	15.9
Top 5 customers	52.66	21.4	19.8	14.8	36	31.1

Table IX.
Dealer sales revenue[2]

	December 2010	December 2011	December 2012	June 2013
Regional sales terminal (number)	408	539	566	424
Sales revenue (million RMB)	253.51	593.2	577.83	276.88

revenue, but whether the dealers sell the products or how the dealers sell the products is worth discussing.

GRN also has a strong connection to some major dealers. The third largest customer of the company, the Hangzhou Yaowei Sports Products Corporation, controlled by HuXiaoping, which contributed 8.94 per cent of the main business revenue of GRN, is actually a branch company of GRN set up in 2006 in Zhejiang Province to promote the sales of GRN products in the Zhejiang market. The Nanjing Haiwang Corporation, a dealer company controlled by Chenchun and Yinxiaojun couple, was transferred by HuXiaoping in February 2010. The Jinan Hongfada Corporation, a dealer company controlled by Chenchun and Yinxiaojun couple, was transferred by LinGuoqing and LinGuoqiang (GRN's shareholder) in November 2010. The second largest customer of the company, Xiangping, contributed 10.15 per cent of the company's main business revenue. As a friend and business partner of Chenchun, Xiangping participated in the operational management of Sichuan Hongtao with Chenchun, and he owns 5 per cent shares of Chongqing Hongtao and Sichuan Hongtao. So, the top 3 customers of the company appear to have convoluted ties to GRN.

Along with the substantial growth of main business revenue, GRN also has an irregular growth in its receivables (Table X).

Until June 30, 2013, the balance of accounts receivables of GRN's top 5 customers' accounts for 39.61 per cent of the accounts receivables of GRN. In the prospectus, GRN explained that the increase of the accounts receivables is due to the relaxation of credit limit to the dealers, while the relaxation of credit limit is highly related to the growth in sales revenue.

Table XI selects four dealers with the largest increase in accounts receivables, and it can be seen that a large part of their sales revenue comes from the increase in accounts receivables, which shows an insufficient inflow of operational capital and vast capital sedimentation. Considering GRN's close connection to its major dealers and its irregular growth of accounts receivables, the irregular growth of GRN's main business income from 2010 to 2012 compared to its industry peers resulted from the relaxation of credit policy, revenue recognition in advance and earnings management.

5.2 Vast opening of new stores and abnormal expansion

GRN's prospectus shows that its IPO intended to raise 800 million RMB, in which 550 million RMB is used for store construction. While most of the industry peers are closing down their old stores, GRN bucked the trend and vastly expanded.

It can be seen from Figure 2 that from 2010 to 2011, each brand increased its number of stores in line with the industry trend. But from 2011, the whole industry entered into the stagnation phase: Anta, Lining and Xtep were closing their stores, especially Lining, which closed more than 1,800 stores in one year. However, while the whole industry was under business recession, GRN continued to open new stores.

	2010	2011	2012	2013 year half	
Main business revenue (RMB)	1,534,995,500	2,648,934,000	2,855,425,100	1,229,082,000	Table X. GRN's main business revenue and receivables[2]
Accounts receivables (RMB)	406,562,361	591,564,982	862,034,454	1,004,069,900	
Percentage of receivables to the main business revenue	26.48	22.33	30.18	81.69	

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Table XI.
Growth of accounts
receivables of some
of GRN's dealers[2]

Dealer	Balance of accounts receivables until 2012 year-end (million RMB)	Increase of accounts receivables compared to that of 2011 year-end (million RMB)	Increase of sales to the dealer compared to that of 2011 (million RMB)
Hangzhou Yaowei Sports Product Company	95.06	48.05	48.48
Sichuan Hongtao Sports Product Company	70.95	31.07	-15.36
Henan Anbo Sports Product Company	31.51	23.25	45.43
Shenzhen Jindong Sports Product Company	33.21	21.31	24.04

As mentioned in Section 3, GRN's income growth rate was significantly higher than that of its industry peers, especially from 2012 to 2013, when most of the industry peers' income decreased and GRN's income continued to increase. In the prospectus, GRN explained this as the result of the rapid expansion of brand network and increase of sales terminals since 2010, which drove the main business to increase. As mentioned in the previous section that GRN may have collaborated with the dealers to recognize revenue in advance, its expansion of store network against the industry trend may just provide cover for its increase of revenue. GRN only needed to sell the products to its dealers to recognize revenue, but the dealers may not be able to sell all the products.

First, the efficiency of GRN's newly opened stores is open to question.

As is shown in Table XII, although GRN continued to open new stores against the market trend, its newly opened stores were not so efficient that the number of stores getting closed remained high. The percentage of stores getting closed was 7.98 per cent in 2010, 20.37 per cent in 2011, 46.30 per cent in 2012 and 69.14 per cent in the first half year of 2013, which shows that GRN's expansion of stores against the market trend is very unwise.

Second, the aging analysis of GRN's accounts receivables is shown.

As is shown in Table XIII, the percentage of long aging accounts receivables substantially increased from 2011 to 2013, which shows that uncollected accounts receivables from 2010 to 2012 kept increasing. This may imply that the dealers could not



Figure 2. Number of stores compared to industry peers[3]

	January-June 2013		January-December 2012		January-December 2011		January-December 2010	
	Opened	Closed	Opened	Closed	Opened	Closed	Opened	Closed
Exclusive store	288	191	513	224	1,188	202	2,077	161
Supermarket shop	62	51	107	63	118	64	292	28
In total	350	242	620	287	1,306	266	2,369	189

Table XII. GRN's number of stores[2]

	2013 (%)	2012 (%)	2011 (%)	2010 (%)
Less than 6 months	71.17	89.99	99.89	98.19
6-12 months	23.27	9.72	0.11	1.79
1-2 years	5.56	0.28	0	0.02

Table XIII. GRN's aging structure[2]

pay for the goods purchased, which might have resulted from the fact that they could not sell all the products purchased (Table XIV).

From 2010 to 2013, GRN's loss on bad debt increased substantially, which shows an increasing amount of accounts receivables turning into bad debt loss. As dealers could not sell their products, their insufficient cash flow could not afford to pay GRN's accounts receivables and GRN had to list them as bad debts. So, although GRN's number of stores had substantially increased, its sales volume did not increase accordingly and its cost for dull of sale was increasing. Though GRN recognized high sales revenue, the dealers did not sell all the products, and the increase of store number may be used to cover up its sales revenue.

5.3 Decrease costs and inflate profit

As mentioned in Section 3, GRN's main business income and net profit increased against market trend. The previous section analyzed the reason for the increase of its main business income, and this section will analyze the reason for the increase of its net profit from the perspective of cost.

Table XV shows the percentage of sales cost to revenue. It can be seen that Guirenniao's net profit was significantly higher than that of its industry peers in 2012 and 2013, and its cost of sales was lower than that of its industry peers. Cost of sales mainly includes advertising costs, brand promotion costs and sales personnel salary. Cutting the advertising costs and brand promotion costs may bring up the net profit in the accounting statement in the short-term, but it brings negative impact on the

Table XIV.
GRN's loss on bad debts[2]

	2013	2012	2011	2010
Accounts receivables	1,004,069,900	862,034,454	591,564,982	406,562,361
Bad debt loss	18,598,900	6,542,400	1,652,200	-3700
Bad debt loss/accounts receivables	1.85%	0.76%	0.28%	-0.009%

Table XV.
The percentage of sales cost to main business income[1]

	January-June 2013 (%)	January-December 2012 (%)	January-December 2011 (%)	January-December 2010 (%)
GRN	12.27	12.71	14.87	11.04
Lining	41.62	39.11	32.59	26.49
Anta	14.64	13.61	16.31	16.02
Xtep	11.00	13.31	13.25	13.83
361 Degrees	17.88	17.96	13.54	13.83
Peak	13.50	15.87	15.34	11.89

Table XVI.
Percentage of R&D costs to total assets[1]

	2012 (%)	2011 (%)	2010 (%)
GRN	1.12	0.73	0.47
Lining	3.17	3.15	3.73
Anta	1.78	2.33	1.91
Xtep	1.47	1.78	1.82
361 Degrees	1.2	1.5	0.83

company's long-term development. A company's brand requires long-term promotion maintenance to realize the brand value.

Table XVI shows the percentage of R&D costs to total assets. Similar to cost of sales, GRN's R&D cost is also significantly lower than that of its industry peers, which might have resulted from the fact that GRN capitalized part of its R&D cost through earnings management to bring up the profit, or perhaps, Guirenniao's spending in R&D is lesser than that of its industry peers. In the short-term, this might bring up the company's net profit. However, innovation and R&D is the core competence of a company, and cutting too much R&D costs may get the company phased out by industry peers.

Table XVII shows the percentage of depreciation cost to fixed assets. GRN's figure is significantly lower than its industry peers. GRN uses straight-line depreciation method for its fixed assets in accordance with its industry peers. So, its low level of depreciation cost is due to the adjustments on accounting estimates, e.g. adjusting the expected operating life and the expected residuals rate to decrease the depreciation costs.

5.4 Uneven pricing through connected transaction

According to GRN's prospectus, the company purchased shoe sole from Taichang Shoe Material Company in 2010 and Leyi Shoe Material Company in 2011. The shareholders of Taichang Shoe Material Company, Lin Jianjia and Lin Haibin, are brothers to the wife of Lin Tianfu, GRN's actual controller. Ding Qingle, Lin Tianfu's brother in law, holds 70

	2012 (%)	2011 (%)	2010 (%)
GRN	4.59	3.90	3.63
Lining	16.52	19.06	15.91
Anta	8.65	14.70	13.27
Xtep	8.70	9.65	10.51
361 Degrees	7.37	5.60	3.50
Peak	7.80	7.17	6.32

Table XVII.
Percentage of
depreciation cost to
fixed assets[1]

Year	Product name	Average price per unit through connected transaction (RMB)	Average price per unit through unconnected transaction (RMB)	Unit price differential (%)
2010	PU sole	17.10	12.84	33.18
2010	MD sole	17.24	16.10	7.08
2010	RB sole	9.62	9.34	3.00
2011	PU sole	17.73	20.85	-14.96
2011	RB sole	10.13	11.41	-11.22
2011	MD sole	16.57	15.65	5.88
2011	Insole	2.33	2.47	-5.67
2011	Heel cap	0.41	0.42	-2.38
2011	EVA sole	17.09	17.09	0.00
2011	P-sole	7.96	8.16	-2.45

Table XVIII.
Taichang's
transaction price
benchmark

Source: GRN Co. Ltd, 2016

per cent of Leyi Shoe Material Company's shares, so both transactions are connected transactions.

The transaction details between GRN and Taichang Shoe Material Company are listed in [Table XVIII](#).

It is worth noticing that the average price through connected transaction is different from the average price through unconnected transaction. Taking the PU sole as an example, the average price through connected transaction is 33.18 per cent higher than the average price through unconnected transaction. GRN explained that the average weight of PU sole by Taichang Shoe Material Company is 28.16 g heavier than those by unconnected transaction, and the PU sole by Taichang is equipped with P-sole with a labor cost of 4 RMB/pair. However, in 2011, the average price of PU sole through connected transaction was 14.98 per cent lower than the average price through unconnected transaction, which GRN explained as the result of weight difference of the sole, that the sole by Taichang is 68 g lighter than those by unconnected transaction. In 2010, the average weight for PU sole by Taichang was 393.02 g per pair, and 364.86 g by unconnected parties. However, in 2011, the average weight for PU sole by Taichang was 350.78 g per pair, and 418.78 g by unconnected parties. By GRN's logic, the heavier the PU sole, the better is the quality. So, the decrease in Taichang sole's weight may suggest the problem with the quality. If not, then the company is cutting down the cost by reducing connected transaction pricing for earnings management.

6. Conclusion

Through analysis of GRN's financial information and the corresponding information of its industry peers, we can discover that GRN managed earnings before IPO, such that:

GRN's accruals are significantly more than industry average. The abnormal cost of production in 2012 and 2013 was significantly higher than industry average, which proves that GRN conducts accrual and real earnings management, which is the main reason why listed companies that have considered earnings management for accruals usually face a volatile performance after IPO.

GRN managed earnings through relaxation of credit policy, revenue recognition in advance, decreasing cost to bring up profit and conducting connected transaction to decrease product cost. The company may deviate from normal business activities because of earnings management, which may have a negative impact on the company's future development and planning.

GRN got listed in January and dropped below its initial offering price in March, which shows that GRN's earnings management before the IPO got recognized and corrected by the market.

This article shows that listed companies in China may raise their initial offering price through accrual and real earnings management, which is worth noticing by the management.

Notes

1. From GRN's prospectus and other companies' annual reports.
2. From GRN's prospectus.
3. From GRN's prospectus and company annual reports.

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Corresponding author

Changjiang Lyu can be contacted at: cjlu@fudan.edu.cn

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