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Debt covenants and credit spread valuation: The special case of Chinese global bonds

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ABSTRACT

Bond covenants protect against risk factors in Chinese global bonds. This paper examines the impact of bond covenants on credit spread valuation and the configural cue processing of analysts in the aftermath of the Global Financial Crisis at the beginning of the 2011 China economic slowdown. We used a mixed methods approach that incorporates surveys and interviews to collect data from bank and investment analysts representative of the market. The results reveal important and statistically significant relationships between Chinese global bond valuation and covenant protection against 1) information asymmetry; 2) the agency problem; 3) financial distress and 4) bankruptcy. Covenant protection against bankruptcy is identified as the most significant factor in main effects and two-factor interactive effects. This is followed by a moderate influence on bond valuation from covenant protection against agency problems, financial distress and information asymmetry risks.

Executive summary

The extant bond valuation literature is mainly targeted toward U.S. or European audiences and has a lesser emphasis on the qualitative aspects of valuation. Further, the inclusion of bond covenants is not explicitly addressed in pricing models even though there is empirical evidence of their impact on valuation. This research aims to enrich and update the current bond valuation literature in China by looking at the use and significance of bond covenants in the risk pricing process.

Four key risk pricing factors that bond covenants protect against are identified in the literature: information asymmetry, the agency problem, financial distress, and bankruptcy. Perceived covenant protections

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against these risk pricing factors are examined for their individual and interactive effects on bond valuation. Additionally, the self-insight of analysts is explored to enrich insight into the valuation literature from a behavioral finance perspective.

Results show that all four covenant protection factors are significant with respect to their impact on bond valuation. In particular, covenants that protect against bankruptcy have the greatest significance while covenant protection against information asymmetry has the least effect on valuation. Covenants that protect against bankruptcy in interaction with other covenants also show greater significance. Further, this research finds that interaction effects are greater than individual factor effects in bond valuation, implying that analysts predominantly use combinations of covenants to secure protection against the identified risk factors. Self-insight findings – measured by comparing the subjective and objective factor weights – suggest that analysts possess limited self-insight in respect to the influence of the various covenant protections on their bond valuation decision.

1. Introduction

There is no shortage of studies exploring emerging bond markets and comparing differences in their investment foci and risk pricing factors with developed bond markets (e.g. Dailami & Hauswald, 2003, Fan, Titman, & Twite, 2003, Friedlob & Schleifer, 2002). However, few studies have explored the effect of varying bond covenant protection on Chinese global bond valuation. The extant bond covenant literature focuses mainly on developed countries, but needs to be extended given the rising prominence of China in global financial markets.

The Global Financial Crisis, or so called “financial tsunami” in China after 2008 greatly altered investors' risk tolerance. The bankruptcy of U.S. investment bank Lehman Brothers and subprime mortgage lending of the U.S. government sponsored enterprises in Fannie Mae and Freddie Mac, years preceding the crisis played important roles in relaxing debt underwriting standards. In China, Sino-Forest Corporation's and China Forestry's global bond default cases in 2010 and 2013 challenged investors' confidence in China's financial system and credit instruments. These defaults continue to focus analysts on risk protection in their investments.

The main purpose of Chinese global bond covenants is to protect investors against risk and secure their investments. Even so, research on China debt covenants is still rare. This research aims to examine debt covenant influence on credit analyst valuation in Chinese global bonds. The key roles of financial analysts are assessing and valuing companies (Biggs, 1984; Bing, 1971; Hopkins & Ross, 2014).

This paper focuses on the impact of covenant protection against security-specific risks of information asymmetry, agency problems, financial distress, and bankruptcy. We look at the impact of perceived covenant protection on bond valuation and report on the importance of each on valuation. This study also examines the degree of configural cue processing, i.e., the interactive effects of the covenant protection factors on bond valuation and analyst self-insight into their valuation decisions.

In Section 2, the literature review presents the standard features of Chinese global bonds and introduces the four covenant protection risk factors. It then provides the study's analytic framework and theoretical background, as well as our research questions and hypothesis. Section 3 presents the study's methodology. Section 4 presents both the experimental and interview data findings, while Section 5 discusses the findings and implications of the results. Section 6 presents our conclusions, the limitations of our findings, and recommendations for future research.

2. Literature review and research model development

Our research model is grounded in prior work researching the modeling of covenants (Callahan, Leone, Yang, & Zhang, 2014; Fan & Sundaresan, 2000; Panyagometh, Roberts, Gottesman, & Beyhaghi, 2011), the risky debt model (Bhanot & Mello, 2006; Black & Cox, 1976; Elizalde, 2003; Merton, 1974), wealth transfer (Asquith & Wizman, 1990; Kaplan & Stein, 1990), the agency problem (Bradley & Roberts, 2003; Smith & Warner, 1979a, 1979b), design of security (Nachman & Noe, 1994), and credit rating (Marais, Schipper, & Smith, 1989; Silva & Azevedo-Pereira, 2006). The model addresses how bond covenants help to protect against Chinese bond risk factors while maximizing firm values, and hence improve credit spread valuations.

In China, most large companies maintain highly geared capital structure which rely heavily on bank loans. The Chinese global bond market is newly developing with increasing global investor attention. Chinese issuers predominantly use the offshore dollar bond market in Hong Kong. As these Chinese enterprises have their

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