Discussion of “How Banks’ Value-at-Risk Disclosures Predict their Total and Priced Risk: Effects of Bank Technical Sophistication and Learning over Time”

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Abstract. Liu et al. (2004, this issue) show that technical sophistication and learning over time help improve the ability of bank trading portfolios’ value-at-risk (VaR) disclosures to predict future trading income risk, and that trading VaRs predict bank-wide total risk and systematic risk. While the results suggest that VaRs are a reliable measure of risk for the sample firms, the study’s incremental contribution is limited because of the nature of the sample firms and problems in variable measurement.

Keywords: value at risk, disclosures, banks

JEL Classification: M41, G21

Value-at-risk (VaR) is a new risk management tool used to quantify a firm’s exposure to market risks. VaR measures the potential loss on a portfolio of risk exposures under normal market conditions over a specified time period and confidence level. Building on Jorion (2002), Liu et al. (2004, this issue, hereafter referred to as LRT), offer two new findings based on a sample of 17 commercial banks’ VaR disclosures for their trading portfolios from 1997 to the first quarter of 2002. First, the ability of trading VaRs to predict future trading income risk increases with bank technical sophistication (hypothesis 2) and learning over time (hypothesis 3). Second, trading VaRs predict bank-wide total risk (i.e., stock return variability) (hypothesis 4) and systematic risk (hypotheses 5 and 6).

1. Motivation and Incremental Contributions

Despite its conceptual appeal and endorsement by bank and securities regulators, VaR, as a risk measurement tool, is still viewed with suspicion because the computation of VaR is inherently complex and requires many important assumptions. An important contribution of LRT is to use a homogeneous sample of 17 banks with significant trading portfolios to test the determinants of the usefulness of VaR as a measure of trading income risk (hypotheses 2 and 3). Such an empirical exercise is useful because it offers valuable information to investors who need to assess the cross-sectional difference in firm risks, and to policy makers who wish to improve the ability of VaR to capture firm risks.
However, the contribution of hypotheses 2 and 3 is diminished for two reasons. First, as I explain in the next section, the proxies for technical sophistication and learning are weak and could be subject to alternative explanations. Second, the choice of the determinants of the quality of VaR (i.e., bank technical sophistication and learning) is ad hoc and does not rely on existing theories (e.g., Healy and Palepu, 2001). For example, given the complexities and managerial discretion in the VaR measurement, what roles do auditors’ and managers’ incentives play in the quality of VaR disclosures? Without simultaneously considering these other determinants, the study could be subject to the correlated omitted variable problem and also cannot gauge the relative importance of the individual determinants.

LRT motivate their hypotheses 4–6 by arguing that investors care about firm-wide risks but existing risk disclosures are often made for specific market risks or business activities. I concur that it is interesting to examine whether existing risk disclosures (VaRs in this study) capture total risk and systematic risk. However, I argue that results for hypotheses 4–6 offer limited new insights to the literature. First, their results can be inferred from prior research. For example, the association between trading VaRs and bank-wide total risk (hypothesis 4) is tautological because total firm risk must be equal to the sum of trading and non-trading risks, adjusting for the covariance between the two types of risks. Since both Jorion (2002) and hypothesis 1 in this study show that trading VaRs are a reliable measure of trading risk, hypothesis 4’s result is expected. The association between trading VaRs and systematic risk (hypotheses 5–6) is also to be expected in this particular sample, because the sample banks’ trading risks pertain to interest rate, foreign exchange, and commodity price risks, each of which relates to systematic risk. Therefore, it is not too surprising that trading VaRs relate to systematic risk for the sample firms.

Second, as the authors recognize, the results for hypotheses 4–6 based on 17 banks may not be extendable to other banks or industrial firms. This is because their results are based on the VaR disclosures for banks’ trading portfolios, and therefore, it is unclear whether VaR will be equally effective when applied to different risk exposures. This concern is especially relevant in light of the mixed existing evidence on the usefulness of VaR as a risk measure in non-financial firms (e.g., Sribunnak and Wong, 2002).

2. Variable Measurement and Hypothesis Tests

2.1. Measurement of Trading Income Risk

VaR only captures downside risks. Upside risks are not reflected in VaR. Following Jorion (2002), LRT use the variance of future trading income as a proxy for the downside risk of the trading portfolio. I see two potential problems with this proxy. First, using variance as a proxy may be problematic if the underlying distribution is asymmetric. Thus, it seems important for the authors to provide some descriptive evidence to show the validity of this implicit assumption.