Journal of Financial Stability 34 (2018) 44–60

Contents lists available at ScienceDirect

Journal of Financial Stability

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

Reputational shocks and the information content of credit ratings☆

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ARTICLE INFO

Article history:
Received 21 September 2017
Received in revised form
21 September 2017
Accepted 8 December 2017
Available online 11 December 2017

JEL classification:
G14
G24
G28

Keywords:
Credit rating agencies
Rating announcements
Reputational shocks
Regulation

ABSTRACT

We investigate how shocks to the reputation of credit rating agencies and the subsequent introduction of stricter regulation affect investors' reaction to rating signals. We focus on three major episodes of reputational distress: the Enron/WorldCom scandals, the subprime crisis and the lawsuit against Standard & Poor's. We document a stronger response of stock investors to downgrades in the aftermath of reputational shocks, which is not, however, accompanied by an improvement in rating quality. Our results are consistent with a scenario where, following evidence of misrating, market investors conclude that ratings are generally overstated and infer greater negative information from downgrades. The effect is stronger for the investment-grade segment, where rating errors have a wider reputational impact. The introduction of new regulatory measures such the SOX Act, the CRA Reform Act and the Dodd-Frank Act, seems instead to improve rating quality and soften investors' response.

1. Introduction

> *"Considerations regarding fees, market share, profits, and relationships with issuers improperly influenced Standard & Poor's rating criteria and models,"*
> U.S. Department of Justice against Standard and Poor's (2013).

Since the bond rating business first started in the U.S. early in the twentieth century, credit rating agencies (CRAs) have acquired increasing prominence in financial markets. Over the years they became the first port of call for corporate issuers, investors and financial institutions for assessing credit risk and determining compliance with regulatory requirements. However, in the last two decades, CRAs have come under the spotlight a number of times for assigning inflated ratings not aligned with the credit quality of issuers and securities. Notable examples in this respect include the corporate failures of Enron in 2001 and WorldCom in 2002, and the subprime crisis of 2007–2008, which culminated in a civil lawsuit filed in 2013 by the U.S. government against Standard & Poor's (S&P).

Those episodes raised significant concerns about CRAs' business models and the quality of credit ratings. Numerous studies document how the adoption of the issuer-pays model led to poor governance, conflicts of interest, rating shopping and, in turn, to an overoptimistic assessment of risk.[1] The special status granted to "Nationally Recognized Statistical Ratings Organization" (NRSRO) and the excessive regulatory emphasis on credit ratings came also under scrutiny (White, 2010).

One aspect that is left unexplored by the existing literature is how shocks to CRAs' reputation are ultimately perceived by market investors. In particular, we ask whether the investors' response to rating signals changes when CRAs' reputation is at stake and what explains those changes.

☆ The authors thank two anonymous referees, seminar participants at the University of Auckland Business School and the Collegio Carlo Alberto, as well as conference participants at the 2015 FEBS conference, the 2016 International AFFI conference and the 2016 FMA European conference.

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[1] See, among others, Benmelech and Dlugosz (2009), Jiang et al. (2012), Strobl and Xia (2012). A number of related studies including Becker and Milbourn (2011) and Bolton et al. (2012) discuss the effect of competition on rating shopping and rating inflation.

https://doi.org/10.1016/j.jfs.2017.12.003
1572-3089/

The impact of CRAs' reputational shocks on the market's perception of rating signals is not obvious, *a priori*. The main role of CRAs is to act as information intermediaries, by reducing the information asymmetry between issuers and investors, and providing investors with reliable signals concerning the credit quality of issuers. When valid alternative sources of information on issuers' creditworthiness exist, we may expect market participants to turn to those sources and assign lower information content to credit ratings upon disclosure of severe rating errors made by CRAs. If this is the case, the reduced informativeness of ratings should translate into a weaker investors' reaction to rating actions.[2] However, reputational concerns are also consistent with the opposite effect. First, effective alternatives to credit ratings issued by CRAs may not be readily available, particularly in a context of rating-contingent regulation (White, 2010; Bongaerts et al., 2012; Opp et al., 2013). This produces a mechanistic reliance on ratings, which is unlikely to diminish following CRAs' reputational concerns. Second, episodes of reputational distress tend to simultaneously affect all major rating agencies, rather than one at a time, thus leaving investors short of alternative sources of information on issuers' credit quality. Because of CRAs' reputational shocks, investors become aware of rating inflation but cannot turn away from credit ratings. As a result, they infer a stronger (negative) signal about the credit quality of issuers when their ratings are finally downgraded.[3] In this scenario, the investors' response to rating downgrades strengthens when CRAs' reputation is under scrutiny. A stronger reaction is also consistent with an increase in the fundamental information content of credit ratings. This occurs when rating agencies promptly react to criticism by increasing rating quality in order to preserve their reputation (Mathis et al., 2009; Bar-Isaac and Shapiro, 2013). Following this view, investors discount the efforts that CRAs will undertake to improve ratings, and perceive rating actions in the aftermath of a reputational shock to be more informative than before. Ultimately, whether and how the investors' perception of ratings is affected by rating scandals remains an empirical question.

We investigate this question by analyzing how market investors react to announcements of rating changes. Specifically, we estimate and compare the stock price response to announcements of downgrades and upgrades in U.S. investment-grade and speculative-grade corporate issuer ratings from the leading CRAs (Moody's, S&P and Fitch) before and after the start of an episode of reputational distress. We distinguish between investment-grade and speculative-grade issuers as errors in rating investment-grade firms are likely to carry a wider reputational impact for CRAs. We look at the three most significant reputational shocks experienced by CRAs on the U.S. market over the last decades: The Enron/WorldCom failures of 2001–2002, the subprime crisis of 2007–2008, and the consequent S&P lawsuit filed by the U.S. government in 2013. While the Enron/WorldCom scandals were directly associated with rating mistakes in the corporate segment, the subprime crisis and the S&P lawsuit were triggered by misrating practices in complex products. However, those episodes exposed broader issues that undermine the quality and credibility of all types of credit ratings and, as such, are likely to affect the way investors assess corporate ratings.[4]

We find that the stock price response to downgrades strengthens significantly in the aftermath of a reputational shock, which suggests that market investors attach more weight than before to negative rating revisions. In two cases—the Enron/WorldCom bankruptcies and the subprime crisis—the stronger price reaction to downgrades is associated with investment-grade issuers. Instead, we do not observe significant changes in the response to upgrades.

A potential criticism to our analysis is that our findings may not be the direct result of CRAs' reputational losses, but of the regulatory measures introduced by the supervisory authorities to help market investors regain trust in credit ratings. If stricter regulation leads to more accurate and timely ratings, we may expect rating changes to carry a higher information content than before. The stronger investors' response to downgrades may then be the effect of the regulatory measures implemented over the years to improve rating quality: The Sarbanes–Oxley (SOX) Act was passed on July 25, 2002 after Enron's and WorldCom's filings for Chapter 11, the Credit Rating Agency Reform Act was passed on September 29, 2006 to foster transparency and competition in the rating industry, and the Dodd-Frank Wall Street Reform and Consumer Protection Act was passed on July 22, 2010 following the subprime crisis. To assess whether our findings can be explained by new regulations, we repeat the analysis around the passages of the SOX Act, the CRA Reform Act, and the Dodd-Frank Act. We observe that the stock price reaction to rating downgrades becomes, in fact, weaker (and not stronger) following a tightening in regulation.

Further, we explore to what extent changes in the investors' response to rating signals are associated with changes in rating quality. To this end, we derive and compare rating accuracy curves before and after episodes of reputational distress as well as before and after the introduction of new regulatory measures. We observe that rating quality remains essentially unchanged right in the aftermath of reputational shocks, while it increases following the implementation of stricter rules.

Taken together, our results indicate that the stronger reaction to rating downgrades observed in times of CRAs' reputational distress cannot be explained with a fundamental increase in rating quality. Rather, it seems to be consistent with the argument that investors infer from reputational shocks that ratings are, on average, overstated and will be inclined to react more to future downgrades given the uncertainty surrounding the real value of the firms being downgraded. Likewise, a softer response to downgrades after the intervention of regulators is consistent with investors realizing that ratings are less biased.

The findings are robust to the inclusion of a set of variables that are commonly viewed as standard determinants of stock abnormal returns around rating announcements. We also control for contemporaneous events that could have driven our results. At the market level, we control for a number of concurrent factors that may have altered investors' decisions, namely: (i) the market volatility (VIX); (ii) the 2001 economic downturn that occurred before the Enron/WorldCom episodes; (iii) the 2007–2009 recession that followed the onset of the subprime crisis; (iv) the Michigan Consumer Sentiment index; (v) the flows of funds into U.S. corporate equity; (vi) the slope of the yield curve. At a firm level, we derive a non-contaminated sample which excludes any event where firm-specific news (other than the rating change) that may potentially impact stock prices appear during the event window. Controlling for market-wide and firm-specific contamination does not change our results.

Our paper contributes to the literature on the information content of credit ratings. The first papers in this area are by Holthausen and Leftwich (1986), who find that investors react negatively to downgrades and positively but weakly to upgrades, and Hand et al. (1992) who find significantly negative stock and bond abnormal

[2] In the accounting literature, this prediction has been formalized by Holthausen and Verrecchia (1988) and largely tested in the context of auditors' reputational losses or analysts' forecast errors.

[3] This prediction rests on the assumption that a sufficiently high fraction of investors are naïve and take ratings at face value until CRAs' mispractices are revealed (see Bolton et al., 2012).

[4] Jiang et al. (2012), Strobl and Xia (2012) document the distortive effects of the issuer-pays model in the corporate segment, and the resulting inflation in corporate ratings.