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Financial accounting in the banking industry: A review of the empirical literature ☆

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ABSTRACT

We survey research on banks' financial accounting. After providing a brief background of the theoretical models and accounting and regulatory institutions underlying the bank accounting literature, we review three streams of empirical research. Specifically we review studies associating bank financial reporting with the valuation and risk assessments, associating bank financial reporting discretion with regulatory capital and earnings management, and examining banks' economic decisions under differing accounting regimes. We discuss what we have already learned and about what else we would like to know. We also discuss methodological challenges associated with predicting the effects of alternative accounting and regulatory capital regimes.

1. Introduction

We review the empirical accounting literature that focuses on banking, which is a relatively large industry specific literature. Potential explanations for the prominence of banks in accounting research include the prevalence of financial assets and liabilities in banks, the use of recognized accounting numbers in the prudential regulation of banks, and easier isolation and modeling of banks' dominant accrual (i.e., the loan loss provision). In addition, the link between accounting changes and banking crisis, such as the reintroduction of fair value accounting after the savings and loan crisis in the late 1980s (see Fig. 1 that shows changes in accounting standards around banking crises), combined with the economic importance of banks' liquidity and capital provision roles further supports an important economic role for bank accounting. Each of these explanations for researching bank accounting is reflected in the existing literature to varying degrees. Existing bank accounting research primarily focuses on asymmetric information between banks and equity investors and between banks and regulators. Surprisingly, information asymmetry between borrowers and depositors (i.e., creditors) has not played a central role in the empirical bank accounting literature, despite the potentially fertile ground for studying the effects of financial reporting on information asymmetry provided by banks' special role in addressing information problems between borrowers and depositors. In particular, the greater information asymmetry associated with bank assets provides an advantageous setting to examine the importance of accounting information in addressing information problems.[2]

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[2] Our review focuses on banks rather than borrowers. Although there is a very large literature on bank debt contracting, that literature is surveyed by Armstrong et al. (2010).

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Period	Crisis	Accounting Implication
1930-1933	Great Depression	Market value accounting for investment portfolios was eliminated to encourage long-term value investments and discourage short-term speculative focus.
1982-1984	Latin American Debt Crisis	U.S. Banks were slow to record loan loss provisions related to LDC debt. Banks continued to accrue interest on loans even though payments were largely being made using additional borrowings.
1988-1991	Savings and Loan Crisis	Market value accounting for investment portfolios was reintroduced to eliminate gains trading where securities with gains were sold and securities with losses were retained.
2007-2009	Financial Crisis	Market value accounting was accused of magnifying liquidity spirals leading to fire sales. Incurred loss model of loan loss provisioning was argued to result in delayed loss recognition and reduced lending during recession when losses were recorded and reduced regulatory capital

Fig. 1. U.S. banking crises.

We classify bank accounting research into three streams based on the questions and the underlying economic issues being studied. Specifically, we focus on research examining (1) valuation and risk relevance of bank accounting information, (2) the use of accounting discretion to manage earnings and reported regulatory capital, and (3) the effect of accounting on banks' economic behaviors before, during and after the financial crisis. To examine these issues, bank accounting research has primarily focused on loan loss provisions and fair value accounting. The focus on the loan loss provision in the literature can be explained, at least in part, by the predominance of this accrual for banks, the importance of estimated losses in assessing opaque assets, i.e., bank loans, and the effect of the provision on regulatory capital ratio calculations. In contrast, the assets banks recognize at fair value tend to be less opaque and tend not to affect regulatory capital ratios, although the debate over the role of fair value accounting in the recent financial crisis often assumes an important relation between fair values and capital regulation. The focus on bank fair values arises primarily due to the greater extent of fair value accounting requirements for banks relative to nonfinancial firms and due to the evolution of fair value accounting around banking crises.

The valuation and risk relevance literature, which we review first, examines how the equity and debt markets price bank accounting information. These studies focus on banks' use of the loan loss provision to mitigate information asymmetry, and on the value and risk relevance of accounting methods such as fair value accounting and securitizations. When surveying the fair value accounting literature, we focus on value and risk relevance research published after the thorough reviews by Barth et al. (2001) and Holthausen and Watts (2001). In general, this literature has ignored both the bank specific and non-bank specific agency problems that accompany information asymmetry (e.g., between regulators and banks, and between managers and outside investors) and therefore fails to distinguish between the signaling and moral hazard hypotheses. In addition, most of the provision studies in this literature are concentrated in the early to mid-1990s and most fair value studies are narrowly focused on individual accounting rules and clustered around adoptions of new accounting rules (e.g. FAS 107, 115, and 119). Further, even though depositors' information problems are at the heart of the microeconomic theory of banks, most pre-crisis research focuses on the perspectives of outside equity investors rather than creditors. While more recent studies have begun to investigate public debt market implications, we still understand very little about how bank accounting information addresses bank creditors' information problems. Finally, while some studies attempt to understand the value or risk relevance in alternative proposed regulatory regimes, the insights are limited by a failure to consider potential bank behavior changes around shifts in regimes.

The earnings and capital management literature, which we survey next, focuses on agency problems arising from the information asymmetry between banks and equity investors and regulators and the implications for financial reporting discretion. This research largely emphasizes earnings management around regulatory capital requirements through discretion in the loan loss provision and in recognition of securities gains and losses. Similar to the first research stream, studies in this literature ignore the agency problems in the credit market despite the importance of depositors' information problems. This literature faces several challenges. First, there is an ongoing debate over the determinants of banks' capital levels, whether capital regulations are a binding constraint and the extent to which capital levels are chosen based on market considerations. Second, identification of earnings versus capital management is a challenge for studies in this area because loan loss provisions decrease both earnings and capital in the current regulatory regime.[3] Further, several alternative models of expected loan loss provisions have been used in this literature but no consensus about the best model has emerged. To facilitate research on this issue we use factor analysis to identify three factors underlying these alternative models of expected loan loss provisions and develop four models built on these factors to better understand the differences and commonalities across the models.

[3] Although a previous regulatory regime where loan provisions increased regulatory capital (i.e., pre-BASEL/FDICIA) allowed researchers to separate these effects, findings on earnings smoothing are mixed.