



The level and quality of Value-at-Risk disclosure by commercial banks

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ABSTRACT

In this paper we study both the level of Value-at-Risk (VaR) disclosure and the accuracy of the disclosed VaR figures for a sample of US and international commercial banks. To measure the level of VaR disclosures, we develop a VaR Disclosure Index that captures many different facets of market risk disclosure. Using panel data over the period 1996–2005, we find an overall upward trend in the quantity of information released to the public. We also find that Historical Simulation is by far the most popular VaR method. We assess the accuracy of VaR figures by studying the number of VaR exceedances and whether actual daily VaRs contain information about the volatility of subsequent trading revenues. Unlike the level of VaR disclosure, the quality of VaR disclosure shows no sign of improvement over time. We find that VaR computed using Historical Simulation contains very little information about future volatility.

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"Disclosure of quantitative measures of market risk, such as value-at-risk is enlightening only when accompanied by a thorough discussion of how the risk measures were calculated and how they related to actual performance". Greenspan (1996)

1. Introduction

Following a string of high profile trading losses, greater attention has recently been focused on the trading risk faced by commercial banks. In accordance with the 1996 Market Risk Amendment to the Basel Accord (Basel Committee on Banking Supervision, 1996), many bank regulatory agencies have set capital requirements to include a market risk charge that reflects the risk of banks' trading activities. In the US, banks that are large enough are eligible under the Basel Accord to base their required regulatory capital for market risk on an internal Value-at-Risk (hereafter VaR) model.¹ VaR is defined as the p th lower tail percentile of trading revenue over the next h periods $R_{t,t+h}$ formally $p = \Pr(R_{t,t+h} < \text{VaR}_{t,t+h}(p))$, and has become a standard market risk measure (Jorion, 2006).

In the US, market risk disclosures are required for all public filers that make material use of derivatives (not just banks) under Financial Reporting Release Number 48 (hereafter FRR 48) published by the US Securities and Exchange Commission (1997). VaR disclosure is, along with tabular presentation and sensitivity analysis, one of the three reporting methods described in FRR 48 (Linsmeier and Pearson, 1997).² A not so well-known consequence of this multi-format disclosure environment is that VaR public disclosures are not mandatory for all 10-K filings as long as an alternative quantitative disclosure format is used.

The first objective of this paper is to study the level of VaR disclosure since the 1996 Market Risk Amendment to the Basel Accord. The fact that both the Basel Accord and FRR 48 encourage *but do not require* VaR-based risk disclosure presents a strong motivation for looking at the actual level of VaR disclosure. It is the very fact that most banks have the option to use VaR that makes their choice empirically interesting. In this paper, we develop an index, labeled the VaR Disclosure Index (hereafter VaRDI), that summarizes the amount of VaR disclosure by banks and the extent to which banks disclose details about VaR construction and provide

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¹ The use of internal VaR to set regulatory capital is not a requirement for US banks.

² Tabular presentation consists of a table of financial instruments (grouped by market risk category and market characteristics) that discloses the fair value of the assets and its future cash-flows. Sensitivity analysis presents the effect on earnings, cash-flows, or fair values of a hypothetical shock on a key risk factor, e.g., a 50 basis-point increase in the short-term interest rate (see Blankley et al. (2000) for an illustration).