
Financial Reporting for Financial Instruments

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Abstract

Financial Reporting for Financial Instruments provides an integrated examination of the four most active areas of empirical accounting research on financial reporting for financial instruments: (1) banks' loan loss accruals, (2) fair value versus amortized cost accounting measurement bases, (3) balance sheet presentation of risk-concentrated financial instruments such as derivatives and retained residual securities in securitizations, and (4) risk disclosures. The author explains conceptual and practical issues regarding financial reporting for financial instruments, summarizes extant empirical research in these areas, and indicates future empirical research possibilities. He emphasizes that empirical researchers should strive to incorporate four ideas into their research topics and designs: (1) financial instruments exhibit identifiable heterogeneity in their contractual features and risks; (2) at a first approximation, financial institutions are portfolios of interrelated financial instruments; (3) the markets in which financial instruments trade

* I appreciate comments by Doron Nissim.

and the institutional settings in which financial institutions operate affect their value and risks; and (4) accounting and disclosures required by generally accepted accounting principles (GAAP) and the rules and regulations of the Securities and Exchange Commission (SEC) imperfectly capture the first three ideas.

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1

Introduction

The recent financial crisis has raised economically significant and politically charged questions about the role of financial reporting for financial instruments in the internal management and external evaluation of individual financial institutions as well as its effects on the stability of the overall financial system. These questions have arisen in each of the four areas of accounting research examined in this monograph. For example:

- *Regarding banks' loan loss accruals:* Does FAS 5's (FASB, 1975, ASC 450)¹ "incurred loss model" — which allows banks to accrue for loan losses only if those losses are incurred based on current conditions, probable of confirmation by future information, and capable of reasonable estimation — cause banks to under-accrue for loan losses in good economic times and thus have to record catch-up loan loss provisions in

¹ As a certifiable accounting dinosaur, I refer to GAAP standards that predate the Accounting Standards Codification (ASC) by their original type of standard and number designation, as with FAS 5 here. I indicate the date of the standard and the most relevant section of the ASC the first time I refer to a standard. All accounting standards referenced in this monograph appear under FASB (Financial Accounting Standards Board) in the references.

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subsequent bad economic times? If so, does the incurred loss model, combined with banks' failure to issue adequate capital in anticipation of regulatory capital constraints, cause banks to reduce loan originations in bad economic times, thereby exacerbating these downturns? Should the incurred loss model be replaced by expected loan loss accruals (i.e., eliminate the probable and capable of reasonable estimation restrictions) or dynamic loss reserving (i.e., eliminate the incurred restriction by using through-the-cycle loss parameters) to increase loan loss accruals in good economic times and mitigate this procyclicality? Alternatively, does better credit risk modeling by banks mitigate the procyclicality resulting from the incurred loss model?

- *Regarding fair value versus amortized cost accounting measurement bases:* When the relevant markets are illiquid, does FAS 157's (FASB, 2006, ASC 820) fair value measurement guidance cause financial institutions to record excessive write-downs of their credit risky financial assets? If so, how is fair value different in this regard than the usual alternative of amortized cost accounting subject to some form of impairment write-downs? Does it matter whether the current holders of financial instruments are able to hold those instruments through their maturity or the recovery of market liquidity? Does fair value accounting make these holders more likely to rush to the exits to dispose of financial instruments when economic conditions deteriorate to avoid larger write-downs later, thereby exacerbating market illiquidity for these instruments?
- *Regarding balance sheet presentation of risk-concentrated positions:* Derivatives, retained residual securities in securitizations accounted for as sales, and various other contractual and noncontractual positions created in structured finance transactions have small value and concentrated risks, due to financial leverage embedded in the positions. Recognizing their concentrated risks, GAAP currently requires many (but not all) of these positions to be reported on the balance sheet

at fair value. This is the case for derivatives under FAS 133 (FASB, 1998, ASC 815) and retained prepayment-sensitive securities in securitizations accounted for as sales under FAS 140 (FASB, 2000, ASC 860). Fair accounting reports the ex post realizations of the risk of these positions through fair value gains and losses recorded in comprehensive income. However, this accounting also effectively presents these positions net on the balance sheet, suppressing the embedded leverage in the positions. For example, the issuer in a securitization accounted for as a sale that retains a residual security bears the first risk of loss on the securitized assets. Would requiring the issuer to present the retained residual security gross on the balance sheet — as the securitized assets less debt equal to the amount raised by issuing the senior asset-backed securities, the balance sheet presentation required by secured borrowing accounting — better reveal the embedded leverage and risk of the security? If the FASB required such gross presentation for all risk concentrated positions, would users of financial reports better understand the financial leverage of financial institutions and the financial system as whole?

- *Regarding risk disclosures:* Are GAAP and SEC-mandated risk disclosures for financial instruments adequate to convey the risks of those instruments to users of financial reports? Why were financial institutions and their investors largely unaware of the risks building in individual institutions and the financial system as a whole prior to the financial crisis? Can risk disclosures be improved to reduce the likelihood of financial crises arising or the adverse effects of such crises in the future?

As a consequence of the financial crisis, many accounting and other empirical researchers have become interested in conducting research on topics involving the financial reporting for financial instruments. As someone who has spent much of his academic career in this area, I find this enhanced participation heartening. However, I emphasize

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that, in order to be able to identify meaningful research topics and to develop powerful and well-specified research designs that allow for reliable inferences, researchers must spend time and effort to develop foundational knowledge. This knowledge pertains to financial instruments and the markets in which they trade, financial institutions and their internal decision-making and external circumstances, and currently required and credible alternative financial reporting for financial instruments. The primary purposes of this monograph are to make it easier for researchers to accumulate this knowledge, to describe extant research, and to indicate promising areas for future research.

While my main focus in this monograph is the financial reporting for financial instruments, I also focus secondarily on financial reporting by financial institutions, particularly commercial banks and thrifts (hereafter “banks”). I do this for four reasons. First, financial institutions are the largest holders of financial instruments, with both sides of their balance sheets typically dominated by these instruments. It does not take much contemplation of this fact to come to the conclusion that meaningful accounting research on financial institutions often requires researchers to view these institutions as integrated portfolios of financial instruments. In my personal experience, this view is important even for readers interested in financial instruments rather than financial institutions. I began to understand financial instruments economically and the critical aspects of the financial reporting for these instruments only once I adopted and internalized this view. I recommend that researchers interested in the financial reporting for financial instruments do so sooner rather than later.

Second, and relatedly, financial institutions provide rich sets of information about their financial instruments, individually and collectively, in their financial reports. Much of that information is available in machine-readable form from regulators, such as regulated bank call reports and bank holding company Y-9C filings, or from information aggregators, such as SNL Financial.

Third, financial institutions play essential roles in providing liquidity and absorbing or distributing various types of economic risks. As recent research motivated by the financial crisis demonstrates, some

of the most interesting and important questions about the financial reporting for financial instruments pertain to these essential roles.

Fourth, it is often suggested that banks and other types of financial institutions are amenable to accounting research due to their homogeneity. This is close to but not quite correct. Financial institutions are amenable to accounting research due to their limited but identifiable heterogeneity. For example, most banks have one important accrual estimate, the allowance for loan losses. Banks differ in how they make this estimate, due to differences in their loan portfolio composition, the attributes of their credit risk modeling, their financial health, and their incentives. It is feasible for researchers to identify and understand this heterogeneity and incorporate it into our empirical analyses.

My intent in this monograph is to provide an introduction to fundamental issues in financial reporting for financial instruments that is accessible to readers who do not have extensive prior knowledge of structured finance transactions and of the accounting for those transactions. For this reason, I do not cover financial reporting topics that would require substantial space to explain adequately, such as hedge accounting and consolidation of special purpose entities. However, I do assume readers have reasonable background knowledge about financial instruments and solid understandings of introductory financial accounting.

The coverage of this monograph is as follows.

Section 2: Background on Financial Instruments, Financial Institutions, and Their Risks

This section provides important background information for the topics covered in Sections 3–6. I first briefly discuss the definitions of financial assets and liabilities (Section 2.1), the importance of portfolios of financial instruments with interrelated risks, including financial institutions (Section 2.2), and the general nature of the risks of financial instruments and financial institutions (Section 2.3). I then provide detailed treatments about interest rate risk (Section 2.4), credit risk (Section 2.5), and liquidity and related information risks

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(Section 2.6). I briefly discuss the risk-multiplying effects of financial leverage (Section 2.7).

Section 3: Banks' Loan Loss Accruals

This section examines banks' loan loss accruals. I first describe the most salient aspects of banks' accounting for loan losses under FAS 5 and in practice (Section 3.1) and the use, by financial analysts and other evaluators of banks, of nonperforming loans and net loan charge-offs as nondiscretionary benchmarks for loan loss accruals (Section 3.2). I then discuss research on banks' exercise of discretion over loan loss accruals and the capital market pricing of these accruals (Section 3.3) and on the relationship between banks' loan loss accruals and their loan origination procyclicality (Section 3.4). I conclude with possibilities for future research (Section 3.5).

Section 4: Fair Value versus Amortized Cost Accounting

This section examines fair value accounting for financial instruments. I first describe and compare the mechanics of fair value and amortized cost accounting (Section 4.1). I then summarize current fair value measurement guidance and fair value disclosure requirements under FAS 157, as amended (FASB, 2006, ASC 820) (Section 4.2) and the strengths and weakness of fair value and amortized cost accounting both when markets are well behaved and when they are not (Section 4.3). After a brief overview of empirical research on this topic (Section 4.4), I then discuss three specific areas of empirical research: research on the absolute and incremental value-relevance of fair value and amortized cost accounting numbers (Section 4.5); research on the absolute and incremental risk-relevance of fair value and amortized cost accounting numbers (Section 4.6); and research motivated by the recent financial crisis regarding whether fair value accounting yields adverse feedback effects (Section 4.7).

I conclude by raising foundational issues that accounting researchers must confront in order to adequately address the difficult issues raised by market illiquidity in order to assess the economic consequences of fair value accounting (Section 4.8).

Section 5: Balance Sheet Presentation of Risk-Concentrated Instruments

This section examines instruments — such as derivatives, loan commitments, and retained residual securities from securitizations — which have small values relative to their risks, i.e., are “risk-concentrated.” I first describe risk-concentrated instruments and the balance sheet presentation issues they raise, specifically, off-balance sheet financing and gross versus net presentation (Section 5.1). I provide illustrative examples of two individual risk-concentrated instruments, an interest rate swap and a retained residual security from a securitization, as well as of a netting agreement that covers two offsetting interest rate swaps. I also describe the primary aspects of GAAP accounting requirements for these instruments and agreements (Section 5.2). I survey existing research on risk-concentrated instruments, which falls primarily into two areas: (1) the risk-relevance of the notional amounts of derivatives and contractual amounts of other risk-concentrated instruments; and (2) whether securitizations accounted for as sales are economically more like secured borrowings. I also identify opportunities for future research on the balance sheet presentation issues raised by risk-concentrated instruments, many of which now can be addressed empirically for the first time because of significant recently issued financial reporting standards (Section 5.3).

Section 6: Risk Disclosures

This section examines required risk disclosures related to financial instruments in financial reports under GAAP and

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SEC rules. GAAP requires footnote disclosures, while the SEC requires disclosures in the management discussion and analysis and other non-GAAP sections of financial reports. I first describe required disclosures for the three primary types of economic risk — market risk, credit risk, and liquidity and related information risks — as well as the overarching notion of estimation risk (Section 6.1). I then survey extant empirical research on the risk-relevance of these disclosures (Section 6.2) and identify opportunities for future research on this topic (Section 6.3).

I am pleased to write this monograph, which charts much of my academic development beginning with my Ph.D. program, for *Foundations and Trends in Accounting*, whose target audience is Ph.D. students. This monograph relies heavily on my prior work with coauthors, most notably, Chi-Chun Liu, my first Ph.D. advisee. It would not have been possible without a series of colleagues providing me with research and other opportunities over my career, including Bill Beaver involving me in the first empirical accounting research on banking as a Ph.D. student in the mid-1980s, Jim Wahlen getting me to think about loan portfolio composition in the early 1990s, Joshua Livnat asking me to teach a course on banking at NYU's Stern School in the mid-1990s, and Katherine Schipper, Jim Leisenring, and others at the FASB and American Accounting Association providing me with opportunities to participate in the FASB's standard-setting process for financial instruments. I wish all Ph.D. students who read this monograph such gifts, and the wherewithal to accept them, in their careers.

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