J. Finan. Intermediation 24 (2015) 89–111

Contents lists available at ScienceDirect

J. Finan. Intermediation

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

Equity short selling and bond rating downgrades

Tyler R. Henry [a,*], Darren J. Kisgen [b], Juan (Julie) Wu [c]

[a] *Farmer School of Business, Miami University, Oxford, OH 45056, USA*
[b] *Carroll School of Management, Boston College, Chestnut Hill, MA 02467, USA*
[c] *Terry College of Business, University of Georgia, Athens, GA 30602, USA*

ARTICLE INFO

Article history:
Received 7 July 2012
Available online 24 February 2014

Keywords:
Credit ratings
Default risk
Short selling

ABSTRACT

We examine whether short sellers identify firms that have significant changes in default likelihoods and credit rating downgrades. In the month before a rating downgrade, equity short interest is 40% higher than one year prior. Short sellers predict changes in default probabilities that lead to downgrades by focusing on firms with inaccurate or biased ratings. This strategy is profitable for short sellers primarily since downgrades are associated with significantly negative equity returns. Short sellers also facilitate price discovery by reducing abnormal stock returns following downgrades and by leading bond yield spreads.

1. Introduction

The role of short sellers in financial markets is controversial. Short sellers could be a negative force for markets if they increase market volatility and instability, or short sellers could be a positive force if they increase market efficiency and price discovery. A necessary condition for short sellers to provide a market efficiency role is that they are informed traders. We examine this hypothesis in a novel setting, around bond rating downgrades, a setting in which short sellers are arguably at an informational disadvantage relative to bond investors. Previous research has shown that rating downgrades affect equity returns on average negatively.[1] We test whether short sellers can anticipate these downgrades by understanding or anticipating changes in default probability, and whether they use other

* Corresponding author. Fax: +1 513 529 6992.
E-mail addresses: henrytr3@miamioh.edu (T.R. Henry), darren.kisgen.1@bc.edu (D.J. Kisgen), juliewu@uga.edu (J. Wu).

[1] See Griffin and Sanvicente (1982), Holthausen and Leftwich (1986) and Goh and Ederington (1993) for evidence of negative equity returns following credit rating downgrades.

http://dx.doi.org/10.1016/j.jfi.2014.02.005
1042-9573/

ratings-specific information to identify these downgrades. A second avenue for evaluating the role of short sellers is to see if their activity aids directly in price discovery. Since equity returns following bond downgrades have been shown to exhibit post-announcement drift (Dichev and Piotroski, 2001), downgrade events provide a useful laboratory to examine this question directly. In particular, we investigate whether short sellers provide an efficiency role in identifying firms likely to be downgraded, in advance of potentially slower action by rating agencies or bond investors.

We first test the hypothesis that short sellers are sophisticated investors who can accurately predict rating downgrades. Consistent with this hypothesis, we find that short interest increases significantly prior to downgrades. For example, in the month before a rating downgrade, short interest is 40% higher than 12 months prior. We undertake several additional approaches to confirm that these results are due to ratings specifically. We begin by matching downgraded firms to a benchmark portfolio of non-downgraded firms with similar fundamentals (including previous returns), we eliminate observations with "contaminating" events such as earnings announcements or mergers, and we examine abnormal short interest levels, such that each firm's short interest is differenced relative to its previous short interest. We also examine several interactions to identify downgrade specific activity. We find that short interest is higher for those downgrades that incur more negative equity announcement returns. We find that short interest increases more when the firm is rated BBB− prior to the downgrade, the lowest investment grade rating. If the increased short selling prior to a downgrade were due to deteriorating fundamentals of the firm, the distinction between BBB− and BB+ should be irrelevant. But a downgrade from investment grade to speculative grade is likely to have a significant impact on bond prices, both for regulatory as well as fundamental reasons (Kisgen and Strahan, 2010). We find that abnormal short selling is higher prior to downgrades that span several ratings categories and for downgrades across a rating category (e.g., AA− to A+) compared to within a rating category (e.g., AA to AA−). Lastly, we examine whether short sellers time rating downgrades more effectively following the passage of Regulation FD. Jorion et al. (2005) find that announcement effects of rating changes are larger after RegFD, reflecting the relative informational advantage ratings agencies enjoy in a post RegFD world. Consistent with short sellers trading on ratings events specifically, we find that short selling prior to downgrades is larger after RegFD. This collective evidence supports the conclusion that increased short selling before downgrades is directly credit rating related and not simply due to deteriorating equity fundamentals.[2]

Our next set of tests examines how short sellers identify firms likely to be downgraded. One potential avenue is that short sellers understand changing default probabilities, either by recognizing changes in default probabilities before they are incorporated into ratings, or by predicting future changes in default risk. We provide evidence consistent with both of these avenues. Short selling is particularly high before a downgrade when the firm experiences significant increases in default probabilities, and short sellers in general predict large subsequent changes in default probabilities. We also explore whether short sellers make use of bond rating specific information to anticipate downgrades. Credit rating downgrades have been shown to experience momentum (Altman and Kao, 1992; Lando and Skodeberg, 2002). Short sellers might therefore use a previous downgrade as an indication of a likely subsequent downgrade. Consistent with this, we find that abnormal short selling is higher for downgraded firms in cases in which the firm was previously downgraded in the last 12 months. We also consider whether short sellers identify firms with inaccurate ratings, either due to slow reactions to changes in default probabilities, or due to upwardly biased ratings (as in Kraft, 2011). In both cases, we identify higher short selling before downgrades using this information. Lastly, we consider whether short sellers might use the changes in measures of adverse selection that have been shown to also predict rating downgrades as in Odders-White and Ready (2006). We find evidence that short selling is higher before a downgrade when the probability of informed trading increases and when the

[2] One other explanation for our results is that rating agencies use the level of short interest to determine whether they should downgrade a firm, or perhaps short sellers try to manipulate rating agencies into downgrading a firm. To test this conjecture, we instrument the level of short selling using both options trading as well as the passage of a regulation altering restrictions on short selling for a subset of firms ("RegSHO"), but we do not identify a significant causal link from short interest to a downgrade. Although we cannot completely rule out a manipulation story, we conclude that other interpretations are more plausible given the weight of the evidence.