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Credit Rating Changes and Subordinated Bond Spread: Evidence from China

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Abstract

We examine the bond spread reaction to subordinated bond rating changes during the sample period of 2006 to 2011 and find that bond spread reacted positively to downgrades, big in magnitude, but not statistically significant. The bond spread reaction to upgrades, however, was mixed and statistically insignificant, and small in magnitude. We conjecture that the insignificant statistical results regarding the effect of rating changes may be due to the lack of informational content of the ratings assigned to the subordinated bonds by Chinese credit rating agencies (CRAs).

Keywords: Credit rating changes, Subordinated bond, Spread, China

1. Introduction

The January 2013 deadline for the Basel III reforms has led to a rush by Chinese banks to expand their capital base. Unless banks unload their subordinated debt, any new issue from 2013 onwards will be subject to the new and tougher regulations on subordinated debt. Banks will bear higher costs from issuing subordinated debentures when Basel III is implemented on January 1 because the new standard requires subordinated debt, which is part of Tier 2 capital, not to offer redemption incentives or issue step-ups to buyers.

The rules have prompted banks including the Big Four state-owned banks, to speed-up their debt issuance plans. Under Basel III, funds raised by banks through subordinated bonds won't be counted as part of their capital base, unless investors are willing to write down the value of the debt entirely or allow the bonds to be converted into shares. This means sub-debt investors, more often domestic financial institutions and insurers who prefer to be ranked above ordinary shareholders in case of a default, will have to reconsider their risk-assessment models when making such investments.

Actually, China's commercial banks have scrambled to issue subordinated bonds in order to replenish their capital base amid sluggish performances in the capital market since 2008. The amount of subordinated bonds issued by commercial banks totaled 330 billion yuan (52.4 billion U.S. dollars) in 2011. Apart from the top 4 state-owned banks, medium- and small-sized banks have also joined the issuing boom to shore up their capital base.

In this scenario, it becomes more important to understand the credit rating mechanism on the subordinated bonds issued in China and how the rating changes affect the bond spread of subordinated debt. In the present study, we examine the market reactions to bond rating announcements on subordinated bonds in the period of 2006-2011. We focus on the bond yield effects following the rating change announcements, and examine how the effects differ across upgrades and downgrades. This study contributes to the literature in four aspects. First, the study is the first study on credit ratings and market reactions on subordinated bonds for China. Second, one advantage of our study is the use of daily data to isolate the announcement effect on bond yield. We endeavor to exclude concurrent disclosure from other known sources to provide a cleaner picture about the information content of credit ratings in China, though this effect can be comprised by the paucity of trading data. Third, we further the previous studies by looking at the problems and prospects of the most recent development in credit ratings in China to assess the development stages of credit ratings and the markets, shedding light on the transitional nature of market institutions in China. An exploration of these issues would have public policy implications for shaping a sound financial market that meets financing needs of the corporate sector.

The article proceeds as follows. Section 2 reviews the credit rating literature. Section 3 describes the data and summary statistics and displays the model and empirical results. Section 4 discusses problems and prospects of the most recent development in credit rating industry in China. Concluding remarks are in Section 5.

2. Literature Review

Credit ratings, as a source of information about creditworthiness of issuers (Sinclair, 2014),

provide investors with the likelihood of whether their investment will not yield the promised return. Many researchers have been devoted to examine how the uncertainty of debt creditworthiness affects both the stock and debt values of the firm. The results that have been produced are mixed. The first line of studies has shown that a firm's debt uncertainty measures signaled by credit ratings affect its stock. Empirical studies generally provide evidence supporting the signaling hypothesis that credit ratings convey other than public information with regard to creditworthiness of issuers to investors. Numerous studies find that the stock market reacts negatively and significantly to bond rating downgrades but not to upgrades (Griffin & Sanvicente, 1982; Holthausen & Leftwich, 1986; Hand et al., 1992; Goh & Ederington, 1993, 1999; Ederington & Goh, 1998; Norden & Weber, 2004; Li et al., 2006; Kim & Nabar, 2007). Some studies argue that the market reacts more negatively to the downgrade announcements within the speculative bond category than within the investment grade category (Hand et al., 1992; Kliger & Sarig, 2000). Dichev and Piotroski (2001), Jorion et al. (2005), and Jorion and Zhang (2007) find statistically significant stock price responses to both downgrades and upgrades.

The second line of studies focuses on the link between debt and bond value uncertainties. Bond upgrades and downgrades exert different effects on excess bond return. Monthly changes in bond yields (Katz, 1974), average monthly bond prices (Grier & Katz, 1976) and monthly changes in municipal bond yields (Ingram et al., 1983) present significant reaction to rating change announcements, supporting the hypothesis that a better bond rating or a bond rating upgrade reflects lower debt value uncertainty, and vice versa. However, using monthly corporate bond returns, Weinstein (1977) and Wansley and Clauretie (1985) do not find significant reactions to downgrades or upgrades in the month of and month following a rating change, providing no support for the argument that credit ratings reveal the private information of firms to investors. The majority of the evidence on price effects rating announcements in corporate bond ratings is documented based on the US credit ratings, given the dominance of Moody's, Standard & Poor and Fitch in the global market. Few efforts has been put to examine how far bond and stock markets react to the rating announcements in other economies and especially in emerging markets, such as China, where the market and institutional framework distinctly differ from those of mature economies, leaving the emerging markets less understood and the literature less representative.

Several qualitative studies have looked at the recent development of credit ratings in China and heavily criticize that the lack of creditability and independence in credit rating exercise and question the role that credit ratings play in reducing informational asymmetries and the relevance of ratings to investors (Bottelier, 2003; Kennedy, 2003). In a related study, Poon and Chan (2008) is the first among them to conduct a quantitative analysis on credit ratings and their impact on stock returns. Poon and Chan (2008) identify the certification and signaling effects, and concludes that credit ratings assigned by the domestic rating agency can generate information effects and that the market is efficient enough to react to the news. Although the study provides valuable information on the market efficiency associated with credit ratings in China, the implication is limited in a number of ways. The study does not exclude contaminated information that is concurrently announced from other known sources, leading to the questioning of validity of the conclusion that the responses in the stock markets

are as a result of the rating announcement and changes. The study pools all bond issues together, without considering differential price effects that bond issues with different maturities may have. The study covers the period of 2002-2006, and so the implication is only confined to the early stage of credit ratings industry in China. Consequently, whether and to what extent rating changes bring new information to financial markets, especially bond markets in China, is a question unresolved by the literature.

3. Model and Empirical Result

We use the transaction data and rating changes from Bankscope, WIND and China Chengxin International Credit Rating Co., Ltd. (CCXI). CCXI was licensed by the People's Bank of China and the Ministry of Commerce in 1987 and is the first Sino-foreign joint venture which was set up in 2006 between Moody's and its parent company, with Moody's holding 49% stake in CCXI and having an option to increase its ownership over time as permitted by Chinese authorities (Note 1).

Table 1 reports the name and ticker of 23 Chinese commercial banks who issued subordinated bonds between 2006 and 2011. This table also shows the total assets of these banks by the end of 2011 and relevant country rank and world rank based on their total assets. Affected by the huge credit scale, the capital adequacy ratios of all Chinese banks declined sharply in the past few years. The capital adequacy ratios in some banks were even lower than 8 percent before 2009. Under heavy pressure, all banks, especially medium- and small- size banks had to attempt all means to raise capital. They showed special interest in subordinated bonds although it is not the only way to raise funds.

Table 1. Chinese banks who issue the subordinated bonds with rating changes

Bank Name	Ticker	Country Rank by Assets	World Rank by Assets	Total Assets (million USD)
China Merchants Bank	CMB	9	86	362,758
Shanghai Pudong Development Bank	SPDB	10	92	330,884
China CITIC Bank	CITICB	11	100	314,260
Industrial Bank	IB	12	112	279,284
China Everbright Bank	CEB	14	129	223,457
Hua Xia Bank	HXB	15	164	157,081
China Guangfa Bank	GFB	16	195	122,966
Bank of Beijing	BJB	17	208	110,708
Shenzhen Development Bank	SDB	18	209	109,863
Bank of Shanghai	SHB	19	251	85,578
Bank of Jiangsu	JSB	20	310	64,995
Evergrowing Bank	EB	23	474	41,389
Bank of Ningbo	NBB	25	489	39,752
Shanghai Rural Commercial Bank	SRCB	27	512	37,949
Bank of Nanjing	NJB	28	552	33,443

Bank of Hangzhou	HZB	29	559	32,830
China Zheshang Bank	CZB	30	560	32,812
Bank of Dalian	DLB	35	674	26,085
Harbin Bank	HRB	42	829	19,902
Shengjing Bank	SJB	45	893	16,604
Bank of Dongguan	DGB	47	914	16,256
Bank of Zhengzhou	ZZB	91	2110	4,160
Bank of Deyang	DYB	110	3273	1,841

Source: Bankscope.

We use WIND to identify rating changes by the CCXI, Lianhe and Dagong between 2006 and 2011. We are able to obtain the ratings history and necessary bond characteristics data (e.g. maturity, coupon rate, etc.) from WIND. At the issue level, the imposition of these screens results in a preliminary sample of 41 bond rating changes (2 downgrades and 39 upgrades). However, trading activity around rating changes illustrates the illiquidity of the subordinated bond market in China. 19 issue level observations mentioned above trade on fewer than fourteen days during the 201 market days centered around Day 0 (Day -100 to +100), where Day 0 is the rating change data, or do not trade at all. To deal with this illiquidity, we impose trading restrictions. For all our analyses of daily spread, we require a bond to trade on at least 10 days during Day -30 to +30. This screen is similar to the one employed by Bessembinder et al. (2009). Table 2 reports the preliminary sample of 41 bond rating changes. Table 3 reports the screened sample of 22 bond rating changes.

Table 2. Preliminary sample of 41 rating changes

Bond	Latest rating announcement date	Latest rating	Adjustment	Previous rating announcement Date	Previous rating
05NJB01	2011/7/27	AA	Up	2010/7/28	AA-
06CMBC01	2007/7/30	AA	Down	2006/7/28	AAA
06CMBC01	2008/7/24	AA+	Up	2007/7/30	AA
06CITICB01	2010/7/27	AAA	Up	2009/11/10	AA+
06CITICB02	2010/7/27	AAA	Up	2009/11/10	AA+
06CZB	2011/6/26	AA-	Up	2010/7/20	A+
06CZB	2007/7/31	A+	Down	2006/4/30	AA-
06CZB	2008/1/15	A	Up	2007/7/27	A-
06CZB	2009/4/22	A+	Up	2008/6/26	A
06CZB	2010/11/17	AA-	Up	2010/7/27	A+
06CZB	2011/7/15	AA	Up	2010/11/17	AA-
06IB02.FX	2010/3/30	AA	Up	2009/11/4	AA-
06IB02.FL	2010/3/30	AA	Up	2009/11/4	AA-
06HZB01	2011/7/27	AA	Up	2010/7/28	AA-

07HXB01.FX	2010/3/30	AA	Up	2009/11/4	AA-
07HXB01.FL	2010/3/30	AA	Up	2009/11/4	AA-
07DGB01	2012/7/16	AA-	Up	2011/6/13	A+
07SPDB02	2010/6/25	AA+	Up	2009/7/21	AA
07SPDB01	2010/6/25	AA+	Up	2009/7/21	AA
08SDB.FX	2011/7/26	AA+	Up	2010/7/1	AA
08SDB.FL	2011/7/26	AA+	Up	2010/7/1	AA
08SDB02	2011/7/26	AA+	Up	2010/7/1	AA
08CEB01.FX	2008/10/13	AA+	Up	2008/4/9	AA
08CEB.FL	2008/10/13	AA+	Up	2008/4/9	AA
08CEB02.FX	2008/10/13	AA+	Up	2008/4/9	AA
08GFB.FL	2010/7/29	AA+	Up	2009/7/17	AA
08GFB01.FX	2010/7/29	AA+	Up	2009/7/17	AA
08GFB02.FX	2010/7/29	AA+	Up	2009/7/17	AA
08JSB01	2011/6/17	AA	Up	2010/7/29	AA-
08JSB02	2011/6/17	AA	Up	2010/7/29	AA-
08BJB01	2010/7/15	AAA	Up	2009/7/20	AA+
08BJB01	2009/7/20	AA+	Up	2008/7/2	AA
08BJB02	2009/7/20	AA+	Up	2008/7/2	AA
08BJB02	2010/7/15	AAA	Up	2009/7/20	AA+
08SJB	2009/8/20	A+	Up	2008/7/24	A
08SJB	2012/7/24	AA-	Up	2011/7/29	A+
08HZB	2011/7/27	AA	Up	2010/7/28	AA-
09EB	2012/7/12	AA	Up	2011/5/23	AA-
09SDB01	2011/4/6	AA	Up	2010/10/29	AA-
09CZB	2011/7/15	AA	Up	2010/11/17	AA-
09CZB	2010/11/17	AA-	Up	2010/7/27	A+
09NBB	2011/7/27	AA+	Up	2010/7/29	AA
09DYB	2012/6/26	A-	Up	2011/7/28	BBB+
09JSB	2011/6/17	AA	Up	2010/7/29	AA-
09SHB01	2012/7/10	AAA	Up	2011/7/5	AA+
09SHB02	2012/7/10	AAA	Up	2011/7/5	AA+
09SRCB	2010/5/28	AA-	Up	2009/4/27	A+
09SRCB	2012/6/27	AA	Up	2011/6/13	AA-
09HRB	2012/7/27	AA	Up	2011/7/27	AA-
09HRB	2011/7/27	AA-	Up	2010/7/29	A+
09DLB	2011/4/29	AA-	Up	2010/7/23	A+
09ZZB	2012/4/27	AA-	Up	2011/7/18	A

Source: WIND.

Table 3. Screened sample of 21 rating changes

Bond	Latest rating announcement date	Latest rating	Adjustment	Previous rating announcement Date	Previous rating
05NJB01	2011/7/27	AA	Up	2010/7/28	AA-
06CMBC01	2007/7/30	AA	Down	2006/7/28	AAA
06CMBC01	2008/7/24	AA+	Up	2007/7/30	AA
07HXB01.FL	2010/3/30	AA	Up	2009/11/4	AA-
08SDB.FX	2011/7/26	AA+	Up	2010/7/1	AA
08SDB.FL	2011/7/26	AA+	Up	2010/7/1	AA
08CEB01.FX	2008/10/13	AA+	Up	2008/4/9	AA
08GFB01.FX	2010/7/29	AA+	Up	2009/7/17	AA
08GFB02.FX	2010/7/29	AA+	Up	2009/7/17	AA
08BJB01	2009/7/20	AA+	Up	2008/7/2	AA
08BJB02	2009/7/20	AA+	Up	2008/7/2	AA
08BJB02	2010/7/15	AAA	Up	2009/7/20	AA+
08SJB	2012/7/24	AA-	Up	2011/7/29	A+
08HZB	2011/7/27	AA	Up	2010/7/28	AA-
09CZB	2011/7/15	AA	Up	2010/11/17	AA-
09CZB	2010/11/17	AA-	Up	2010/7/27	A+
09NBB	2011/7/27	AA+	Up	2010/7/29	AA
09SRCB	2010/5/28	AA-	Up	2009/4/27	A+
09SRCB	2012/6/27	AA	Up	2011/6/13	AA-
09HRB	2012/7/27	AA	Up	2011/7/27	AA-
09HRB	2011/7/27	AA-	Up	2010/7/29	A+
09DLB	2011/4/29	AA-	Up	2010/7/23	A+
09ZZB	2012/4/27	AA-	Up	2011/7/18	A

Source: WIND.

We compute daily raw returns on individual bond issues following Bessembinder et al. (2009) and May (2010):

$$Bond\ \mathrm{Re}turn_{raw} = \frac{P_t - P_{t-1} + AI_t}{P_{t-1}} \tag{1}$$

Where P_t and P_{t-1} are the daily prices on days t and $t-1$, respectively, and AI_t is the interest accrued over day t. The accrued interest on day t is computed as the annual coupon payment multiplied by L, all divided by 360, where L is the number of calendar days elapsed between the close of day $t-1$ and day t. If the bond is not traded on day t, P_t is set equal to the most recent observed daily price.

We then compute the daily bond spread as the raw return minus the bench market rate:

$$BS_t = R_t - BR_t \quad (2)$$

Where on day t, BS_t is the spread of subordinated bonds, R_t is the raw bond return, and BR_t is the yield to maturity of the government bond.

Table 4. Empirical results on bond spread reaction

Bond	Latest rating announcement date	Adjustment	Trading before/after the event window (-1,+1)	Bond spread before/after the event window (-1,+1)（%）	Trading before/after the event window (-30,+30)	Bond spread before/after the event window (-30,+30)（%）
05NJB01	2011-07-27	Up	No	-0.25	Yes	-0.31
06CMBC01	2008-07-24	Up	Yes	-0.11	Yes	-0.17
06CMBC01	2007-07-30	Down	No	1.99	Yes	1.42
07HXB01.FL	2010-03-30	Up	No	0.00	No	-0.21
08SDB.FX	2011-07-26	Up	Yes	0.16	Yes	0.19
08SDB.FL	2011-07-26	Up	No	1.07	No	1.07
08CEB01.FX	2008-10-13	Up	No	0.40	No	0.40
08GFB01.FX	2010-07-29	Up	No	0.02	Yes	-0.20
08GFB02.FX	2010-07-29	Up	Yes	0.15	Yes	0.24
08BJB01	2009-07-20	Up	No	0.17	Yes	-0.80
08BJB02	2010-07-15	Up	No	0.59	Yes	0.51
08BJB02	2010-07-15	Up	No	-0.64	Yes	-0.05
08SJB	2009-08-20	Up	No	0.48	Yes	-0.16
08HZB	2011-07-27	Up	No	0.16	Yes	0.32
09CZB	2011-07-15	Up	No	-0.37	No	-0.32
09CZB	2010-11-17	Up	No	-0.43	No	-0.43
09NBB	2011-07-27	Up	No	0.39	Yes	3.33
09HRB	2011-07-27	Up	No	0.04	Yes	0.04
09DLB	2011-04-29	Up	No	-0.30	No	-0.30
09ZZB	2012-04-27	Up	No	-0.19	Yes	-0.39
09SRCB	2012-06-27	Up	No	-0.05	Yes	-0.62
09SRCB	2010-05-28	Up	No	0.13	Yes	0.25

Table 4 reports the bond spreads for the full samples of downgrades and upgrades. It suggests that downgrade has a significant effect on bond spread though there was only one downgrade

case. The downgraded bank experiences a huge increase on the bond spread in both the event windows (-1, +1) and (-30, +30). Holthausen and Leftwich (1986) and Goh and Ederington (1993) document a similar result on the abnormal bond returns for the common stock of downgraded firms. However, the bond spread of upgraded subordinated bonds either increases or decreases in both event windows. This evidence suggests that the information conveyed by an upgrade may not be fully incorporated into bond spread.

For each event window, we report a t-statistic based on the cross-sectional standard error of bond spreads to examine whether the median bond spread differs from zero. The results in Table 5 suggest that both upgrades and downgrades of the subordinated bonds in China do not have a significant effect on bond spread. This result is not consistent with May (2010), who studies the information content of bond rating changes using daily corporate bond data in the U.S. market. May (2010)'s empirical results show that the abnormal bond returns over a two-day event window that includes the downgrade (upgrade) are negative (positive) and statistically significant. We conjecture that the insignificant statistical results regarding the effect of rating changes may be due to the lack of informational content of the ratings assigned to the subordinated bonds by Chinese CRAs.

Table 5. T-statistics of mean bond spread reaction

	T-statistics	P-value	Significant
Mean bond spread before/after the event window (-1,+1)	0.8007	0.4327	NO
Mean bond spread before/after the event window (-30,+30)	0.6176	0.5437	NO

Lee (2006) argues that China's debt securities markets are being impeded by the lack of high quality independent credit-rating services. He claims that major Chinese credit-rating agencies have put too much emphasis on winning business by giving top ratings to most issuers, whether top ratings were deserved or not. Kennedy (2003) also suggests that these domestic rating agencies have no apparent impact on the decisions of corporate bond buyers in China and the market attaches little credibility to their ratings. We agree that there are many questions on the value of China's credit ratings to investors, despite the urgent need for high quality credit ratings in the emerging Chinese financial markets. The problems and prospects of China's credit rating industry development are discussed in the following section.

4. Problems and Prospects of China's Credit Rating Industry Development

Despite the rapid progress that credit ratings industry has achieved, the operations of credit ratings in China are handicapped by inefficient market infrastructure, over-regulation and

weak supervision. Over-regulation and lack of supervision have co-existed since the debut of CRAs in China. The credit rating industry is regulated by different regulatory bodies, depending on which market that the CRA works for. Each of these bodies plays a limited, un-coordinated role in monitoring and supervision. Laws and regulations concerning credit ratings are yet to form into an effective regulatory system. At present, the regulatory framework is scattered across various financial laws, rules and regulations. *The Securities Law* is the only legislation enacted by the National People's Congress that regulates credit rating, but does not have well-defined provisions regarding legal status of credit ratings, legal responsibility and fairness of credit ratings and settlement of disputes between rating agencies and investors. To a large extent, the credit rating industry remains industry self-regulated; however uniform industry standards and code of conduct do not exist (Kennedy, 2004). The lack of market infrastructure and inadequate market discipline has hindered the development of the credit rating industry.

Credit ratings are largely dependent on the regulatory policy regime, rather than operating in accordance with market mechanisms. Interest rates have long been regulated by the POBC and are not fully determined by issuers and underwriters through their own consultations in the absence of intervene of the government bodies. After the Asian financial crisis, the regulatory authorities took more strict measures, requesting that all corporate bond issuers get approval from the National Development and Reform Commission (NDRC) and interest rates be subject to the ceiling imposed by the POBC: the interest rate shall not exceed 40 percent of regular savings bank deposit rates over the same period. The cap imposed on the bond interest rate cannot reflect the risk underlying a given instrument and the risk profile of the issuer. Interest rate rigidity seriously distorts bond pricing mechanism. The departure from the risk-return relationship has inevitably increased issue costs to and risk-bearing by high-quality issuers and weakened the role of bonds as an investment tool. Credit ratings perform a limited role in adjusting market supply and demands as a consequence.

Furthermore, risk controls over bond issues rely on administrative examination and approval by the government, not to be determined by the markets. The bond markets are yet open to different types of bond issuers. Issued bonds have strict vetting and security conditions, and only the companies that have acquired AA+ grade and above are qualified for the issuance. Thus, all the listed bonds are AA+ -rated, giving rise to the "high creditability, no differentiation" phenomenon in the issuing market. No defaults on bonds have been reported since credit ratings initiated in the securities market in 1999. (Poon & Chan, 2008) The administrative intervention to risk controls over bond issues is not conductive to the cultivation of bond market mechanism and the development of credit rating system.

CRAs have yet to establish sound and effective internal management and quality control system. Given the short history of credit ratings in China, rating methodologies, though rigorous, are yet to be systematic and subject to some form of validation based on historical experience. All assigned ratings are solicited, and, unless paid, CRAs do not routinely monitor on an ongoing basis and regularly update an analysis and a rating even when new information becomes available which needs revision or termination of the opinion.

Quality and integrity of ratings are further handicapped by incomplete information about issuers, which is necessary for their decision-making. For instance, CRAs do not have information on the default history of the issuers they rate, as the POBC and the banks do not disclose such type of non-public information to CRAs. In addition to this, the documents that CRAs base on often contain false entries or misleading statements or have material omissions. It is difficult to guarantee that the opinions are based on a fair and thorough analysis of all relevant information available to CRAs and that the analysts perform their duties with integrity.

As a consequence of the afro-discussed market and institutional constraints, CRAs can hardly be distant from the activities and procedures that may compromise independence and objectivity, accuracy and impartiality, reliability and validity as well as transparency and standardization of credit rating operations. The independence, creditability and reliability of CRAs are being constantly questioned. Given the size of the market, inactivity in terms of trading and investor base and limited products, the demands for bond ratings are, thus, low. In order to win over business and increase their own revenues, CRAs knowingly cater to the demands of issuers and give the best ratings that money can buy (Kennedy, 2003, 2004). Issuers get their bonds rated to meet the requirements by the authorities, not for offering informed, independent analyses and opinions about their securities to investors. They shop for the best ratings from the five certified domestic CRAs until at least one of the agencies delivers a favorable rating. Credit ratings play little role in signaling to the market and influencing issuers' access to capital and the structure of financial transactions, not alone for regulatory purposes. Domestic investors and international analysts, hence, give little weight to the ratings assigned by the China's CRAs (Kennedy, 2003).

5. Conclusion

It has been argued that the credit ratings offered by Chinese credit rating agencies do not have information content. These criticisms are based on the fact that Chinese credit rating agencies give overly optimistic credit ratings. We examine the bond spread reaction to subordinated bond rating changes during the sample period of 2006 to 2011 and find that bond spread react positively to downgrades, big in magnitude, but not statistically significant. The bond spread reaction to upgrades, however, is mixed and statistically insignificant, and small in magnitude. We conjecture that the insignificant statistical results regarding the effect of rating changes may be due to the lack of informational content of the ratings assigned to the subordinated bonds by Chinese CRAs.

China's credit ratings are largely dependent on the regulatory policy regime, rather than operating in accordance with market mechanisms. The operations of credit ratings in China are handicapped by inefficient market infrastructure, incomplete information provided by the issuers, rating shopping behavior, and over-regulation.

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Note

Note 1. The joint venture is considered as a co-operation between the largest domestic rating agency and the most respectable international rating agency and has turned a new page of Chinese capital market and credit rating industry. Built on their 20 years' credit rating

practice and unique understanding on the domestic companies and business environment, the entry of Moody's helps CCXI to enhance rating methodologies and techniques and adopt the international rating standards to conduct higher quality credit ratings.