The effect of asymmetric information on product market outcomes

Matthew T. Billett\textsuperscript{a}, Jon A. Garfinkel\textsuperscript{b,\textast}, Miaomiao Yu\textsuperscript{c}

\textsuperscript{a}Kelley School of Business, Indiana University, 1209 E 10th Street, Bloomington, IN 47405-1701, United States
\textsuperscript{b}Tippie College of Business, University of Iowa, 108 John Pappajohn Business Building, Iowa City, IA 52242-1894, United States
\textsuperscript{c}Edwards School of Business, Saskatchewan University, 25 Campus Drive, Saskatoon, Saskatchewan S7N 5A7, Canada

\textbf{A R T I C L E   I N F O}

Article history:
Received 27 April 2015
Revised 25 March 2016
Accepted 22 April 2016
Available online xxxx

\textbf{JEL classification:}
C14
C24
L11

Keywords:
Asymmetric information
Analysts
Market share

\section{1. Introduction}

Does a firm’s financial information environment affect its outcomes in product markets? The answer to this question is crucial to both the finance and industrial organization literatures. It has potential implications for corporate disclosure policy as well as industry competitive dynamics and equilibria. It also speaks to the relevance of finance for real outcomes. And while theoretical work suggests a link, to date empirical evidence is lacking.

\textsuperscript{\textast} We thank Scott Cederburg, Dan Collins, Redouane Elkamhi, Burcu Esmer, Ambrus Kecskés, Mike O’Doherty, Yiming Qian, Ashish Tiwari, John Wilson and Tong Yao for helpful discussions and comments. We also thank seminar participants at Cal State Fullerton, Glasgow University, LMU München, TCU, Texas A&M University and Wake Forest University. We are particularly grateful to our referee, Marcin Kacperczyk, for insightful comments and suggestions that improved the paper. All errors are our own.

\textsuperscript{\ast} Corresponding author. Fax: +1 319 335 3690.
E-mail addresses: mbillett@indiana.edu (M.T. Billett), jon-garfinkel@uiowa.edu (J.A. Garfinkel), yu@edwards.usask.ca (M. Yu).

On the theory side, Bolton and Scharfstein (1990) posit that asymmetric information (between investors and managers) makes it difficult for investors to verify actual realized profits.\textsuperscript{1} Therefore, greater asymmetric information will cause investors to write optimal contracts designed to prevent resource diversion; however, this necessarily tilts the optimal contract towards inviting greater predation.\textsuperscript{2} In particular, when outside investors set tighter performance contingencies to mitigate managerial agency costs, they simultaneously limit the manager’s ability to respond to competitive threats, thereby increasing rivals’ strategic opportunities to prey.

We test Bolton and Scharfstein’s (1990) model, while also recognizing and resolving endogeneity concerns. Specifically, a simple exploration of the relation between

\begin{itemize}
\item[1] They provide several examples: whether some expenses represent managerial perquisites, or possible unobserved transfer pricing.
\item[2] The mechanics of the predation invitation due to an agency-tilted contract, are discussed in detail in Section 2.
\end{itemize}
proxies for asymmetric information in financial markets and market share outcomes in product markets is fraught with selection concerns. To illustrate by example, consider less competitive industries. Firms with competitive advantages that create entry barriers are potentially insulated from the adverse effects of asymmetric information on product market outcomes. This could manifest in higher market shares and contemporaneously higher asymmetric information, either because the firm does not find it to be costly (passive higher opacity) or because they actively choose to be opaque precisely to protect competitive advantages. These could lead to a positive observed relation between asymmetric information and market share, despite the theoretically negative one in Bolton and Scharfstein (1990). Indeed, as we show below, the average relation between firm asymmetric information and product market share (in a full panel) is positive and significant.

A second endogeneity concern that must be addressed stems from simultaneity bias. In particular, firms with less market share may naturally be harder to understand (e.g., they may be smaller or less well-followed by analysts), implying greater information asymmetry. Thus, even if correlations indicate a negative relation between asymmetric information and product market outcomes, the causality may run in the opposite direction (from product market to financial market). Indeed, recent evidence from the accounting literature suggests that product market characteristics (industry competition) may affect disclosure. All of this suggests that we must utilize an experiment that exogenously shocks asymmetric information in financial markets and study product market share responses to it.

We draw from a large recent literature exploring the causal effects of asymmetric information on various firm and financial market outcomes by studying brokerage house mergers and closures that resulted in analyst coverage declines. Our main tests are difference-in-difference tests, where treated firms are those who lose coverage by at least one analyst due to the brokerage house closure/merger. We compare their change in industry-adjusted sales growth from before to after the event, with the contemporaneous change in market share for a matched sample of untreated firms (matched on firm characteristics likely related to market share outcomes).

We find that firms experiencing a decline in analyst coverage lose market share ex post; their industry-adjusted sales growth declines. Although unshocked peers show univariate declines in industry-adjusted sales growth over the same window, regression tests show no such evidence. More importantly, the change in market share is statistically and economically stronger among treated firms (compared to matched peers) in both univariate and regression tests. The difference-in-differences tests indicate between 4% and 5% worse product market outcomes (market share) due to asymmetric information shocks. Asymmetric information in financial markets negatively affects outcomes in product markets.

Our causal effects are concentrated in logical subsamples: firms where investors face ex ante greater asymmetric information; firms with greater ex ante financial constraints; firms operating in ex ante more competitive product spaces; and firms with ex ante less institutional investor oversight (likely engendering higher agency concerns over resource diversion). Each of these subsample explorations naturally emerges from Bolton and Scharfstein’s (1990) theory. We provide details below, but briefly discuss results here.

Our treatment effect (loss of market share because of the analyst shock) is stronger when firms are already followed by fewer analysts and they have more opaque financial statements. In other words, the interpretive value of analysts is high, but there are few of them and the loss of one more is significant. Our results are also concentrated among firms with no payout (dividends or repurchases) or no credit rating. Such results are consistent with the “long-purse” notion that Bolton and Scharfstein (1990) predicate their theory upon. Market share loss by shocked firms is also larger for firms operating in more competitive or fluid product spaces (Hoberg, Phillips, and Prabhala, 2014). By construction, these spaces are meant to represent more easily contestable markets (see Baumol, Panzar, Willig, 1982). Predation is easier (less costly) in these cases, so the shock should have a greater effect, ceternis paribus. Finally, we see more pronounced treatment effects in firms with less institutional investor oversight. Chen, Harford, and Li (2007) identify such firms as having greater agency concerns over misuse of resources. Without such concern, the tension in Bolton and Scharfstein (1990) is moot. Overall, heterogeneity in the treatment effect is consistent with implications from Bolton and Scharfstein (1990).

We also explore industry dynamics, segmenting our analysis by whether there is entry or exit in treatment firm industries (by combining Census and Compustat data). The treatment effect is pronounced in industries with either clear indications of entry or clear indications of exit. The latter suggests that shrinking industry revenues are fought over by remaining incumbents, but that treatment firms are compromised by stronger investor conditioning on agency, and this invites predation by unshocked competitors. The former (significant treatment effect in industries with entry) suggests new entrants capture some of the forgiven market share by treated firms.
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