Journal of Banking & Finance 37 (2013) 2991–3006

Contents lists available at SciVerse ScienceDirect

Journal of Banking & Finance

journal homepage: www.elsevier.com/locate/jbf

Sarbanes-Oxley Act and corporate credit spreads ☆

Ali Nejadmalayeri [a,*], Takeshi Nishikawa [b], Ramesh P. Rao [a]

[a] Department of Finance, Spears School of Business, Oklahoma State University, Stillwater, OK 74078, United States
[b] Business School, University of Colorado Denver, Denver, CO 80217, United States

ARTICLE INFO

Article history:
Received 27 August 2012
Accepted 14 April 2013
Available online 1 May 2013

JEL classification:
G11
G12
G13

Keywords:
Sarbanes-Oxley Act
Corporate bonds
Credit spreads

ABSTRACT

Stock market reaction suggests that despite improved disclosure and increased accountability, Sarbanes-Oxley Act (SOX) is too costly and not beneficial. Noting that bondholders are likely to reap the many potential benefits of SOX without bearing the brunt of costs, we examine how SOX affected corporate credit spreads to better assess its benefits. SOX has led to a significant structural decline in spreads of at least 27 basis points. Riskier firms (low rating, long maturity, high leverage, and small size) and firms closely related to SOX major provisions (earning variability, managerial trading, and corporate governance) experience greater declines in spreads.

1. Introduction

The Sarbanes-Oxley Act of 2002 (hereafter, SOX or the Act) has changed the landscape for corporate finance, accounting, and governance. Motivated by failures of iconic corporate hallmarks like Enron and WorldCom, the Act was passed to curtail, if not eliminate, managerial misconduct and deceptive accounting in an effort to ensure alignment between managers' and shareholders' objectives. To that end, the Act instituted a host of new requirements such as more timely disclosure of insiders' transactions, top executives' certification of financial statements, certification of internal control systems, greater penalties for managerial misconduct, and stricter corporate governance. Whether the Act has been effective in mitigating the problems that it set out to resolve is the subject of lively debate, discussion, and research.

By virtue of aligning managers' and stockholders' incentives, in theory, the provisions of the Act should benefit equity holders and add value to the firm. However, as noted in the literature, the Act imposes out-of-pocket costs (e.g., implementing new accounting systems and hiring additional personnel to implement internal controls) as well as opportunity costs (e.g., reduced risk-taking by top management because of fear of litigation). Therefore, whether the Act is successful depends on the trade-off between the perceived benefits and costs of the regulation. Most analyses of the Act thus far focus on stock market evidence to assess whether the Act is, on net, value enhancing (e.g., DeFond et al., 2005; Kinney et al., 2004; Chhaochharia and Grinstein, 2007; Engel et al., 2007; Zhang, 2007). On balance, these studies imply that SOX imposes net costs to the shareholders.

However, focusing only on the stock market impact of SOX limits our assessment of its true impact on the firm. Depending on the nature of the agency conflicts that the Act mitigates, the value effects on debt and equity can be disproportionately and diametrically different. For instance, Leland (1998) analytically shows that decreasing likelihood of asset substitution drastically affects the cost of debt yet minimally impacting equity value. Maxwell and Rao (2003) find that losses to bondholders after a spin-off differ significantly from gains to stockholders. The negative impact on the stock market thus informs us only about the net effect of SOX, i.e., benefits of SOX minus the costs of SOX. Thus, a negative impact on shareholders does not necessarily mean that SOX is devoid of any benefits—only that the benefits may not exceed the costs. As residual claimants, it is easy to argue that the direct and indirect costs of SOX largely fall upon the shareholders. We suggest that bondholders, by virtue of their senior claimant status vis-à-vis shareholders, are likely to reap many of the benefits of SOX while bearing a disproportionately smaller share of the costs.

☆ We would like to thank seminar participants at the University of Arizona, the University of Arkansas, Multimedia University (Malaysia), and the University of Colorado Denver for valuable comments. While retaining full culpability, we thank readers for their comments.

* Corresponding author. Tel.: +1 9183988323.
E-mail addresses: ali.nejadmalayeri@okstate.edu (A. Nejadmalayeri), takeshi.nishikawa@ucdenver.edu (T. Nishikawa), ramesh.rao@okstate.edu (R.P. Rao).

0378-4266/$ - see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.jbankfin.2013.04.013

By imposing stricter managerial disciplining, SOX can lead to less managerial misconduct and fraud thus reducing the agency costs detrimental to bondholders (Chava et al., 2010). SOX can also benefit bondholders through better corporate governance (Klock et al., 2005). Lastly, by forcing executives to certify their financial reports, SOX ensures a "commitment to truthful disclosure" (Goto et al., 2009) thus leading to more precise, less ambiguous information and ultimately smaller credit spreads (Duffie and Lando, 2001; Epstein and Schneider, 2008). The corporate bond market thus provides a unique experimental framework to measure gross benefits of SOX. Since SOX was primarily intended to address the conflicts between shareholders and managers then any evidence from corporate bonds is even more telling about the effects of the Act. A finding of insignificant change in credit spreads or an increase in spreads post-SOX would imply that the Act's benefits are, in all likelihood, of little consequence. On the other hand a decline in spreads would suggest that there are significant benefits to SOX but that from the shareholders' perspective these benefits may not offset the costs.

In this study, we examine the structural impact of SOX on corporate credit spreads. Similar to recent empirical studies of credit spreads (e.g., Collin-Dufresne et al., 2001; Chen et al., 2007; Guntay and Hackbarth, 2010; Klock et al., 2005; Nejadmalayeri and Singh, 2012; Nejadmalayeri et al., 2013), we employ panel regression analyses of credit spreads and changes in credit spreads. Our dependent variable is the credit spread, which is defined as the difference between the yield to maturity on a corporate bond and the interpolated constant maturity Treasury yield. Following Hansen (2001), we employ a structural shift model and regress our dependent variable on time dummy variables indicating whether the Act is in effect, while controlling for time trend in credit spreads as well as a host of control variables, including macroeconomic factors such as the risk-free rate and term structure of interest rates, bond-level attributes such as maturity and liquidity, and firm-level characteristics such as equity volatility and leverage.

As in Kang et al. (2010), we choose dummy variables to capture the structural impact of the Act on credit spreads. As Kang et al. (2010) note, extant event studies of SOX can "...be problematic as a stream of events led to the passage of SOX, and it is inherently difficult to specify precise event dates or to effectively control for contemporaneous factors." A structural shift model that employs a dummy variable for the effect of SOX can lead to cleaner inferences. We also include a time trend in our reduced form panel regression to insure that our SOX dummy variable is not affected by a time varying risk premium surrounding the passage of the Act. Moreover, as Fig. 1 shows, when both corporate and municipal bond spreads are compared for the period of 2001–2006, it is the corporate bond spreads that change drastically during this period. To further control for any time-varying risk premium effect, we also include the municipal bond spread in our regressions. Lastly, to confirm our finding, we also examine the existence of a structural shift in the monthly changes in credit spreads.

We find that the enactment of SOX is associated with a significant and meaningful decrease in credit spreads. Our results indicate a structural decrease in corporate credit spreads of at least 27 basis points on average. To put it in more tangible terms, the structural change in the cost of debt due to SOX implies an increase in bond value for the average firm that ranges from a low of 2.0% to as high as 3.7%. This suggests that assuming an average leverage ratio of 0.37 the firm's total value has increased anywhere from 0.8% to 1.4%. We document that the cost of debt improvements are greater for smaller, more leveraged, and lower rated bonds. Our results for the monthly changes in credit spread also indicate that SOX is associated with a statistically significant structural reduction in the changes in spread of approximately 15 basis points. These results are in line with the recent analysis by Andrade et al. (2009), who find that implementation of SOX led to an average 18 basis points reduction in credit default swap spreads in their sample of 252 firms, equating to about $844 million in aggregate savings.

If SOX indeed ameliorates the prototypical "lemon's market" problem that investors faced prior to its enactment, then in the post-SOX period firms with *a priori* unfavorable characteristics should benefit most. This implies that generally riskier firms should

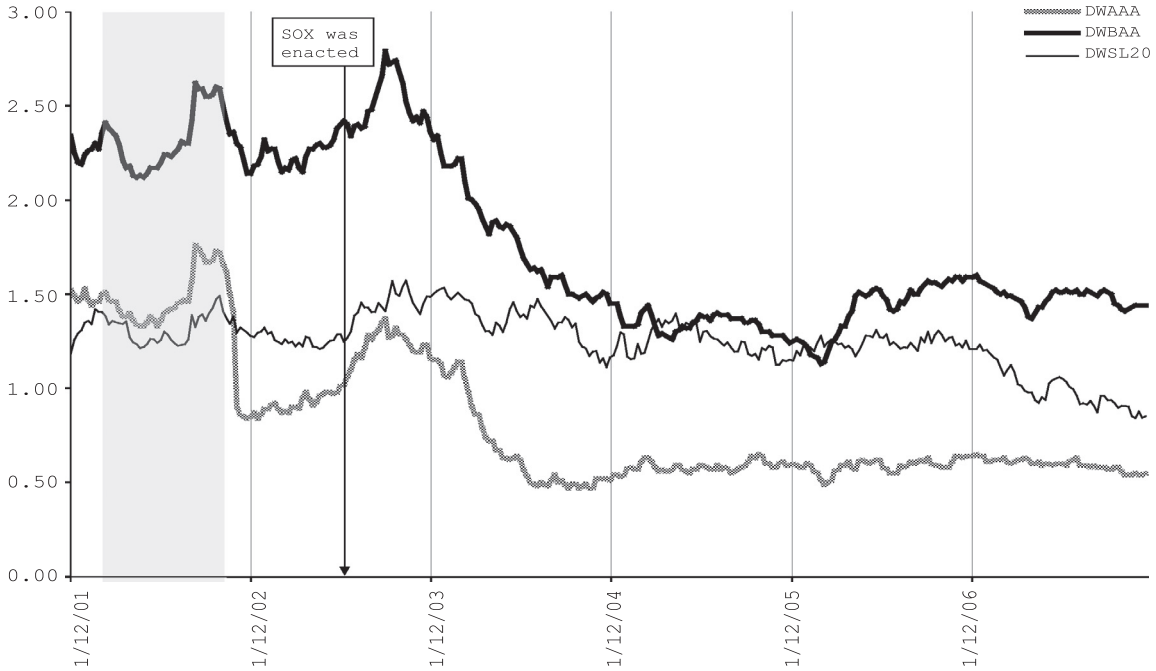

Fig. 1. This figure plots the weekly credit spreads for Moody's AAA-rated (thick gray line, or DWAAA), BAA-rated (thick black line, DWBAA), corporate bonds and composite index of 20-year maturity state and local government bonds (thin black line, or DWSL20) over the period of January 2001–December 2006. Corporate credit spreads are defined as the risky bond's yield minus Treasury 20-year constant maturity bond's yield. Municipal credit spreads are defined as the risky bond's yield minus Treasury 20-year constant maturity bond's after tax yield. All data is from Board of Governors of the Federal Reserve system. Shaded area denotes a recession between March 2001 and November 2001 according to NBER.