Fair value accounting and corporate debt structure☆

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A B S T R A C T

In this study, we examine the impact of fair value accounting on corporate debt structures, i.e., debt conversion privilege and maturity term. We argue that fair value accounting affects agency conflicts between debtholders and shareholders via its impact on financial reporting quality. Consequently, it should affect corporate decisions on the debt structure. Our empirical results show that ceteris paribus, more use of fair value measures in financial statements is associated with a greater demand for convertible debt and debt with short maturity, and the results are mainly driven by Level 2 and Level 3 fair value measures. These findings suggest that it is the lack of reliability of fair value measures that gives rise to more demand for debt structure tools that mitigate debtholder-shareholder agency conflicts. In addition, we find that the negative association between the use of Level 3 fair value measures and the debt conversion privilege or debt maturity term is more pronounced for high-performance firms, suggesting that high-performance firms benefit more by issuing convertible debt or shortening debt maturity. This study provides novel insights regarding the impact of fair value accounting on corporate debt structure. It also provides regulatory implications, calling for better measurement guidance on fair value inputs.

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1. Introduction

In this study, we investigate the role that fair value accounting plays in the design of corporate debt contracts. The finance and economics literature has long recognized that the design of debt contracts can be used as a tool to reduce shareholder-debtholder agency conflicts. Several prior studies show that shortening the debt maturity term or including provisions, such as conversion privilege, helps mitigate the agency cost of debt (Barnea, Haugen, & Senbet, 1980; Myers, 1977; Bodie & Taggart, 1978). Agency conflicts between shareholders and debtholders are directly affected by the quality of financial reporting, as more transparent financial reporting lessens debtholders’ information disadvantage and facilitates efficient monitoring. Consequently, it is expected that the quality of financial reporting plays a role in corporate decisions regarding debt contract design. Our study specifically focuses on two important debt contract terms: debt conversion privilege and debt maturity, and examine whether the use of fair value accounting in financial statements has an impact on firms’ choice on these two terms. Companies with lower (higher) financial reporting quality usually face greater (less) shareholder-debtholder agency conflicts, resulting in higher (lower) demand to use certain debt contract tools as a means of reducing such conflicts. Hence, the way that fair value accounting affects the design of debt contracts depends on how fair value measures affect the quality of financial reporting.

Lately, the two major standard setters (i.e., Financial Accounting Standards Board, FASB, and International Accounting Standards Board, IASB) have been making joint efforts toward a more fair value-oriented reporting regime, which may impact the decision-making of various stakeholders, including shareholders, debtholders and corporate managers. Fair value accounting is a double-edged sword. Proponents of fair value accounting claim that it improves the relevance and timeliness of accounting information compared to historical cost accounting, and therefore, improves financial reporting quality. Opponents of fair value accounting express concern over its conceptual caveats and lack of reliability. 1 For example, some fair value measures are subject to estimation errors and/or managerial manipulation, as they are based on either the market value of similar items (i.e., Level 2 fair value as defined in SFAS 157) or management’s best estimates (i.e., Level 3 fair value as defined in SFAS 157). These estimated fair values are thus less reliable and may lead to lower financial reporting quality.

The pros and cons of fair value accounting on financial reporting quality make it an open question as to whether using fair value accounting in financial statements exacerbates or alleviates agency conflicts

1 Penman (2007) provides a theoretical explanation why the fair value concept may be inferior to historical cost under certain circumstances.
between shareholders and debtholders. To answer this question, in this study, we empirically examine the impact of fair value accounting on a firm’s decision regarding two debt contract terms: conversion privilege and debt maturity term, which have been documented in the prior literature as two frequently used tools to address shareholder-debtholder agency conflicts.

We examine a sample of newly issued public debts between 2008 and 2013 and find a significantly positive association between the proportion of fair value, especially Level 2 and Level 3 fair value measures, and the likelihood of using the conversion feature in debt contracts. This finding indicates that the lack of reliability of fair value measures exacerbates agency conflicts between shareholders and debtholders, leading to more use of the conversion feature in the debt contracts. However, we do not find that Level 1 fair value measures have significant influence on the likelihood of issuing convertible debt, which confirms that the main issue of fair value measure is its reliability. In addition, we find that the debt maturity term is negatively associated with the use of Level 2 and Level 3 fair value measures. This finding supports the argument that the use of Level 2 and Level 3 fair value measures increases agency conflicts between shareholders and debtholders, leading to a higher demand for debts with a short maturity. Again, we do not find the same effect for Level 1 fair value measures, implying that it is the unreliable fair value measures (i.e., Level 2 and Level 3 fair values) that lower financial reporting quality. Furthermore, we conjecture that only high-performance firms are willing to issue convertible debt or short-term debt to overcome agency conflicts, because they are more likely to force debt conversion and less likely to incur debt rollover risk. Indeed, our empirical tests show consistent evidence that the negative association between Level 3 fair value measures and debt conversion privilege or debt maturity term is more pronounced in high-performance firms.

We focus on the structure of public debt rather than private debt because unlike private lenders (e.g., banks), which possess significant inside information through private channels, public debtholders mainly rely on public accounting information for their decision-making. Therefore, the impact of fair value application on corporate debt decisions should be most substantial for public debts. In addition, our sample includes companies with fair value disclosures from all industries, which extends the narrow scope of prior fair value studies that focus mainly on financial institutions. In this sense, our evidence regarding the impact of fair value accounting on debt structure is more generalizable and provides implications to a broader audience.

Our study makes important contributions to the accounting and finance literature and regulators. First, to the best of our knowledge, our study is one of the very first to document the impact of fair value accounting on corporate decisions related to public debt contract design. Prior fair value literature has mainly focused on the equity market and value relevance of fair value accounting (e.g., Barth, 1994; Petroni & Wahlen, 1995; Barth et al., 1996, 2001; Eccher et al., 1996; Barth, Beaver, & Landsman, 1996; Eccher, Ramesh, & Thiagarajan, 1996; Nelson, 1996; Khurana & Kim, 2003; Song, Thomas, & Yi, 2010; Lee & Park, 2013), while neglecting the role that fair value accounting plays in debt contracting. Two recent exceptions are Demerjian, Donovan, and Larson (2016) and Aytekin and Karolyi (2015). Those studies investigate the impact of fair value accounting on debt covenants of private loans and syndicated loans respectively. Our study extends this line of literature by providing empirical evidence on the association between fair value accounting and public debt contract design, highlighting the impact of fair value on debt contracting efficiency.

Second, our findings document a new consequence of fair value application. That is, Level 2 and Level 3 fair value increases agency cost of debt and consequently affects debt contracting efficiency. This evidence also provides policy implications to standard setters such as FASB and IASB, as it suggests that some fair value measures (i.e., Level 2 and Level 3 fair values) suffer from low reliability. Therefore, there is need for more detailed measurement guidance from the standard setters that helps to improve the reliability of certain fair value measures. The rest of the paper is organized as follows. Section 2 presents an overview of fair value accounting and reviews related prior literature. Section 3 describes the theoretical framework and develops the hypotheses. Section 4 describes our research design. Section 5 reports the summary statistics and empirical results. Section 6 conducts additional analyses, and Section 7 concludes.

2. Institutional background and related research

2.1. Background of fair value accounting

Despite different wording, the definitions of the term “fair value” are basically equivalent in the FASB and IASB pronouncements. The concept of fair value can be interpreted as the exit market price that would result, under close-to-ideal market conditions, in a transaction between knowledgeable, independent and economically rational parties in a complete information set (Hitz, 2007). Following the enactment of SFAS No. 157 (FASB, 2006), firms must disclose the three-tier measurement basis for assets and liabilities reported at fair value. Such a disclosure was not available prior to SFAS No. 157. Specifically, assets and liabilities defined as Level 1 are measured and reported at observable quoted prices in active markets. When an active market is absent, fair value is based on observable valuation inputs that reflect a) quoted prices for similar items in active markets, b) quoted prices for identical or similar items in inactive markets, c) inputs other than quoted prices that are observable, or d) correlated prices. Such a measurement basis is designated as Level 2. When neither of the above two types of inputs are available, fair value relies on models that reflect management’s assumptions about economic, market, and firm-specific conditions, which is defined as Level 3 inputs, or “mark-to-model” accounting (FASB, 2006).

2.2. The impact of fair value accounting on the equity market

Empirical evidence regarding fair value accounting mainly focuses on the value relevance of accounting numbers (e.g., Barth, 1994; Petroni & Wahlen, 1995; Barth et al., 1996, 2001; Eccher et al., 1996; Nelson, 1996; Khurana & Kim, 2003; Song et al., 2010). Current evidence in this line of research is mixed. In particular, Barth (1994), Petroni and Wahlen (1995) and Eccher et al. (1996) consistently find that the fair values of investment securities are value relevant after controlling for the fair values of other financial instruments. In addition, Barth et al. (1996) show that the fair value estimates of loans and long-term debt are incrementally value relevant beyond the related book values. However, Eccher et al. (1996) and Nelson (1996) find that the value relevance concerning the fair value of loans is weaker, and the fair values of deposits and off-balance sheet items are not value relevant. In a setting of financial institutions, Song et al. (2010) investigate the value relevance of the three-level fair value inputs and find that Level 3 fair values are less value relevant than Level 1 or Level 2 fair values. However, using the closed-end fund setting, Lawrence, Siriviriyakul, and Sloan (2016) find that Level 3 fair values are of similar value relevance to Level 1 and Level 2 fair values. From a slightly different

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2 In fact, Kothari, Ramanna, and Skinner (2010) criticize this narrow interpretation of accounting’s role as mere valuation. According to Holthausen and Leftwich (1983), an important objective of accounting is to facilitate firms’ contractual arrangements, including executive compensation agreements and debt contracts.