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Commentary

In this paper, Reint Gropp, Jukka Vesala, and Giuseppe Vulpes provide an insightful perspective on the use of market prices in supervising large financial firms. They use European data to validate some of the conclusions previously drawn from the U.S. data. After Sironi (2001, 2003), this may be the first paper to examine European bond prices. The fact that European bond markets are generally considered less liquid than those in the United States tells us something important about the resilience of spread information in this context. The authors' simultaneous evaluation of European banks' equity data provides a rich set of tests and ideas.

The authors explicitly frame their analysis of assessing bank condition as a statistical *forecasting* problem. Such a forecasting perspective is naturally associated with efforts to use market information to predict future supervisory assessments. However, it is equally helpful in assessing whether market information can improve supervisory assessments about a financial firm's *current* condition: supervisors and market investors both possess estimates of a firm's true quality, and multiple estimates can be combined into a more accurate assessment of that quality.

Evaluating their empirical work in terms of forecasts, the authors assess the *marginal* contributions of market information relative to accounting information or ratings. Rather than simply observing changes in regression R^2 statistics, Gropp, Vesala, and Vulpes also report their forecasts' "Type I" and "Type II" error rates: the frequency of failing to detect a true problem versus mistakenly identifying a sound firm as troubled. These classification error rates are much more meaningful than correlation coefficients to supervisors, who are charged with oversight of individual firms. Market information will never be fully incorporated into supervision unless researchers can devise a way to describe its value in terms of classification errors.

Another attractive feature of the study is its resurrection of equity data as a valid source of market information. In principle, equity and bond values both depend on the same parameters—a firm's leverage and its asset volatility. Yet previous research has more frequently evaluated debenture spreads, because debenture payoffs seem more similar to those of depositors and the safety net. This contrasts with the "call option" nature of equity, for which an increase in risk can either raise or lower market value. (In extremis, subordinated debt also increases in value with asset volatility.) Although equity price changes may have ambiguous implications about firm condition, the authors show that an equity-based distance to default measure provides an unambiguous connection between share price information and firm condition.

Demonstrating the theoretical use of equity prices nicely complements several real-world dimensions of security prices. Bond price data are generally considered less accurate than share price information, and bond data are available for fewer firms. A bond's "credit spread" also reflects more than just the market's estimated probability of default losses. The corporate

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bond spread must cover differential liquidity, the value of state and local taxes, and expected default losses. Longstaff (2004) estimates a pure liquidity differential worth 10 to 15 basis points between Refcorp and Treasury bonds, even though they have identical credit risks. Other recent papers estimate quite a surprisingly small *default* risk component. Delianedis and Geske (2001) assert that "default risk only accounts for about 5 percent of the AAA credit spread and 22 percent of the BBB credit spread." Huang and Huang (2002) attribute "less than 20 percent" of the spread on investment-grade bonds to expected default losses. Elton et al. (2001) conclude that "in the case of ten-year corporates, 46.17 percent of the difference is unexplained by taxes or expected default."

The ultimate value of bond versus stock information is an empirical issue, and we have rather little evidence (although see Krainer and Lopez [forthcoming]). The authors refer to some interesting work they have undertaken elsewhere (Gropp, Vesala, and Vulpes 2002), which demonstrates that both equity and bond prices provide valuable information, in the sense of mitigating the number of Type I forecast errors. Notably, the equity prices (distance to default) predict better at longer horizons while the bond prices (yield spread) predict better at shorter horizons. The authors speculate that the sensitivity of debt prices to risk changes increases sharply as a firm's true quality deteriorates. Although this strikes me as plausible, I would like to see some calculations from their proofs of results 1 and 2 demonstrating that asset risk and leverage affect the credit spread by ever-larger amounts as the issuer's condition deteriorates.

From a supervisor's perspective, the usefulness of market information in affirming or predicting the condition of financial firms seems quite limited. Compared with a model that uses only accounting information, the authors report that yield spreads and distance to default add only 6 percentage points to the in-sample R^2. I suspect that supervisors have enough information of their own to rival the added explanatory power of these market measures. Unless we (as a profession) can improve upon this performance, the primary value of market information may lie in its ability to discipline supervisors. By specifying that sufficiently negative market information requires a public response from supervisors, we may be able to prevent some regulatory forbearance (Flannery 2001; Flannery and Nikolova 2004).

This paper also raises an important question about how market information can be used to supervise financial conglomerates, or large complex banking organizations. We must (again) determine which financial activities warrant safety net protection and determine how (whether) security market information can provide information about the condition of those components of the overall firm.

In summary, Gropp, Vesala, and Vulpes provide an interesting perspective on a timely issue. Further research will be improved by applying their "forecasting" perspective on market information in the supervisory process.

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