

ACCURACY OF AUDITING INFORMATION IN PREDICTING BUSINESS RISK OF COMPANIES LISTED ON CHINESE STOCK EXCHANGES

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ABSTRACT

This study investigates whether auditing information is helpful in predicting companies that are considered at a high business risk of going out of business. We use 2003-2012 data from China publicly listed companies. Companies receive standard audit opinions over 95% of the time. Non-standard opinions (qualified, unqualified with explanations, disclaimers or nondisclosure of audit opinions) are significant indicators of high risk, and investors are well advised to pay special attention to these types of opinions. Big Four auditing firms were very rarely engaged by high risk firms. The overall market for Big Four firms is close to 10%. However, only 1 out of 144 high risk observations is audited by a Big Four firm. Big Four auditors charge a median audit fee of three million Chinese dollars while other auditors' median audit fee is only half a million Chinese dollars. In addition, many companies are switching to one of the Big Four audit firms. If the current trend continues, their market share is likely to grow. Thus, it appears that the global reputation of the Big Four auditing firms does pay off financially, and this situation is likely to continue as more and more firms switch to Big Four audit firms.

INTRODUCTION

China overtook Japan as the second largest economy in 2010. Many financial analysts see the Chinese stock market as alluring, since it is trading right where it was about a decade ago [17]. Yet China's domestic equities market is still immature -- and highly volatile [27]. A means to effectively evaluate future prospects of a company, and particularly the likelihood of significant business risk, would be particularly useful to investors. One long-used information source for investors has been the audit report, which provides the only direct communication between the auditor, as financial expert and unbiased reporter, and the investing public. This paper will provide insight into whether auditors' opinions and/or fees are useful as a predictor of high risk Chinese public companies'. High risk for this paper is defined as follows: Delisting. Delisting for reasons other than merger or privatization will cause shareholders heavy losses. Needless to say, it is a risk shareholders want to avoid. We do not consider delisting due to merger or privatization as high risk; temporarily being taken off the market. This is another big risk that shareholders want to avoid. A stock that is temporarily taken off the market does not mean that it will not recover and get back on the market so that it is again available to be traded. However, the event shakes the confidence of investors or potential investors and has a definite negative effect on the stock value; starting in 2013, the Shanghai Stock Exchange discloses high risk companies to the general public on its official website: www.sse.com.cn. The stock exchange uses many factors to determine that a company is high risk. Reporting net losses in two or three consecutive years is the main criterion for categorizing a company as high risk.

The following research questions are considered in this paper: What is the overall performance of auditors' opinions in predicting high risk Chinese companies? Are Big Four auditing firms more likely to issue non-standard audit opinions than other auditing firms? Are Big Four auditing firms less often engaged by high risk firms? Are audit fees higher for high risk firms?

LITERATURE REVIEW

Risk and Business Failure Prediction Models

Because the ability to accurately predict firms that are at high risk for business failure would be a huge benefit to investors, a variety of models have been developed in the academic literature to address this issue. These include MDA, logit, probit, recursive partitioning, hazard models, and neural networks. Summaries of the literature on these techniques are provided in Zavgren [37], Jones [19], O'leary [25], Boritz, Kennedy & Sun [8] and Agarwal & Taffler [4]. Despite the many models available, both the business community and researchers often rely on the models developed by Altman [3] and Ohlson [26] [8]. Beaver [5] presented empirical evidence that certain financial ratios gave statistically significant signals that a firm was at high risk for failure well before it actually failed. Altman [3] extended Beaver's [5] analysis by developing a discriminant function which combines ratios in a multivariate analysis. Wang and Campbell [34] used Altman's Z-score to predict business failure for Chinese publicly listed companies for the period 2000 – 2008. They found the basic model to be effective at predicting business failure and a revised model to be even more effective. Alareeni and Branson [2] found that the Altman Z-score model [3] is generalizable for Jordanian firms for assessing failed industrial companies. However, for service companies the Altman model could not provide strong indicators to differentiate between failed and non-failed companies. Ohlson [26] developed a second widely used model. To overcome the limitations of the MDA model, Ohlson [26] used the logit regression model with US firms to develop an estimate of the probability of failure for each firm. Ohlson's methodology allows calculation of the probability that a firm will move toward failure. Wang and Campbell [35] used a re-estimated version of the Ohlson model to study its effectiveness for Chinese publicly listed companies. Hillegeist et al. [18] found that market-based measure BSM-Score is a better predictor than accounting-based measures in explaining the cross-sectional variations in the actual probability of bankruptcy. Chen and Schoderbek [12] using logistic regression model found the following variables significant (in order of importance) in predicting the probability of delisting: Chapter 11 filings, shareholder lawsuits, SEC investigations, going concern audit opinions, violations of the financial guidelines, firm's trading volume and one-year stock return. Financial guidelines are outlined in the AMEX *Company Guide*. These Company Guides are delisting guidelines. The delisting guidelines are based on the company's stockholders equity, number of years of consecutive losses, and the company's income history. Kluger and Shields [21] found that the quality of bankruptcy prediction models reflects the quality of information, which provided indirect evidence of managerial information suppression.

Auditing and Business Risk

Impacts of auditor, audit opinion, and audit fee on business risk are extensively studied. Sundgren [31] used data from Finnish companies to investigate the relationship between audit quality, modified audit opinions and the likelihood of bankruptcy. Sundgren [31] found that liquidating bankruptcy was less common for companies audited by Big Four audit firms, but the support for this finding is relatively weak. However, he did find a strong correlation between modified audit opinions and the likelihood of bankruptcy. Gaeremynck and Willekens [14] used Belgian companies that terminated operations in 1995

or 1996 and had received no disclaimer of opinion from their auditors prior to liquidation. They found that Big Six auditors were more likely to issue other than clean opinions than non-Big Six auditors. Teoh and Wong [32] provided evidence that larger auditors generate more precise earnings and that investors' response to an earnings surprise will depend on the perceived credibility of the earnings report. A higher quality audit report is generating earnings reports with greater credibility for investors. Larger auditors were found more credible. Kausar, Taffler and Tan [20] found that the market fully responds to going-concern withdrawal announcements but under-reacts to the going-concern announcement itself. It was demonstrated that despite clear adverse signals about the firm's continuing financial viability the going-concern announcement is not being fully reflected by the market on a timely basis. Menon and Williams [23] finds that going concern audit reports lead to negative excess returns. The reaction is more negative if the going concern audit report cites a problem with obtaining financing. Also the reaction is more adverse if the going concern audit report discloses technical violations of a debt covenant. The market reaction gets more negative as the level of institutional ownership increases, and there is a decline in institutional ownership after the going concern audit report is issued. The results are attributed to sophisticated investors' awareness of the firm's financing needs and the covenants carried by the firm's debt. Blay, Geiger and North [7] found that market valuation is significantly altered from a focus on both the income statement and the balance sheet to a balance sheet-only focus in the year a company receives a first-time going-concern modified opinion. The analysis also found that the market devalues a company's inventory and places increased weight on cash, receivables, and long-term assets and liabilities as a result of the auditor's modified opinion. The results provide evidence that the market interprets the going-concern audit opinion as an important communication of risk that results in a substantial shift in the structure of the market valuation for distressed firms. Tsai, Lee, and Sun [33] found that models that used auditors' opinions, market factors, macroeconomic factors, and industry factors perform better than financial ratio-only models in financial distress prediction. Chen and Church [11] found that going concern audit opinions have information value. Firms receiving going concern audit opinions experience less negative excess returns in the period surrounding bankruptcy filings than those receiving unqualified opinions. Mutchler, Hopwood and McKeown [24] found that the auditors' going-concern audit opinion decisions in the presence of bankruptcy are significantly correlated with the probability of bankruptcy. Also that going-concern audit opinion is significantly correlated with both payment and covenant defaults. Various studies conclude that audit fees are positively associated with corporate failure [6] [28] [29]. Bell, Landsman, and Shackelford [6] used confidential survey data collected by a large international accounting firm. They found that auditors obtain business risk compensation through billing additional hours. Seetharaman, Gul, and Lynn [28] focused on UK firms offering to sell their securities publicly in the United States. They concluded that audit fees reflect risk differences across liability regimes. Stanley [29] used a large sample of U.S. public company. The results provided initial evidence that audit fee disclosure is a leading indicator of the operating performance dimension of clients' business risk. Krishnan et al. [22] concluded that audit fees are positively associated with earnings management.

METHODOLOGY

Data Collection

We used a combination of methods for data collection. Most of our data are obtained from the China Center for Economic Research (CCER) database. We manually collected data that are not available from CCER through sina.com.cn and the official website of the Shanghai Stock Exchange, www.sse.com.cn. We will not use data from Shenzhen Stock Exchange because it does not identify companies as high risk. This study includes data for the years 2003-2012.

Audit Opinion

In this study, we evaluate the audit opinion's overall effectiveness in identifying high risk companies up to five years prior to classification as high risk as defined in the introductory section. Overall effectiveness does not necessarily reflect the potential investor losses for misclassification. There are two types of misclassifications. The first type is to misclassify a company as low risk while it is high risk (Type I error). The second type is to misclassify a company as high risk while it is not (Type II error). The significance of these two types of misclassification is different. Type I errors are potentially more damaging to investors compared with Type II errors. We will identify overall effectiveness as well as the extent of Type I error and Type II error.

Big Four Auditing Firms

There are various research studies concerning whether Big Four auditing firms make a difference compared with other auditing firms [14] [16] [31] [32]. We believe our paper will add valuable insight to both the academic literature and to practice by analyzing the effectiveness of auditors' opinions in general and the effectiveness of Big Four auditing firms versus other auditing firms in predicting high risk companies. We divide the data into four groups: High risk/Big Four, high risk/other, low risk/Big Four, and low risk/other. Here Big Four means the auditor of the company is Big Four auditing firm. Other means the company is audited by other auditing firms.

Audit Fee

Prior literature suggests that higher audit fees are associated with business risks. Bell, Landsman and Shackleford [6] found that audits of clients associated with high business risk are associated with higher audit fees due to increased audit effort. Seetharaman, Gul, and Lynn [28] pointed out that increased litigation risk may be reflected in audit fees. Stanley [29] suggested that audit fee is a leading indicator of the client's business risk.

Development of Delisting Prediction Model

We develop an overall high risk prediction model with type of auditing firms (Big Four vs. other) , type of audit opinion, amount of audit fee (scaled by size), increase of audit fee, nondisclosure of audit fee, and switch of auditors as independent variables. We control for ownership type and industry as defined by the CCER database. The econometric methodology of logistic analysis was chosen. The dependent variable is binomial and is defined as 1 if the firm is high risk and 0 if the firm is low risk.

RESULTS

The results of this study show that audit opinions can be useful in identifying companies with a high risk of failure within the succeeding 5 years. Non-standard opinions (qualified, unqualified with explanations, disclaimers or nondisclosure of audit opinions) are significant indicators of high risk, and investors are well advised to pay special attention to these types of opinions. Companies in the materials industry are twice as likely to be high risk compared with companies in other industries. We are unable to determine whether audits by Big Four firms were more effective than audits by other firms, because only 1 high risk firm was audited by a Big Four auditing firm. In our sample, Big Four auditing firms were very rarely engaged by high risk firms. This could be due to the care with which Big Four firms select their clients, or because high risk firms are careful not to engage Big Four audit firms, or for some

other reason. We see the market share for Big Four audit firms increasing, assuming the current trend of companies switching to Big Four firms continues. We see a lot of good news for Big Four firms. Their market share is likely to grow. Their clients are rarely considered high risk. They charge a median audit fee of three million Chinese dollars compared with other firms' half million Chinese dollars. We believe the global reputation and prudent practice of the Big Four audit firms enables them to charge a very high premium for their audit services.

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