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Bank Dividend Policy as a Signal of Bank Quality

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This article examines whether the dividend policy of bank holding companies is used as a signal of their quality. The study found evidence to support the dividend signaling argument—that is, that there is a positive relationship between bank dividends per share and bank quality rating. Additionally, an inverse relationship between the dividend payout ratio and bank quality was found. Therefore, both aspects of a bank holding company's dividend policy yields information about the quality of a financial institution.

I. INTRODUCTION

During the decade of the 1980s, the U.S. banking industry experienced a slow erosion in its financial health. While recent evidence indicates a reversal in the fortunes of the banking industry, long-term secular forces suggest a continued erosion in earnings in the banking industry and a greater potential for increased risk taking (Barth, Brumbaugh, & Litan, 1992).

With the secular deterioration in the bank industry's financial health, there was renewed emphasis on the recapitalization of the banking industry. The process has continued into the 1990s, with the industry's capitalization ratio reaching its highest level in 30 years.

The primary venue available for banks to raise capital is through retained earnings. The Federal Deposit Insurance Corporation (FDIC) reported that in 1993, the banking industry paid out 50.7% of its earnings in cash dividends. This is lower than the banking industry's 80% payout rate in the first quarter 1991 but much higher than 27.5% payout rate in 1985. Given this more recent liberal dividend payout ratio, especially in light of anticipated long-term decline in earnings, the ability of banks to expand their capital base must be questioned.

A fundamental tension associated with bank dividend policy is thus apparent. As bank earnings are squeezed, banks must choose between maintaining stable dividend payments per share versus a constant dividend payout ratio from earnings. Both policy decisions can provide information about the existing and future soundness of the bank. Yet, there is some concern as to whether the financial markets incorporate this information. The financial

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literature is replete with studies which have examined the impact of dividends as an investor signal (Eades, 1982; Aharony & Swary, 1980). Generally, an unexpected increase in dividends is viewed as conveying positive information about the financial health of the firm while negative information about asset quality is imparted by an unexpected cut in dividends. According to Keen (1983), a central tenet of bank financial management is to avoid a cut in cash dividends because a dividend cut connotes a weakening in the soundness of a bank. Furthermore, Bhattacharya (1979) argues that due to informational asymmetries, cuts in dividends will have a greater negative impact on shareholder's wealth than will positive effects associated with dividend increases.

While cash dividends paid provides information about the future well-being of a bank, dividend payout as a percent of earnings (i.e., dividend payout ratio) also yields valuable information. Mayne (1980) points out that in the mid 1970s, retained earnings constituted 56% to 76% of the net growth in bank equity; currently, they represent about 30%. One may hypothesize that changes in the dividend payout ratio can potentially affect the capital position of a depository institution, the ability of banks to meet new opportunities, and, foremost, the potential soundness of the institution.

The purpose of this study, therefore, is not only to define a bank management's dividend policy (i.e. stable cash dividends versus stable payout ratios) but also to describe the role of dividends as a signal of market quality. Market quality refers to the future expected cash flow from an asset. Section II outlines the dividend signaling argument. Section III provides information on the data used, while section IV presents the analysis. The last section summarizes the research.

II. Dividend Signaling Argument—Background Information

The rationale for analyzing the dividend policy of banks stems from the fact that reported financial information by depository institutions reveals book values rather than market values, even when the market value of a bank's assets is available to management. (*Financial Accounting Standard 107* now requires publicly held banks or bank holding companies to report fair market values of assets and liabilities in a footnote in the annual financial statement.) However, since market values are not presented on a continuous basis, depositors, investors, and creditors know too little about the actual net worth and risk of the institution (White, 1989). This lack of information introduces uncertainty, because depositors and creditors alike cannot distinguish between zombie (poorly managed) and non-zombie (well-run) institutions, and therefore the cost of capital is raised to all institutions (Kane, 1989). Hence, the potential arises for bad institutions to end up making good institutions unsound (an application of Gresham's law).

Therefore, when sellers know the quality of their product and buyers do not, sellers of the high-quality product (well-managed banks) have an incentive to signal this information to buyers. If the seller is successful, then the strong bank has segmented the market so that it is not actually competing in the same market as poor-asset-quality institutions. Given this circumstance, the cost of capital should be lower for the strong bank, thereby improving the value of the bank. Thus, between annual financial statements, one vehicle available to management to disclose its quality is its dividend policy.

It is reasonable to assume that banks use their dividend policy to signal their well-being rather than continuously update and reveal market information (since asset quality and

market value of assets are closely related). Disclosure of market value by a bank is represented by a transaction cost, C. Bank management must compare the cost associated with disclosing market values versus the benefits received, which is measured by the difference between the market value of a bank's assets, A_m, and the book value of a bank's assets, A_b. If $A_m - A_b$ is greater than or equal to C, then management has an incentive to reveal market value information. However, if $A_m - A_b$ is less than C, there does not exist an incentive to reveal market values. Thus, it is possible for a bank not to reveal market values even though the reported book value of the bank's assets is less than its market value. Hence, dividend policy becomes an interim vehicle to distinguish between these sound and unsound institutions, since banks, in practice, do not generally disclose market values on an ongoing basis.

Ideally, if a bank increases its dividends, this should send a signal that management expects superior future cash flows. A high cash dividend indicates a reduced probability of failure, and this should improve the value of shareholders' wealth. Therefore, the dividend policy provides public information to the capital markets. Additionally, false signaling will be discouraged by the financial markets because this will lead to higher transaction costs since the bank's cash flow will be insufficient to maintain its stated dividend policy.

However, a potential problem of high dividend payouts from earnings may jeopardize the future safety of a bank. The dividend payout ratio should provide information about the safety of a banking entity. A managerial incentive model, developed by Bar-Yosef and Huffman (1986), indicates that there is an inverse relationship between the dividend payout ratio and risk. As risk increases, the dividends paid as a percent of earnings will decrease. Thus, more earnings are being committed to improving a bank's capital position.

However, it is suspected that in the banking industry there is a direct relationship between the dividend payout ratio and risk. Additionally, since risk or quality is generally unobservable to the public, the causation of the signaling argument should run from the dividend payout ratio to risk, not vice versa as the managerial incentive model contends. Therefore, the signaling argument suggests a high dividend payout reflects an increase in the level of risk being assumed by a bank.

Thus, both dividends paid per share and dividends as a percent of earnings provide signals to the capital markets concerning the soundness and safety of depository institutions.

III. DATA

The data in this study represent a cross-section of 207 publicly traded bank holding companies (BHCs) as of December 1989. Nine BHCs are money center financial institutions and 25 BHCs are superregionals. The remaining 173 are regional BHCs. Sources for the information in this study are *American Banker, Sheshunoff Bank Holding Company Quarterly,* and *Moody's Banking and Finance Manual.*

The United States is divided into six banking regions: Northeast (NE), Southeast (SE), Central (C), Midwest (MW), Southwest (SW), and West (W). The geographic distribution of the 207 BHCs has the largest concentration in the NE at 60, followed by the C with 53, the SE with 45, the W with 28, the MW with 14, and 7 BHCs in the SW. Table 1 provides a summary of the key financial statistics by region.

Performing a multiple range test, we attempt to explain if there is any difference between the regional means for these selected measures. At a confidence level of .05, a significant

TABLE 1
Mean Financial Statistics by Region—December 31, 1989

	Variables					
Region	*Asset Size (000000)*	*Dividends per Share (dollars)*	*Earnings per Share (dollars)*	*Dividend Payout Ratio (%)*	*Market Captial Ratio (%)*	*Price per Share (dollars)*
Northeast	19035.0	1.18	1.31	90.1	10.236	27.94
Southeast	8846.9	0.89	2.39	37.2	11.032	22.97
Central	6489.0	0.91	2.85	31.9	11.825	27.38
Midwest	6535.6	0.98	2.68	36.6	10.358	30.80
Southwest	5014.5	0.67	1.17	57.3	7.397	18.92
West	13617.0	0.74	2.05	36.1	12.627	27.52
All	11564.0	0.96	2.13	45.1	11.025	26.67

difference was discovered between the mean earnings per share for BHCs in the Northeast and the Central regions. Additionally, dividends per share in the Northeast are significantly different from dividends per share in the South, Central, Midwest, and Southwest regions at a .05 level of confidence. Finally, the market value capitalization ratio for the West region is significantly different from the Northeast and Southwest regions; and also, the Southeast and Central regions' market capitalization ratio is significantly different from the Southwest.

The data in Table 1 indicate that BHCs in the Southwest had not recovered from the local economic shocks of the mid 1980s; the data further provide early evidence of the weakening real estate markets impact on BHCs in the Northeast. Additionally, BHCs in both regions possess higher dividend payout ratios than the industry norm. This higher dividend payout ratio may account for the lower market value capitalization position for depository institutions in those regions, and it provides initial support for the hypothesis. Additionally, it is possible that management was reluctant to reduce dividends (in the face of lower earnings per share) because of the negative effects of signaling.

This study utilizes the Sheshunoff's Presidential Rating as the measure of bank quality. The Presidential Rating is a weighted ordinal composite CAEL (Capital, Asset, Earnings, Liquidity) percentile ranking of institutions within a peer group. These percentile rankings are then converted into a letter grade rating. The transformation of the data to an ordinal measure limits any potential problems of collinearity with explanatory variables.

The letter grades are A+, A, B+, B, C+, C, and NOT RATED (NR). So, Sheshunoff's rating provides a **ranked** ordering of publicly traded financial institutions. Table 2 reports the distribution of BHCs used in this study by letter grade.

To test if the Sheshunoff Presidential Percentile Rating provides a consistent measure of bank quality, a comparison was made between the market value capital-to-asset ratio (which was calculated by multiplying the market to book value ratio by the capital to asset ratio) and the Sheshunoff Percentile Rating. It is contended that as the market value capitalization ratio increases, the bank becomes more sound. To test this notion, a Spearman Rank correlation analysis was performed. The correlation coefficient between the two variables was found to be .6422, which is significant at a .001 level of confidence. This indicates a strong positive association between these two variables, which are both used to measure bank soundness. So, the maximization of quality should be consistent with the goal of maximizing shareholder wealth.

TABLE 2
The Distribution of Bank Holding Companies by Letter Grade Rating

Rating	*Number of BHCs*
A+	26
A	54
B+	52
B	39
C+	17
C	12
NR	7

IV. Empirical Results

The following empirical analysis differs from most studies concerning the informational content of a bank's dividend policy in three aspects. First, the data is cross-sectional rather than longitudinal. Second, instead of treating stock prices as the dependent variable, the dependent variable is the ordered ranking generated by Sheshunoff. Third, this analysis is not an event study which examines the reaction of stock prices to changes in dividend policy.

In this study, the key explanatory variable is dividend policy—that is, dividends per share (*D*) and dividends paid as a percent of earnings (*DOUT*). The signaling argument indicates that dividends should provide the relevant information about the future earnings of the bank and hence, the quality of the bank. So, one would hypothesize a positive relationship between dividends per share (*D*) and quality (i.e., Sheshunoff rating).

In addition, dividends paid as a percent of earnings should provide information about the level of bank capital and, thereby, the safety and the soundness of the institution. Given the low levels of capitalization in the banking industry as compared to other industries, there should actually be a negative relationship between dividend payout and bank rating, ceteris paribus.

The larger the dividend payout ratio, the more reliant is a BHC upon using external liability financing to generate income earning assets. This indicates that less capital is available to support any given level of assets and, thus, greater risk.

Since the dependent variable is ordinal, the empirical procedure used in this study is an ordered probit response model,

$$Y = \beta X + \varepsilon$$

Y is the response variable, X is a vector of explanatory variables, and ε is the residual. The residual, ε, is distributed with a mean of zero and a variance of one. Ordered response models have been used in previous studies to examine rating schemes of bonds (Ederington, 1985; Farnham & Cluff, 1985).

Other control variables included in this study are a BHC's primary capital position (*CAP*), bank size as measured by total assets (*ASSET*), and asset growth (*AG*), the annualized growth rate. Additionally, since there may exist regional variations in quality, this analysis incorporates regional dummy variables. Furthermore, anticipating differences among regional (*R*), superregional (*SR*), and money center (*MC*) financial institutions, dummy

TABLE 3
Results from Ordered Probit Response Model

Dependent Variable = Sheshunoff Ranking
(NR = 0, C = 1, C+ = 2, B = 3, B+ = 4, A = 5, A+ = 6)
Observations = 194

Variables	*Coefficient*	*Standard Error*
α	–2.60461*	0.7748
D	0.54803*	0.2000
DOUT	–0.00036**	0.00018
AG	0.03089*	0.01074
ASSET	–0.00003*	0.00001
CAP	0.60971*	0.08597
NE	–0.10017	0.2718
SE	0.33380	0.2824
C	0.46249	0.2967
MW	0.69251	0.4652
SW	–0.72583	0.5924
MC	–0.03062	0.5113
SR	0.44396	0.4292
μ_1	1.00212**	0.4847
μ_2	1.55377*	0.4951
μ_3	2.49119*	0.5157
μ_4	3.43053*	0.5377
μ_5	4.67133*	0.5800
Log-likelihood	–266.77	
Chi-squared	119.83*	

Notes: *Significant at the .01 level.
** Significant at the .05 level.

variables are employed to determine if there is any variation in ranking based upon organizational type.

Since 13 BHCs reported losses for 1989, these institutions are excluded from the study. The rationale for this exclusion is that the dividend payout ratio would yield meaningless information. The letter grade breakdown of these excluded institutions are as follows: NR equals 4, C = 3, C+ = 4, B = 1, and B+ = 1. Table 3 reports the conclusions of the ordered response model.

First, the null hypothesis that there is not any regional variation in the quality of BHCs cannot be rejected at a .05 level of confidence. Additionally, there appears to be no evidence of qualitative differences based upon being classified as a regional, superregional, or money center financial institution.

With respect to the other control variables, asset growth and primary capital are positively correlated and statistically significant at a .01 level of confidence. Faster growing institutions tend to be the stronger entities, while retrenchment is the norm for management at weaker institutions. Additionally, given the regulatory fiasco of the early 1980s in the thrift industry where regulators thought that the industry could grow its way out of its difficulties, it is unlikely that regulators would allow weak or marginal institutions to grow rapidly. Also, those institutions with higher capital-to-asset ratios are better able to absorb losses and, hence, exhibit safer behavior.

However, size is inversely related to quality and the null hypothesis of no relationship between size and quality can be rejected at a .01 level of confidence. This may reflect the problem that large BHCs had with their asset portfolio in the late 1980s as they wrote off nonperforming loans to developing countries and as the commercial real estate market moved into a recession. This may also reflect that larger banks engage in a greater variety of risk-taking activities than their smaller counterparts.

Finally, with respect to dividend policy, the results are consistent with expectations. First, the null hypothesis that dividends per share do not reveal any information about the quality of an institution can be rejected at the .01 level of confidence. There is a positive and significant relationship between dividends per share and bank quality rating. So, the empirical results are consistent with the the dividend signaling argument. High dividends per share, ceteris paribus, signal that the bank is healthy and expects to remain healthy.

Second, the null hypothesis that there does not exist a relationship between bank soundness and the dividend payout ratio can be rejected at an .05 level of confidence. As anticipated, dividends as a percent of earnings and quality are inversely related; however, the coefficient is small. A potential reason for this outcome is that the banking industry is unique in that retained earnings provide significant information concerning the future capital position of the industry. Thus, as the dividend payout increases, the ability of an institution to expand its capital base is diminished, as is the quality or soundness of the bank.

Therefore, while dividends per share is the dominant factor, it should not be considered in isolation. The investing public needs to weigh both aspects of a bank's dividend policy when selecting an investment target.

V. SUMMARY

This study examined the relationship between bank dividend policy and bank quality rating. Empirical evidence shows that bank management uses its dividend policy as a vehicle for signaling its financial health to the investing public. Using an ordered probit response model, this study found that a positive relationship exists between quality and dividends per share, which is consistent with the dividend signaling argument. Additionally, an inverse relationship was found between quality and dividends as a percent of earnings. The result clearly points to the facts that retained earnings are a key source of capital for BHCs and that capital position provides information about institutional soundness or, alternatively, risk. However, of the two measures, dividend per share provides a stronger signal.

This study also shows that depositors, shareholders, and creditors can acquire information about the overall quality of a BHC by examining both aspects of a BHC's dividend policy. While dividends per share are important, they may not reveal a complete picture of the bank's financial health.

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