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The Influence Mechanism of Overseas Investment Bank Rating On Stock Fluctuation of Chinese Internet Enterprises in a Credit Crisis

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Abstract: Whether the efficiency information of China's Internet enterprises which are listed overseas can be effectively transferred to capital market during a credit crisis, the rating information provided by investment banks should be a crucial bridge for listed firms and investors. In order to probe the influence mechanism of the rating information provided by investment bank, we choose Chinese concept stocks related to a credit crisis in the United States capital market in 2011 to do our empirical research. Our study found that, the timing of release of rating reports, target stock price and enterprise target market play significant influence on the fluctuation of stock prices, and the ranking of investment bank has played an important moderating role.

Keywords: credit crisis, internet enterprise, investment bank rating

1. INTRODUCTION

With the development of network, great changes have taken place in Chinese Internet enterprises. The total transaction level of e-commerce has reached 6 thousand billion, accounting for 13% of GDP in 2011[8]. For better development, many Internet enterprises decide to list overseas, which can provide some benefits for these firms. First, via IPO overseas, there is an abundance of capital available for their business expansion. Second, with the help of overseas investment banks, they can provide some financial instructions for these firms, and human resource and new technology are easier to be obtained too. Third, listing overseas makes it easier to expand into different markets, attract international investors' attention and gain international investors’ support. Until now, more than 230 Chinese enterprises have accomplished IPO in America, among which Internet enterprises accounted for the vast majority. However, enterprises listed overseas are also faced with a lot of challenges and risks, such as a lack of knowledge of the foreign stock market, punishment for illegal finance, etc. For example, there are 29 Chinese-concept-stock enterprises were delisted from American market in 2011, and the total transaction was up to 57 billion.

There are two major categories of risks involved in listing overseas for Chinese internet enterprises. Firstly, internal risk, which is given rise by imperfect management system and lack of knowledge and experience about listing overseas. Secondly, external risk, which is brought by strict supervisor system in the overseas stock market. These external control system may magnify the fluctuation of stock price while creating chances for enterprises, thus affecting the survival and further development of Chinese Internet enterprises. In this condition, the rating information of investment banks plays as a crucial bridge in delivering information between listed firms and investors, as investment bank can take its effect on its authority and influence among investors and stock market.

Obviously, the rating information of investment banks is critically important during a credit crisis for Chinese Internet enterprises. On January 1st, 2013, Stifel Nicolaus, an American investment bank, released its research report about QIHU, claiming that QIHU will be looked to further increase and suggested buying in.

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Affected by this report, its stock price went up by 8.64% with the close price reached to 29.69$, the highest price in recent 52 weeks. On October 30th, 2012, the Credit Suisse released its report about Baidu, claiming that Baidu has been underperforming and its target stock price was reduced. Affected by this report, the stock price of Baidu glided from 113.84$ to 106.73$, and dropped by 1.2% in the following month. Obviously, the report of investment bank significantly affected the judgment and behavior of investors. In May, 2011, the credit crisis broke out related to the Chinese concept stocks, which were listed in the America stock market, and a majority of Chinese Internet enterprises suffered a lot. Generally, when a stock crisis happens, it is necessary for many enterprises attempting to seek for the help of the investment banks. Therefore, we are going to explore how the rating information reports given by investment bank influence the stock price of Internet enterprises listed in overseas stock market. We collected 134 research reports of investment banks in a credit crisis related to Chinese Internet enterprises, and conducted empirical research with the method of regression analysis.

2. Research Background and Hypothesis

2.1 Influence of Investment Bank Rating on Stock Price

According to Womack’s(1996) conclusion, the stock price adds up average 3% when the rate given by investment bank turns up overweight and price drops average 4.7% when the rate turns down underweight[8]. Based on Hong Kong's stock market, Ye Zhang, Qian Hu, and Jian Zhou(2009) conclude that the stock price of high rate gain positive ERR(excess returns ratio) while the stock price of low rate gains negative returns ratio[9]. Fu Chen (2007) thinks that the rate rank influences the stock pricing and value of assessment. What’s more, it affects the enterprise’s finance and cost directly, which has a long term effect on the development of enterprise[10]. The rate can measure the quality of enterprise, as for the supplement of public information, the agency can gain unopened and important information during the investigation(Kisgen, 2010)[11]. When the credit rate adjusts, it influences not only the debenture of enterprise and the stock price( Holthausen and Lefwich, 1996), but also the debenture of issued costs and credit costs after the change of rate[12]. That is to say, the rate affects the fluctuation of the stock price. It can be understood that investment bank rating has an active effect on the stock price. The high or low rate in rating reports reflects the price difference between target stock price and the stock price of the day.

Bradley, Michael, and Lee M. Wakeman(1981) put forward that the change of rate delay the change of price, other than guidance immediately[13]. In stock market, it shows that when rating report gives grade for enterprise, the stock price will change remarkably after a period of time. It means that time also has effect on rating reports. Therefore, we propose the following hypotheses.

H1: During the credit crisis, compared with the real stock price, the higher level of the target stock price reported by investment bank is, the more likely the stock price of target enterprise will be declined after a month.

2.1.1 Influence of Report Release Timing on Stock Price

According to Beb’s Law, the following upsetting factors less to the person after first intense irritation. For one’s perception, the first strong irritation can relieve the following smaller ones and the impact on feeling decreases progressively. The credit crisis began in April, 2011, the influence of Chinese-concept-stock enterprises credit crisis has less and less effect on investors as time goes on. The further the time of report given by investment bank after the time of credit crisis, the less the influence of credit crisis is, the bigger the influence of rate is, so same as the influence of stock price. Therefore, we propose the following hypothesis.

H2: During the credit crisis, the later the release time of investment bank rating report is, the more likely the stock price of target enterprise will be rised after a month.
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2.2 Influence of market character of target enterprise on stock price

Williams, Schnake, Fredenberger(2005) think that the reputation of professional enterprise is higher than diversified enterprise[8]. If the credit of enterprise is doubted, the management ability will also be doubted. According to the research of Zhichun Guo (2009), once the distrust environment between persons forms and reinforces, it’s more evident for the negative and destructive “chain reaction”[9]. Under the circumstance of credit crisis, the investors will not believe the management ability of enterprise, what’s more, it will produce “chain reaction”: for other business of this enterprise. The confidence of long-term development will glide. Therefore, we propose the following hypothesis.

H3: During the credit crisis, the more diversified the target market related to the target enterprise is, the more likely the stock price of target enterprise will be declined after a month.

2.3. Influence of the rank of investment bank on stock price

The rank of investment bank doesn’t influence the stock price directly, but it will influence stock price by influencing some factors, such as rate level, release time and target market of enterprise. Jeff Jewell and Mills Livingston (1999), compared the rates of Standard & Poor, Moody, HP, they found that on the basis of owning two enterprises, hiring the third enterprise for rating will still offer more different information for market[10]. It means there exists obvious difference between the content and pattern of different rate institution. Chunbo Xu and Haitao Wang (2007) think that in order to maintain its own reputation, the investment bank of high quality will not set the price too high or too low, because it evaluates more correctly than the investment bank of low reputation. Thus their reputation influences the accuracy of investment reports[11]. Therefore, we propose the following hypothesis.

H4: Regarding the negative effect of the target stock price which reported by investment banks, compared with Chinese Internet enterprises which ranked after top ten in the ranking report, the decline rate related to the actual stock price of enterprise which ranked as top ten will be slower after a month.

H5: Regarding the positive effect of information release time, compared with Chinese Internet enterprises which ranked after top ten in the ranking report, the increase rate related to the actual stock price of enterprise which ranked as top ten will be greater after a month. According to the Social judgment theory (Eagly and Chainken, 1995), the attitude on something depends on his psychological expectation and experience of this thing[12]. The future expectation of target enterprise for investors is to compare to the level of investment bank and the ability of target enterprise. Under the circumstance of credit crisis, most investors think negative of the concept-stock. However, if top ten investment bank release the positive rate report of diversified enterprise, it is different from the expectation of investors, thus leading to the Antagonistic effects of investors easily. Therefore, we propose the following hypothesis. We summarize our conceptual framework as Figure 1.

H6: Regarding the negative effect of the market diversification of target enterprise, compared with Chinese Internet enterprises which ranked after top ten in the ranking report, the decline rate related to the actual stock price of enterprise which ranked as top ten will be greater after a month.

\[
Q_\rho = C_\rho + \alpha_\rho * X_1 + \beta_\rho * X_2 + \gamma_\rho * X_3 + \varepsilon_\rho \quad (1)
\]
3. EMPIRICAL ANALYSIS

Descriptive statistics and correlation analysis

3.1.1 Descriptive statistics

We choose 23 Chinese listed firms for analysis. From the descriptive statistical results in Table 1, we can find three questions: First, most of the rate in investment bank report are positive. Second, there is a differential between target stock price and intraday stock price (maximum=38.84, minimum=-101.09, SD=17.69984). Third, the stock price changes of one day (SD=2.21596), the stock price changes of one week (SD=5.52331), the stock price changes of one month (SD=9,85473) are more varied with time, it shows that the influence of investment report decline with time.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean value</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of Report</td>
<td>1</td>
<td>5</td>
<td>4.35</td>
<td>.960</td>
</tr>
<tr>
<td>DTI&lt;sup&gt;-&lt;/sup&gt;</td>
<td>-101.09</td>
<td>38.84</td>
<td>-10.9910</td>
<td>17.69984</td>
</tr>
<tr>
<td>T&lt;sup&gt;-&lt;/sup&gt;</td>
<td>1.00</td>
<td>4.00</td>
<td>3.0970</td>
<td>.99525</td>
</tr>
<tr>
<td>OD&lt;sup&gt;-&lt;/sup&gt;</td>
<td>-6.82</td>
<td>10.97</td>
<td>.1532</td>
<td>2.21596</td>
</tr>
<tr>
<td>OW&lt;sup&gt;-&lt;/sup&gt;</td>
<td>-22.47</td>
<td>17.19</td>
<td>-9.120</td>
<td>5.52331</td>
</tr>
<tr>
<td>OM&lt;sup&gt;-&lt;/sup&gt;</td>
<td>-35.79</td>
<td>27.86</td>
<td>-5.7121</td>
<td>9.85473</td>
</tr>
</tbody>
</table>

3.1.2 Correlation analysis

From the correlation analysis results in Table 2, we can find three questions: First, the stock price change of one month is significantly correlated with enterprise target market(r=-0.245, p<0.01), it shows that enterprise target market affects on the range of the one month stock price. Second, the range between target price and intraday price is significantly correlated with enterprise target market (r=-0.424, p<0.01), it shows that enterprise target market affects on the range between target price and intraday price. Third, the range between

<sup>-</sup> DTI: The range between target price and intraday price
<sup>-</sup> T: Release time
<sup>-</sup> OD: The stock price changes of one day
<sup>-</sup> OW: The stock price changes of one week
<sup>-</sup> OM: The stock price changes of one month
target price and intraday price is significantly correlated with rank of investment bank \((r=-0.221, \ p<0.05)\), it shows that rank of investment bank affects on the range between target price and intraday price.

<table>
<thead>
<tr>
<th>Table2</th>
<th>Correlation Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIB^1</td>
<td>RIB</td>
</tr>
<tr>
<td>coefficient</td>
<td>1</td>
</tr>
<tr>
<td>Sig.</td>
<td>.854</td>
</tr>
<tr>
<td>TM^2</td>
<td>coefficient</td>
</tr>
<tr>
<td>Sig.</td>
<td>.854</td>
</tr>
<tr>
<td>DTI</td>
<td>coefficient</td>
</tr>
<tr>
<td>Sig.</td>
<td>.029</td>
</tr>
<tr>
<td>T</td>
<td>coefficient</td>
</tr>
<tr>
<td>Sig.</td>
<td>.089</td>
</tr>
<tr>
<td>OM</td>
<td>coefficient</td>
</tr>
<tr>
<td>Sig.</td>
<td>.433</td>
</tr>
</tbody>
</table>

3.1 Regression analysis

3.2.1 Affect one month real stock price variability factors (not considering investment banks credit ranking)

From the test result of table 3, it can be concluded that, enterprise target market \((t=-4.461, \ p<0.001)\), the stock price movement of the day \((t=2.092, \ p<0.001)\) and information release time \((t=-2.372, \ p<0.001)\) has significant influence on one week real stock price change, but investment bank credit ranking \((t=-0.302, \ p<0.001)\) has no direct effect on one month real stock price.

Enterprise target market \((\beta_2=-9.783, \ p<0.001)\), the stock price changes of the day \((\beta_3=-.141, \ p<0.05)\) and one week real stock price changes negative correlation significantly. Information release time \((\beta_4=1.958, \ p<0.05)\) and one week real stock price changes positive correlation. It shows that:

1. Compared with the stock price of the day, the higher the target stock price is, the more one month real stock of target enterprise will decline. It shows that investment banks evaluates target stock price much more higher, deviating from the actual stock price more, consumers will be more mistrust to blindly optimistic investment banks report, resulting one month real stock of target enterprise decline more. So Hypothesis 1 is established.

2. The later the time of investment bank release information is, the more one month real stock of target enterprise will rise. Sample data intercepted in the study is four months data following Chinese-concept-stock credit crisis. It shows that, with investment bank report release time longer from Chinese-concept-stock credit crisis, the role investment bank report plays in will be much more stronger, resulting an increase in confidence of investors in the target enterprise. So Hypothesis 2 is established.

3. The more diversified the target market of target enterprise is, the more one month real stock of target enterprise will decline. It can be seen from the following two aspects: First is target enterprise market diversity, resulting that market has a question of enterprise management ability. The more diversified target enterprise market is, consumers will be concerned that because of one bad main business performance, resulting the whole enterprise to get into trouble. So the more the enterprise diversified, the more one month real stock of target enterprise will decline; Second is that investment bank report generally analyze a part of the main business, for

[^1]: RIB: The different between target price and intraday price
[^2]: TM: Target market of enterprise
single main business enterprise, investment bank report has a thorough analysis of the cash and the operating status, which has a higher reference value than main business diversified enterprise, thus the stock price decline less. So Hypothesis 3 is established.

Considering that investment banks credit ranking exists differences, it leads to a change in the mechanism above. Whether top ten in investment bank ranking or not has a significant effect on one month stock price real change factors.

### Table 3 Affect one month real stock price variability factors regression analysis (not considering investment banks credit ranking)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Standard error</th>
<th>T statistic</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment banks credit ranking</td>
<td>-0.596</td>
<td>1.975</td>
<td>-0.302</td>
<td>0.764</td>
</tr>
<tr>
<td>Enterprise target market</td>
<td>-9.783</td>
<td>2.193</td>
<td>-4.461</td>
<td>0.000</td>
</tr>
<tr>
<td>The stock price changes of the day</td>
<td>-0.141</td>
<td>0.060</td>
<td>2.372</td>
<td>0.020</td>
</tr>
<tr>
<td>Information release time</td>
<td>1.958</td>
<td>0.936</td>
<td>2.092</td>
<td>0.039</td>
</tr>
</tbody>
</table>

3.2.2 Affect one month real stock price variability factor (considering investment banks credit ranking)

From table 4, we can see that the top ten in investment bank ranking and not the top ten have significant effect on enterprise target market, the stock price changes of the day and information release time. It shows:

(1) It can be seen that whether top ten in investment bank ranking or not, the stock price changes of the day ($\beta_{12}=-0.076$, p not significant; $\beta_{22}=-0.145$, p<0.1) and one week real stock price changes exist negative correlation, but top ten in investment bank ranking can significantly reduce the decline degree of one month stock price of the target enterprise. That is to say, when the target stock price of investment bank ranking is much higher than actual stock price, compared to the ranking following top ten, the top ten in investment bank ranking can more significantly reduce the decline degree of one month actual stock price of the target company. So Hypothesis 4 is established.

(2) From table 4 it can be inferred that, in rating report of the top ten in investment bank ranking, information release time ($\beta_{12}=1.91$, p<0.1) is more significant than those that not the top ten. That is to say, when information release time of investment bank ranking is much latter, compared to the ranking following top ten, the top ten investment bank can more significantly improve the rising degree of one month actual stock price of the target enterprise. It is because the reputation of top ten investment bank is better than any other investment bank, which have greater influence, thus the report issued by investment banks has greater influence. So Hypothesis 5 is established.

(3) On the factor of enterprise target market, the top ten investment banks ($\beta_{11}=-11.74$, p<0.001) and other investment banks($\beta_{21}=-8.61$, p<0.05) are negatively correlated, but the top ten investment banks can significantly speed up the decline degree of one month actual stock price of diversified enterprise. It is a conclusion contrary to the logic. It can be seen from following aspects: Under the condition of Chinese-concept-stock credit crisis, the majority of investors are negative and distrust about Chinese-concept-stock, and when the investment bank of good reputation release positive rating report about main business diversified enterprise, it is obvious to cause great difference with the psychological expectations of investors, thus easily causing investors’ negative effect. That is to say, when the target market of target enterprise is much more diversified, compared to the ranking following top ten, the top ten investment banks can more significantly improve the decline degree of one month actual stock price of the target enterprise. So Hypothesis 6 is established.
<table>
<thead>
<tr>
<th>The rank of investment bank</th>
<th>Variables</th>
<th>Coefficient</th>
<th>Standard error</th>
<th>T statistic</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top ten</td>
<td>TM</td>
<td>-11.74</td>
<td>2.193</td>
<td>-4.4224</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>OD</td>
<td>-0.076</td>
<td>0.060</td>
<td>-8.08</td>
<td>0.424</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>1.919</td>
<td>0.936</td>
<td>1.881</td>
<td>0.068</td>
</tr>
<tr>
<td>others</td>
<td>TM</td>
<td>-8.611</td>
<td>3.549</td>
<td>-2.426</td>
<td>0.019</td>
</tr>
<tr>
<td></td>
<td>OD</td>
<td>-0.146</td>
<td>0.087</td>
<td>-1.689</td>
<td>0.097</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>2.044</td>
<td>1.734</td>
<td>1.179</td>
<td>0.244</td>
</tr>
</tbody>
</table>

4. CONCLUSIONS AND IMPLICATIONS

4.1 Conclusions

(1) Release time of rating report, target stock price and enterprise target market have significant influence on the fluctuation of stock prices.

When the release time is much later, the difference between target stock price and actual stock price will be much smaller and single main business can reduce one month real stock price fluctuation. Chinese concept stocks seek for investment bank's help, and they should pay attention to choose the right time, other than seeking help at the beginning of the crisis. Instead, they can seek help after the crisis. In the meantime, investors prefer to believe the rating reports whose target stock price is near to enterprise actual stock price. Therefore enterprises in crisis should not blindly seek for reports with a high target price which may instead cause investors’ doubt about the reliability. In addition, Investors tend to believe that a specific enterprise develops diversified business due to bad operation of its main business, thus blindly seeking for the investment market's attention. As a consequence, investors' confidence toward the enterprise’s potential growth may decline.

(2) Investment bank credit ranking can significantly influence the rating report release time, target stock price and target market, thus leading to a change in the mechanism above.

When the level of investment bank credit ranking is much higher, the target stock price of rating is higher than the actual stock price, the information release time is much latter, the degree of the actual stock price in one month of the target company will be significantly lowered When the business of the target enterprise is much more diversified, investment bank of higher reputation can significantly reduce the actual stock price in one month of the target company.

4.2 Implications

From the aspect of investment bank, the article put forward the strategies which can help the Chinese oversea listed enterprises, especially electronic business enterprises to effectively deal with the credit crisis. Under the condition of global economic recession, Chinese concept stocks suffered a lot from the credit crisis. Enterprises in crisis can relieve consumers and build their confidence through employing well-known investment banks to give ratings, issue true financial report and clarify the negative information, which can further prevent the abnormal decline of stock prices in a short period of time and lower the risk of being delisted. Moreover, when employing investment banks, enterprises should emphasize the choosing time and target stock price. All in all, it is better for enterprises in crisis to stay away from the crisis time and keep the target stock price close to the actual market price, so as to avoiding the stock price slid effectively.
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