Economic and Financial Review

Volume 43 | Number 1 Article 5

3-1-2005

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*A Review by Phebian.N.Omanukwue**

I. Introduction

Banking services are extremely important, especially in a free market economy. However, in spite of banks catalytic role in the transmission mechanism of monetary policy, they are exposed to a lot of risks, such as liquidity, operational, market and credit risks, among others. To guard against such risks, most economies have created public safety nets as well as banking supervisory agencies and institutions of various forms to protect both the depositors and other banks/shareholders from systemic shocks that could destabilize the system. In the conduct of its supervisory functions, most central banks adopt an on-site and or an off-site monitoring system, utilizing information such as assets quality and earnings, deposit liabilities, bank rating models, and contingency frameworks to assess the soundness and stability of the banking system. However, it has become increasingly evident that a bank's condition could deteriorate rapidly and where examination are rather infrequent, the banking supervision assessments could become outdated. This informed the work of Krainer and Lopez in considering the use of financial market information for supervisory purposes.

The paper, therefore, attempted to ascertain (adopting univariate event studies and multivariate analysis), whether financial market claims, such as equity, bonds, debts, uninsured deposits, etc, accurately assesses banks conditions and how such information might be used for supervisory purposes. Broad conclusions therefrom were that implicit in the investment decisions of most financial investors were performance evaluation of the financial institutions. However, additional information as reflected in the financial market prices profers new and complementary approaches to supervisory functions of monetary authorities.

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II Summary of the Paper

The authors noted that an empirical relationship between yields on banks subordinated notes and debentures as measures of banks risks have been difficult to establish. This was interpreted to be the result of the likelihood of investors' perception of a real or implicit government guarantee of banks liabilities. With regards to bank equities, however, most investors were seen to incorporate risk related information into banks stock prices such that the stock prices of a bank or bank holding company (BHC) reflects how exposed it is to default borrowers. For instance, when the stock price of a bank falls significantly, the more exposed they are to default borrowers and vice versa.

Further analysis revealed that assets opacity was not a prominent feature of BHCs traded on the New York stock exchange, (NYSE), American stock exchange, (AMEX) as well as the NASDAQ. This contrasted with another study that stated that asset opacity might be a prominent feature of BHCs given the differences on debt ratings of such financial intermediaries that were likely to emerge from credit rating agencies. Such differences in findings have been attributed to differing incentives facing investors, rating agencies or perhaps different methodologies. In most cases, the use of financial market data differs for investors, credit agencies as well as the supervisory bodies. Nevertheless, there seems to be an alignment between the investors' assessments of the financial market and the supervisory agencies, as most investors view the rating by the supervisory agency as a certification of the real financial condition of the bank.

In assessing the usefulness of financial markets information to supervisory agencies, studies conducted between 1998 and 2001, showed that equity and debt market variables provided useful insight that supplemented supervisory assessments. On the usefulness of debt market information for supervisory purposes, it was found that debt spreads explained supervisory ratings more than other capital ratios. In more recent studies, examining the relationship between equity and debt prices and bank ratings, it was revealed that equity market variables do not signal changes in the ratings of banks, especially when such banks were closer to default. In Asia, stock market prices were more responsive to changing financial conditions than credit ratings of banks. Applying US data, it was shown that there was little Granger-causality between equity market assessments and supervisory ratings. Further analysis also revealed that supervisory agencies' rating do not signal changing financial conditions or changes in non-performing loans. In summary, broad conclusions from the literature was that most financial market investors evaluate the performance of the banks and the information they seek were quite different from that sought by

supervisory authorities, but, however, complements the supervisory roles of the monetary authorities.

Utilizing models that forecasted the CAMELS/BOPEC ratings, financial market information and the BHCs performance quarterly report, the authors conducted two event studies (a univariate event study which consisted of an equity market event study and a debt market study) and a multivariate analysis using the BOPEC off-site monitoring model (BOM). The multivariate analysis ensures that the marginal value of financial market data relative to supervisory data and the impact of variations in financial market variables are examined across all BHCs on BOPEC ratings, whereas the univariate event study is BHC specific on BOPEC ratings. In analyzing the hypothesis whether financial market data detect changes in banks risk under the equity market event study, the authors assume that changes in banks' conditions and investors' perceptions of the future outlook of the firm's profitability induce changes in prices of securities and BOPEC ratings. This assumption was made on the premise that BOPEC ratings were classified and not for public consumption. Other assumptions were that stock returns follow a 2-factor model, where the factors were the Federal funds rate and the returns on market portfolio.

The essence of conducting a debt market event study was borne out of the need to determine if changes in banks bond yields anticipate changes in supervisory BOPEC ratings. Their findings from the event studies were that, on the average changes in stock returns and subordinated debt spreads reflect supervisory ratings and are consistent with it. Thus, it was concluded that the financial market data send signals of about nine to twelve months prior to the supervisory authorities' assessments.

In assessing if the financial market variables actually tell supervisors what they do not already know, a multivariate analysis (under a core and an extended framework) was conducted using a BOPEC off-site monitoring model in which supervisory BOPEC ratings were modeled in an ordered logit framework as a linear function of both supervisory and financial market variables. Different measures such as (non-accrual loans, ratio of leases to loans, returns on average assets, etc) used to capture the supervisory concerns as embedded in the BOPEC were identified and estimated. Their findings from the in-sample estimate of the core model, (which included only supervisory variables) revealed that key supervisory variables (B, E and C components

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[v] *CAMELS is an acronym that stands for banks capital adequacy, asset quality, management, earnings, liquidity and sensitivity to risks. BOPEC stands for Bank subsidiaries, other non-bank subsidiaries, parent company, earnings and capital adequacy. They are both supervisory ratings assigned after bank examinations to ascertain the overall health and financial condition of a bank/BHC*

of the BOPEC ratings) and the financial market variables were significant and consistent with apriori expectations in the extended model, which had both supervisory variables and financial market data. The out-of-sample forecasts accuracy from the core and extended BOM showed that the core and extended model forecasts a BOPEC rating of 1 or 2 accurately about 80 percent and 75 percent of the time, respectively, but their accuracy diminishes at the lower rated banks/BHCs. Comparing the accuracy of the two set of forecasts from the models showed that there was little statistical difference between the two forecasts. However, using another metric to gauge the contribution of financial market information in the model, it was shown that the extended model produced 9 and 37 percent more correct signals over and above that by the core model over a 4-quarter and 1-quarter horizon, respectively. The need to be cautious of errors of missed signals (type 1 errors) and forecasted ratings that do not occur (type 2) were, however, highlighted. Nevertheless, given the potentially large costs of missed signals, it was advocated that supervisors use the extended BOM off site monitoring model.

III Comments and Lessons for Nigeria

The paper has shown that investors' view on the financial condition and prospects of banks can be distilled from stock prices. This is because the equity market is fairly liquid and its indices are quite sensitive to changes in the condition of the issuing institution, thus, making such changes, (reflected in the share price and earnings of the Bank), easier to observe and anticipate. The article was quite apt and in-depth, especially in the empirical analysis of the usefulness of stock market data and the deductions therefrom, thereby providing answers to specific questions, such as the appropriate level of accuracy to demand from financial market signals and off-site monitoring models, as well as the possibility of financial markets to detect changes/variations in banks' risk features. However, the findings from the study, though necessary, were not sufficient enough to enable one conclude that bank supervisors should begin to rely on market signals. Indeed, bank supervisors must still determine if and how market signals can be used, depending on their need for real time, easy to interpret information and well laid down procedures already in practice.

Nevertheless, there are some emerging issues from this article which the monetary authorities could use to improve on its supervisory functions. First, although the depth of the Nigerian financial market has remained shallow in terms of instruments, assets substitutability, etc, there are practical uses of stock market data, especially as a complementary approach to existing supervisory functions. One way of ensuring its usefulness would be by identifying clearly the information, which the stock market

data can provide, its relevance to the situation at hand and its limitations. It becomes necessary to note that the issue is not which source of supervisory information is more accurate or important, but rather a complementary approach to supervisory functions. The need for bank supervisors to begin to look beyond the conventional data and its variations becomes more relevant in this age of bank consolidations.

The quest for reliability of returns and timeliness of disclosure by banks is a continuous one. It may, thus, become necessary for the monetary authorities to consider using available stock market data to complement already existing surveillance methods, while still encouraging banks for proper disclosure of their operations. An approach to this would be to encourage the routine use of market data, in the supervisory process, through monitoring of the stock prices of banks, etc, such that if the stock prices fluctuate irregularly, it could be noted as an exception, which calls for closer monitoring during the surveillance process. This way, the supervisory authorities become proactive. It becomes necessary to note at this juncture that supervisory staff should endeavor to ascertain if indeed prices set by investors vary in consonance with the riskiness of the banks before considering the use of market prices. Second, it may be necessary to provide practical guidelines for supervisors who do not have significant experience with market data to utilize them effectively as the absence of such may lead to a misinterpretation of any fluctuation in market data.

Third, while much of the supervisory assessments rely on statistical techniques to forecast future supervisory ratings or bank failures, there remains the need to develop an off-site monitoring model. This would provide an ideal method of determining, in the Nigerian case, whether stock market data would provide additional benefit/complementary information, not already in the existing e- FASS supervisory framework. Besides, this will provide incremental information between inspections, beyond the traditional financial information, managerial reports and on site inspections, more especially where the supervisory rating is outdated.

Furthermore, given the impact of the Central Bank's policy actions on the financial market, such as on share prices of firms, lending and deposit rates, etc, and the steady growth and ongoing reforms witnessed in the Nigerian stock market, there is need for the monetary authorities to closely observe these financial market data (changes in stock/share prices, spreads on debts and debentures, default probabilities, etc) with the aim of incorporating it, at a future date, into the new risk-based banking supervisory framework of the Central Bank.