

Bank Holding Company Dividend Policy: Changed by Recession?

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ABSTRACT

This study examines seven basic theories of dividend policies in bank holding companies during the worst recession since The Great Depression. Data is obtained from Uniform Bank Performance Reports for 2008 where large losses were reported for the U.S. banks. Previous studies found that the management of the companies believe that dividend policy is important created by the present value of future dividends, or the capital gains associated with the future dividends. Dickens et al used Barclay et al model and studied the factors that may have an impact on dividend policies of publicly traded bank holding companies. Their results indicate investment opportunity, size, expected earnings, inside ownership and previous dividend are significant factors in bank holding companies dividend policies. The model used in this paper includes investment opportunities, regulation, agency affects, dividend smoothing, earnings risk, and residual earnings and found that there is a difference between dividend policies of bank

holding companies during deep recession and good economy. Furthermore, factors such as investment opportunity, dividend history, size, residual earnings and insider ownership have significant affect on dividend policies of bank holding companies.

INTRODUCTION

Dividends mystified financial economists for years and they developed many different theories to explain dividend policy. The majority of dividend theories were formulated during times of little economic duress. The recent sharp and steep recession of 2007-2009 offers a unique opportunity, not seen in over two generations, to study dividend policy under extreme economic stress. This study examines seven basic theories of dividend policies in bank holding companies during the strongest economic recession since The Great Depression. Banking is a particularly relevant area of study because the financial services industry was at the center of the financial crisis. This study uses data reported to the national government in Uniform Bank Performance Reports to investigate bank holding company dividend policy. The principle year under study is 2008, a year of large losses for the banking system.

The surveys of Baker, Powell, and Veit (2002) and Baker, Farrelly and Edelman (1985) show management believes dividend policy is an important determinant of firm value. Both surveys indicate management's view of the importance of dividends to firm value whether coming from the present value of future dividends as hypothesized by Gordon (1959) and Fama and French (1998) or from capital gains linked to future dividends.

The Dickens, Casey, and Newman (2003) study uses Morningstar data and a model developed by Barclay, Smith, and Watts (1995) to describe dividend policies in publicly traded bank holding companies. The Barclay et. al. model uses investment opportunities, size, regulation, and signaling as determinants of corporate dividend policy. Dickens et. al. found support for the Barclay et. al. elements and three additional determinants: an agency variable, dividend history, and risk as measured by variation in earnings after tax. Since all bank holding companies are regulated, Dickens, et al used the assets to capital ratio to estimate regulation's affect on bank holding company dividend policy. Their results indicate investment opportunity, size, expected earnings, inside ownership and previous dividends are significant factors in bank holding company dividend policy. Theis and Dutta (2009) find similar results using a different sample and Uniform Bank Performance Report results for dividends in 2006.

During the periods covered by Dickens et al (2003) and Theis and Dutta (2009), bank earnings were in an increasing secular trend. This paper reports on an investigation of dividend determinants during a steep recession. The model's variables measure the relative impact of different theories in describing the determinants of bank holding company dividend policy: investment opportunities, regulation, agency effects, dividend smoothing, riskiness of earnings, and residual earnings. The results here indicate the primary factors affecting dividends during the recession are: investment opportunity, dividend history, size, residual earnings, and insider ownership.

LITERATURE REVIEW

In his seminal article, Lintner (1956) proposed a behavioral model with managers smoothing dividend payments to reduce shocks to investors and increase firm value. Baker, Powell, and Veit (2002) and Baker, Farrelly and Edelman (1985) use surveys to show management believes continuity of dividends is an important element in value creation and significantly increases firm value.

Gordon (1959) finds dividends increase firm value and reduce the cost of capital, while others such as Litzenberger and Ramaswamy (1979) find higher dividend payout ratios linked to higher returns and costs of capital. Dividend irrelevance is supported by Miller and Modigliani (1961, 1982), Miller and Scholes (1978), and Bernstein (1996) who show dividends do not affect stock prices or cost of capital. As no clear cut reason for dividend payments is patently evident, researchers proposed a variety of theories, among them are signaling, agency cost reduction, investment opportunities, residual, and bird in the hand.

Dividends as a signal of firm health are proposed in Bhattacharya (1979), John and Williams (1985), and Miller and Rock (1985). In their view, management pays and increases dividends to signal private information about the quality of the firm's earnings to the investing public. All firms compete to attract investors and, given investors value dividends, strong firms can increase dividends with little fear of having to reduce them in the future while weaker firms cannot match dividend increases. Management will not send false signals of value as later reductions in dividend substantially reduce share price. Healy and Palepu (1988) and Nissim and Ziv (2001) find support for this signaling hypothesis for dividends.

Jensen and Meckling (1976) point out agency costs increase as management uses free cash flow to pay for their perquisites. Rozeff (1982) and Easterbrook (1984) extend agency theory to dividend policy. Rozeff's model and results indicate investment opportunities, risk, agency problems and size influence dividend policy. Born and Rimbey (1993) find evidence consistent with Easterbrook in an examination of external financing and market response to initial dividends. In agency theory, the dividend paying firm seeks outside financing for investment activities and exposes itself to market scrutiny in the financing process. Using public offerings forces management to accept investor monitoring which helps insure it operates in the best interest of outside shareholders. Crutchley and Hansen (1989) and Moh'd, Perry, and Rimbey (1995) support the agency cost explanation for dividends. While agency cost theory of dividend policy is supported in general, differences appear between industries, see Michel (1979), Dempsey, Laber, and Rozeff (1993) Barclay, Smith, and Watts (1995), Casey and Theis (1997), and Casey and Dickens (2000).

A firm can invest earnings in investment opportunities or pay dividends. A Firm with many profitable investment opportunities will retain earnings to invest in the best of its investment prospects. Dickens, Casey and Newman (2003) and Theis and Dutta (2009) find investment opportunities measured by the market to book value ratio are significant in determining dividends. Firms with fewer profitable opportunities use the free cash flow for dividends payments or for an increase in management perquisites.

Since a company is loathe to cut its dividend because of the deleterious affect on its share price, increased risk in earnings reduces dividend payments. The risk in earnings flow is a material determinant of corporate dividends and bank holding company dividends, see Dickens, Casey, and Newman (2003) and Theis and Dutta (2009).

Both firm size and industry regulation may also affect dividend payment. If the firm is large, it has a reduced risk of bankruptcy and accordingly is able to pay greater dividends due to its reduced risk. Firms in regulated industries experience less risk and can pay larger dividends than non-regulated firms. In the banking industry regulators restrict dividends to banks that are well capitalized. Most banks are well capitalized as measured by bank regulators.

In the residual earnings theory of dividend policy, current earnings would materially affect dividend payments. Under this theory, management invests in all profitable opportunities until acceptance of all with positive net present values and pay dividends out of the residual funds.

DATA AND METHOD

The bank holding companies listed in Yahoo finance for the Mid-Atlantic, the Southeast, and the Southwest regions constitute the initial sample of banks for this study. All commercial banks in the United States file a report with the Federal bank regulators quarterly, the Uniform Bank Performance Report (UBPR). The report informs the regulators and the public of bank holding company operating results for the quarter and year to date. Normally, the FFIEC, Federal Financial Institution Examination Council, publishes the UBPR for each bank and bank holding company about 45 days after the end of the quarter or the calendar year. The sample includes one hundred thirty bank holding companies. After eliminating companies with missing market data, those taken over by others in acquisitions, missing financial statements, and an outlier in the regression, 111 remaining firms comprised the final sample. The outlier had a dividend yield of 53% due to paying a \$0.08 dividend in February and experiencing a drop in price to \$0.15 per share by December 31. The bank holding companies in the final are in the Southeast, Mid-Atlantic, and Southwest regions. The balance sheets and income statements from the UBPR provide the basic financial data for the study. Yahoo Finance lists dividend, price, percentage ownership by insiders, and ownership by institutional investors for each bank holding company.

The first variable in the dividend model is investment opportunities. The UBPR contains a self reported asset growth or percentage change in assets, which is asset growth during the reporting year. Dickens, Casey, and Newman (2003) use the market to book ratio as a measure of investment opportunities. A firm with more investment opportunities should sell for a higher market to book ratio, as it has a greater anticipated cash flow from its invested capital. Both the asset growth variable and the market to book ratio should vary inversely with dividend yield and have expected negative signs.

Larger firms should have lower risk of failure and should be more likely to pay higher dividends. Regulators often look at this as a "too big to fail" phenomenon first seen with First Continental Bank in the early 1980's and continued during the banking crisis of the 1980's and early 1990's. Dickens, Casey, and Newman (2003) used the natural log of revenue as the size

variable and this study uses the same size variable. The natural log of revenue should vary directly with dividend returns. In keeping with the too big to fail philosophy, the larger the bank holding company, the less likely the regulators are to liquidate the bank.

Bank failures are regulatory events and not bankruptcy events. Banking regulators use reports and examinations to determine whether a bank should be closed or continue to operate. The capital ratio is a key ratio and determines whether the bank is adequately capitalized. The capital ratio is the book value of capital divided by the book value of assets. Bank dividends should be positively related to the capital ratio.

Agency conflicts also affect dividend payouts. Insider ownership reduces agency problems because insiders get additional cash flow and perks without using dividends to take cash out of the bank. Insiders also have more information than the general investing public. Institutional investors have access to more information than the general public because they employ professionals to follow the company. Managers without ownership may pay larger dividends to placate the stockholders and signal their view of future earnings. The percentage of inside owners and institutional investors comes from Yahoo finance and both should be negatively related to the dividend return.

The addition of a dividend history variable picks up Lintner's (1956) idea that dividends should not change drastically in the short term. Later survey results from Baker, Powell, and Veit (2002) and Baker, Farrelly, and Edelman (1985) lend credence to this idea. The prior year's dividend should have a positive relationship with current dividends.

Dividend payment is normally from the current year's earnings. Accordingly, the model includes earnings after tax from 2008. There should be a positive relationship between current year dividends and earnings whether dividends are paid from current year's earnings or dividends are paid from earnings after management made all the positive net present value investments available. The firm is paying dividends either from the holding company's residual earnings. The net income for the dividend year should be positively related to the dividend yield. Firms could pay dividends from 2007 earnings to forestall elimination or reduction of dividends during a temporary down turn as Lintner (1956) would expect. Earnings after tax for 2007 should be positively related to the dividend yield in 2008.

The inclusion of the coefficient of variation of earnings after taxes for the prior five years captures a measure of the income after tax risk. As the risk of earnings being insufficient to pay dividends increases, management is less likely to pay higher dividends. The coefficient of variation should have a negative sign.

All companies in the sample are publicly traded bank holding companies and come under state or federal regulation. The model contains no variable for being in a regulated industry but like Dickens et al (2003) uses the asset to capital ratio as a surrogate for the influence of regulators on bank dividend policy. Most banks have sufficient capital to pay dividends, although this ratio is more constraining over this study period than during the time periods covered in Dickens et al and Theis and Dutta (2009).

RESULTS

The results from the regressions provide a view of the dividend paying determinants during the sharpest recession in the Post World War II period. The results are from a feasible generalized least squares model which is in effect a weighted least squares with the weights being the inversely related to the estimated error variance. Table 1 summarizes the dividend model used in this study, the theories, as well as the variables used to measure the factors and their expected sign. This study uses the most recent annual financial statements that reflect the extremely poor earnings during 2008.

Table 1 Variables in Dividend Explanation Model

Theory	Variable	Average	Std Dev.	Expected sign
Investment Opportunities	Asset Growth	9.8587	57.801	negative
Investment Opportunities	MKT/BK	0.91522	0.55089	negative
Capital Adequacy Regulator	Capital/Total Assets	0.091687	0.023898	positive
Agency	% Insider ownership	19.144	15.457	negative
Size	Ln Revenue	11.846	1.2603	positive
Div smoothing	Prior Dividend	0.60475	0.43999	positive
Riskiness of earnings	CV of Earnings	-173.45	1249.1	negative
Div smoothing	Earnings 2007	60038	2.0946e+005	positive
Residual earnings	Earnings 2008	-36544	5.6369e+005	positive
Agency	Institutional Owners	24.540	20.980	negative

Table 2 summarizes the results of the basic model and a comparison of the predicted signs of the variables to the actual signs from the regression. It gives the coefficient, t-score, and significance of each variable in the full model.

Table 2 Results from Dividend Explanation Model

Theory	Variable	Coefficient	T-Score	Sign	
				Predict	Actual
Investment Op.	Asset Growth	2.21274e-05	(0.5084)	negative	positive
Investment Op.	MKT/BK	-0.0187191	(-4.9269)***	negative	negative
Capital Adequacy Regulator	Capital/Total Assets	-0.0253219	(-0.2930)	positive	negative
Agency	% Insider ownership	-0.0002732	(-2.0269)**	negative	negative
Size	Ln Revenue	-0.00414639	(-1.8486)*	positive	negative
Dividend smoothing	Dividend 2007	0.0410074	(7.8514)***	positive	positive
Variance of earnings	CV of Earnings	-5.54899e-06	(-1.4537)	negative	negative
Dividend smoothing	Earnings 2007	6.57748e-09	(0.6358)	positive	positive
Residual earnings	Earnings 2008	-7.13786e-09	(-1.7080)*	positive	negative
Agency	Institutional Owners	-0.000144044	(-1.2128)	negative	negative

Predicted sign values are from the full model. Coefficients with significant t-scores are bolded as are the actual sign indicators. The results differ from other studies in that size and current earnings are predicted to be positive and these results show the relationship to be negative during 2008. The significance of the t-scores is given by the superscripts of * for 10%, ** for 5%, and *** for 1%.

Table 2 contains results from the full model with all ten explanatory variables initially described in Table 1. It includes the coefficient of each variable with coefficients significant at

p > 0.1 bolded. The coefficients for size, earnings for 2008 are significant, but of the wrong sign, an effect from the steep decline in average income. The remaining three significant variables, market to book ratio, dividend for 2007, and percentage of insider ownership, have the predicted signs. The remaining variables are insignificant, but mostly have the predicted sign.

In Theis and Dutta (2009) size was significant, but negative instead of positive which is consistent with this study's results. Their results appeared affected by the percentage of insider stock ownership. This paper has similar results, but size was not significant in either low insiders or high insiders.

Table 3 summarizes the regression results from the complete model and four models based upon the variables in Table 1. The reduced models provide a better understanding of the dividend paying mechanism in bank holding companies during a recessionary period.

Table 3 Results for Bank Holding Company Determinants 2008 Dividends

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Adjusted R ²	0.5193	0.538792	0.537040	0.539959	0.472885
Constant	0.0921598 (3.5914) ***	0.0864269 (3.6808) ***	0.0855744 (4.3427) ***	0.087596 (4.4587) ***	0.096653 (5.5969) ***
EAT 2007	6.57748e-09 (0.6358)	4.85034e-09 (0.4812)			
EAT 2008	-7.13786e-09 (-1.7080)*	-6.9897e-09 (-1.7199)*	-6.77828e-09 (-1.5281)	-6.59435e-09 (-1.4736)	
EATCV	-5.54899e-06 (-1.4537)	-5.56786e-06 (-1.4803)	-6.04219e-06 (-1.5711)	-6.35203e-06 (-1.6270)	
AssetGrowth	2.21274e-05 (0.5084)	2.08436e-05 (0.4996)	2.52489e-05 (0.6415)		
Insiders	-0.0002732 (-2.0269)**	-0.000265324 (-1.9964)**	-0.000183831 (-1.4171)	-0.00018378 (-1.4015)	
Institutions	-0.000144044 (-1.2128)	-0.000165144 (-1.4877)	-0.000136192 (-1.3080)	-0.00013258 (-1.2690)	
Div2007	0.0410074 (7.8514) ***	0.0421549 (8.3855) ***	0.0441735 (8.7579) ***	0.0441586 (8.6581) ***	0.0440757 (8.8170) ***
MKT/BK	-0.0187191 (-4.9269) ***	-0.0192767 (-5.1788) ***	-0.0202664 (-5.6240) ***	-0.0207151 (-5.7639) ***	-0.0229468 (-6.0476) ***
LnRev	-0.00414639 (-1.8486)*	-0.00384534 (-1.7335)*	-0.00393504 (-2.1299)**	-0.0040217 (-2.1851)**	-0.0051877 (-3.403) ***
Leverage	-0.0253219 (-0.2930)				

In each regression the dependent variable is dividend per share for 2008 divided by price per share on 12/31/2008. The data set was tested for heteroskedasticity using White's test. It had heteroskedasticity. The regression is corrected for heteroskedasticity by a Feasible Generalized Least Squares model. It uses a weighted least squares with the weight inversely related to the estimated error variance. In each regression the coefficient and its t-score are given. The t-score is in parenthesis below its coefficient and super scripted to show significance, * for 10%, ** for 5%, and *** for 1%. It appears the model with dividend smoothing, investment opportunities and size describes much of the variation in the dividend yield in the sample bank holding company firms during the recession of 2007-2009.

The complete model includes all ten variables with an adjusted R² of .5193 or .52. The significant variables are earnings in 2008, Insiders, dividends in 2007, market to book ratio, and

size. The signs were not as predicted for earnings in 2008 and size. Five of the remaining variables are not significant.

Current earnings are the grist of dividend payments and should be positively related to dividends. Whether the firm pays from current year's earnings or pays dividends out of residual funds, the relationship with current earnings should be positive. During the sharp recession of 2007-2009, bank holding companies paid dividends that were negatively correlated with current income. Either the sample banks began paying lower dividends or they were paying dividends from retained earnings instead of current earnings. Since earnings in 2008 averaged a negative \$36,544,000 among the sample banks, many banks paid dividends from retained earnings. Management viewed the reduced earnings period as temporary and earnings would improve soon. The payment of dividends from retained earnings versus current earnings gives added strength to the smoothing of dividends position of Lintner (1956). The bank holding companies intend to make up any deficiency in capital through future earnings or by issuing stock.

The investment theory for dividend policy seems to be better shown by the market and accounting hybrid measure of market to book ratio than the historical asset growth number from the UBPR. The dominance of the market to book ratio is plausible because it is prospective in nature being influenced by the market's evaluation of the investment prospects for the bank holding company. If the investment prospects are good, current dividend yield would be less because the market bids up the price of the stock.

The results in this study differ from Dickens, Casey, and Newman (2003) and Theis and Dutta (2009). The model contains fewer significant variables and the capital to asset ratio is not significant. There may be some nonlinear relationships in the model, but changing insiders to insiders squared and the square root of insiders did not affect the results.

CONCLUSION

The regression results indicate a difference between the dividend policy of bank holding companies during steep recessions and good economic conditions. Both size and current year dividends are significant, but do not have the predicted sign that theory and prior research suggest. The cause of the coefficients' differences from the predicted sign will have to wait until the economy returns to more normal times. Prior year's dividend, market to book ratio, and insider ownership are significant and with the predicted sign. Earnings volatility is not significant in the sample firms in 2008.

As a future study, examining panel data covering several years surrounding the recession would increase understanding the determinants of dividends in bank holding companies in recessionary times.

REFERENCES

- Baker, H. K., G. Farrelly, and R. B. Edelman (1985). Survey on Management Views on Dividend Policy. *Financial Management* 14, 78-84
- _____, G. E. Powell, and E. T. Veit. (2002). Revisiting Managerial Perspectives on Dividend Policy. *Journal of Economics and Finance* 26, 267-283
- Barclay, M. J., C. W. Smith, Jr., R. L. Watts. (1995). The Determinants of Corporate Leverage and Dividend Policies. *Journal of Applied Corporate Policy* (Winter), 4-19
- Bernstein, P. L., (1996). Dividends: The Puzzle. *Journal of Applied Corporate Finance* 9, 16-22
- Bhattacharya, S. (1979). Imperfect Information, Dividend Policy, and the 'Bird-in-the-Hand' Fallacy, *Bell Journal of Economics* Spring, 259-270
- Born, J. A., and J. N. Rimbey (1993). A test of the Easterbrook Hypothesis Regarding Dividend Payments and Agency Costs. *The Journal of Financial Research* 16, 251-260
- Casey, K. M. and J. D. Theis. (1997). A Note on Determinants of Cash Flow Dividend Payout in the Petroleum Industry. *Journal of Energy Finance and Development* 2, 239-248
- _____, and R. N. Dickens (2000). The Effects of Tax and Regulatory Changes on Commercial Bank Dividend Policy. *Quarterly Review of Economics and Finance* 40, 279-293
- Crutchley, C. E. and R. S. Hansen. (1989). A Test of the Agency Theory of Managerial Ownership, Corporate Leverage and Corporate Dividends. *Financial Management* 18, 36-46
- Dempsey, S., G. Laber, and M. S. Rozeff (1993). Dividend Policies in Practice: Is There an Industry Effect? *Quarterly Journal of Business and Economics* 32, 3-13
- Dickens, R.N., K.M. Casey and J.A. Newman. (2003). Bank dividend policy: Explanatory factors. *Quarterly Journal of Business and Economics* 41, 3-12
- Easterbrook, F. H. (1984). Two Agency Cost Explanations of Dividends. *American Economic Review* 74, 650-659
- Fama, E. F. and K. R. French. (1998). Taxes, Financing Decisions, and Firm Value. *Journal of Finance* 53, 819-843
- Gordon, M. (1959). Dividends, Earnings, and Stock Prices. *Review of Economics and Statistics* 41, 99-105.
- Healy, P. and K. G. Palepu (1988). Earnings Information Conveyed by Dividend Initiations and Omissions. *Journal of Financial Economics* 21, 149-176
- Jensen, M. C. and W. H. Meckling. (1976). Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure. *Journal of Financial Economics* 3, 305-360
- John, K. and J. Williams. (1985). Dividends, Dilution, and Taxes: A Signaling Equilibrium. *Journal of Finance* 40, 1053-1070
- Lintner, J. (1956). Distribution of Income of Corporations Among Dividends, Retained Earnings, and Taxes. *American Economic Review* Spring, 97-113
- Litzenberger, R. H. and K. Ramaswamy. (1979). The Effects of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence. *Journal of Financial Economics*. 7, 163-195
- Michel, A., Industry Influences on Dividend Policy (1979). *Financial Management* 8, 22-26

- _____. (1982). The Effects of Dividends on Common Stock Prices: Tax Effects or Information Effects. *Journal of Finance* 37, 429-443
- Miller, M.H. and K. Rock. (1985). Dividend Policy under Asymmetric Information. *Journal of Finance* 40, 1031-1051.
- _____. and M. S. Scholes. (1978). Dividends and Taxes. *Journal of Financial Economics* 6, 333-364
- _____, and F. Modigliani. (1961). Dividend Policy, Growth, and the Valuation of Shares. *Journal of Business*. 34, 411-433
- _____, (1982). Dividends and Taxes: Some Empirical Evidence. *Journal of Political Economy*. 90, 1118-1141
- Moh'd M. A., L. G. Perry, and J. N. Rimbey. (1995). An Investigation of the Dynamic Relationship Between Agency Theory and Dividend Policy. *Financial Review* 30, 367-385
- Nissim, D. and A. Ziv. (2001). Dividend Changes and Future Profitability. *Journal of Finance* 56, 2111-2133
- Rozeff, M. S. (1982). Growth, Beta, and Agency Costs as Determinants of Dividend Payout Ratios. *Journal of Financial Research*. 5, 249-259
- Theis, J. D. and A. Dutta. (2009). Explanatory Factors of Bank Dividend Policy: Revisited. *Managerial Finance* 35, 501-508.