Evidence on the efficacy of interest-rate risk disclosures by commercial banks

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Abstract

This paper documents evidence on the efficacy of maturity-gap disclosures of commercial banks in indicating their net interest income that is exposed to interest-rate risk. For the large sample of banks that filed call reports from 1990 to 1997, a period that includes a wide range of interest rate movements, we find that (i) one-year maturity gap measures are significantly related to the one-year- and three-years-ahead change in net interest income, (ii) fixed-rate and variable-rate instruments differ in explanatory ability, and (iii) the one-to-five-year aggregate gap measures also have some power in explaining three-year-ahead changes in net interest income. These findings hold after controlling for the ex post growth in assets as well as the amount of rate-sensitive assets and liabilities (a competing set of explanatory variables). Because the Securities and Exchange Commission (SEC)’s [Securities and Exchange Commission (SEC), (1997). Disclosure of accounting policies for derivative financial instruments and derivative commodity instruments and disclosure of qualitative and quantitative information about market risk inherent in derivative financial instruments, other financial instruments, and derivative commodity instruments. Release Nos. 33-7386; 3438223; IC-22487; FR-48; International Series No. 1047; File No. S7-35-95 (January 31, 1997), Washington, DC] tabular disclosures are finer than maturity-gap data, our findings mitigate concerns about the usefulness of the SEC’s market-risk-disclosure requirements. Furthermore, they suggest contrary to the claims of certain banks that the omission of prepayment and early withdrawal risk from gap measures does not totally compromise the ability of gap data to indicate interest-risk exposures.

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1. Introduction

In 1997, the Securities and Exchange Commission (SEC) issued Financial Reporting Release No. 48, Disclosure of Accounting Policies for Derivative Financial Instruments and Derivative Commodity Instruments and Disclosure of Quantitative and Qualitative Information about Market Risk Inherent in Derivative Financial Instruments, Other Financial Instruments, and Derivative Commodity Instruments (FRR 48). This mandate calls for market-risk disclosures in addition to financial statements to address widespread concerns about the adequacy of existing disclosures arising from the recent substantial increase in the use of instruments to sensitive market risk. FRR 48 states that while these instruments can be used as effective tools for managing exposures to market risk, they may lead to significant losses. Critics argue that investors may not only find the SEC’s market-risk disclosures uninformative but may even be misled by them (see Culp & Miller, 1996; Lehn, 1997; Logan & Montgomery, 1997).

This paper provides indirect evidence on the efficacy of the SEC’s tabular market-risk-disclosure requirements in indicating commercial bank interest-rate risk by examining the association between maturity-gap data disclosed in bank call reports and future changes in net interest income. We study maturity-gap data because they are very similar to the tabular format required in FRR 48. The release acknowledges, “gap analysis is a tabular disclosure approach which with minor additions would satisfy the tabular disclosure requirements” (FRR 48, Section VI, B, 2).

Our approach is motivated by a number of observations. First, Ahmed, Beatty, and Takeda (1997) provide evidence that banks’ risk-management policies focus on net interest income rather than market values. These policies are consistent with changes in net interest income that represent a significant risk for banks. Second, the change in net interest income impacts equity values both directly and through the persistence of earnings. The current focus on short-term earnings in setting prices makes this an important risk to measure (see for example Skinner & Sloan, 2002). Third, the risks of changes in income and equity value are separable (Toevs, 1983). Finally, the disclosure needed to inform about potential changes in net interest income can be reported in a single number (Toevs, 1983). This paper tests for and shows that a single, disclosed number, maturity gap, could be very informative about this important risk.

Once the decision to look at the risk of changes in net interest income has been made, bank-level data from call reports are a logical choice for the empirical setting to test this

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3 FRR 48 requires firms to report their market risks in one of three formats: tabular, value at risk (VAR), or a sensitivity analysis. See Linsmeier and Pearson (1997) for a description of the three formats.


5 Barton (2001) provides evidence that firms’ hedging decisions are related to earnings management.

6 Toevs (1983) demonstrates that the risk caused by unexpected changes in interest rates can be broken into two separate pieces. The first part of the risk is that from changes in net interest income over some “gapping” or risk-management period. The other portion of the risk is that of changes in the market value of bank capital, which is based on the market values of financial instruments that do not reprice or mature during the risk management period.
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