Bank Dividend-cuts and the Stock Market Reaction around the Great Recession

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Abstract:

We study investors' reaction to dividend decreases and omissions in the US banking industry during the Great Recession of 2007 and 2008 and compare it to the reaction in the years before and after the crisis. Conducting standard event study approach, we find that investors didn't react negatively to dividend-cuts in the years preceding the financial crisis and during the crisis as they did in the years following the crisis. Our results imply a shift in the perception of dividend cuts during the financial crisis. Dividend cuts were not perceived as a negative signal about the financial health of the banking firms during the Great Recession.

I. Introduction

Dividend increases or decreases have traditionally served as signals about the financial health of firms when explicit information is unavailable. Miller and Rock (1985) develop the signaling theory of dividends under asymmetric information between managers and investors and conclude that managers initiate dividends to signal firm's future earnings. Empirical studies of the signaling theory of dividends reveal that investors react positively to dividend initiations and increases and react negatively to dividend omission and decreases, i.e. dividend cuts. During market downturns information about financial health of firms becomes more important. Investors may wonder if the firms they have invested in are financially sound. At the same time, firms may limit the release of negative explicit information about their financials. During such times, asymmetry of information may increase, and dividend cuts may signal financial trouble in firm.

Asymmetry of information in the banking industry has been more pronounced than in other industries due to the opaque nature of the banking firms and their vulnerability to runs. During a credit crunch and downturn financial markets, banks become more prone to runs and hence managers become more hesitant to reveal explicit information about the financial health of their firms in fear of "runs" on their deposits or being cut off from credit markets by other financial institutions. During such market condition, investors may rely more on implicit signals such as dividend increases or cuts in the market.

The commencement or increase of dividends has been perceived as a positive signal about future earnings of the firm. Dividend cuts, on the other hand, have been indicative of a negative outlook of firm's future earnings or financial health. Empirical research supports this

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signaling effect of dividend initiation and omissions. A dividend initiation or increase has traditionally been accompanied by a positive stock market reaction, and dividend cuts have been accompanied by a negative stock market reaction.

Banking firms finance a greater amount of their assets with liability compared to other industries. During a financial turmoil, banking firms become more vulnerable to risks as credit markets tighten up and default rates on loans increase. When a bank cuts dividends, it means one of the two things. Either the bank cannot sustain the dividend payout policy due to deteriorated financial health, or it retains more of the internally generated funds to weather the financial turmoil. If the dividend cut is due to the first case, then the stock market reaction should be negative as it has traditionally been in empirical studies on other industries. If the dividend cut, however, is due to the second case, then the stock market reaction shouldn't be negative as retaining more of the internally generated funds is not a negative sign of financial health. In fact, it can be considered a risk-reducing decision as it makes banks more solvent and thus, a positive sign.

During the Great Recession of 2007 and 2008, many US banks cut dividends. We investigate the stock market reaction to dividend cuts during the crisis and compare it to the reaction in the preceding years and post-crisis years. We also shed light on dividend-cut trends in the banking industry and the financial ratios that can explain investor reactions to dividends over the study period of 2003 to 2013.[1]

This research serves to fill an existing research gap; a possible change in the stock market reaction to dividend cuts during the recent financial crisis of 2007 and 2008. The rest of the paper is organized as follows. In part II, we review previous studies; in part III we present data and methodology; in part IV we discuss results, and in part V, we summarize with concluding remarks.

II. Previous Studies

Boldin and Leggett (1995) study bank dividend policy as a signal of bank quality and argue that well-managed banks have an incentive to signal their asset quality through dividend policy to differentiate themselves from other institutions with poor asset qualities. Their argument is consistent with the literature on dividend as a signal. In their study, Boldin and Leggett (1995) find a positive relationship between bank dividends per share and bank quality ratings. Their study supports the dividend signaling argument.

[1] While the stock market reaction to dividend initiation and increases during the same period would complement this study, we couldn't identify enough numbers of dividend initiations or increases during the financial crisis of 2007 and 2008 to conduct the analysis. We identified a total of 6 dividend increases during the financial crisis period. Because of the small number of dividend initiations or increases, any statistical analysis would be unreliable. Therefore, we limit our study to dividend-cuts only.

Bessler and Nohel (1996) conduct an empirical test of Boldin and Leggett (1995) and study the stock market reaction to dividend cuts and omissions in the US banking industry. Their study of 17 banks over the period of 1975 to 1991 reveals that the announcement effect of a dividend cut is more severe for banking firms than for non-bank firms. Their results support the notion that the signaling impact of dividends is more pronounced in the banking industry than in other industries.

If the stock market reaction to dividend cuts is severe in the banking industry, then we would expect banks to be reluctant to cut dividends to avoid emitting a negative signal about their perspective earnings, especially during a financial turmoil. Acharya et al. (2011) empirically tests this assertion and study dividend pay-out policy of US banks during the 2007 and 2008 financial crisis. They find that banks hesitated to cut dividends despite financial hardship and regulatory pressure; banks persisted paying out dividends.

Abreu and Gulamhussen (2013) addresses why banks persistently paid dividends during the recent financial crisis as evidenced in the Acharya et al. (2011) study. They analyze the dividend payouts of 462 US bank holding companies before and during the recent financial crisis. They study the determinants of bank dividend payouts from four different angles, firm characteristics, agency cost hypothesis, signaling hypothesis, and regulatory pressure. They find that firm characteristic, agency cost hypothesis and signaling hypothesis explain bank dividend payouts but regulatory pressure has been ineffective in limiting bank dividend payouts during the financial crisis. It is worth to note that Abreu and Gulamhussen (2013) do not test the signaling effect of dividend increases or decreases, but study the determinants of paying dividends.

Floyd, LI, and Skinner (2014) compare payout policies of US industrials firms and banks over the past three decades including the financial crisis period and find that the declining trends in dividend payouts as studied by Fama and French (2001)[2] largely reverses after 2002. They find that banks paid higher and more stable dividends after 2002; large banks resisted cutting dividends as the crisis began but then cut dividends aggressively while industrial firm dividends were largely unaffected. They assert that banks continue to use dividend to signal financial strength.

While the valuable studies above address various aspects of dividends and their determinants, they don't address how the stock market reacted to dividend-cuts in the banking industry round the recent financial crisis or whether there is a shift in the market perception of dividend-cuts during the financial turmoil from the investor perspective. We attempt to fill this gap in the banking research literature.

III. Data and Methodology

A. Data

[2] Fama and French (2001) find a general decreasing of dividends in the US from 1960 to 1990's.

We collect data on U.S. bank holding companies (BHC) on the NYSE/AMEX or NASDAQ listed in COMPUSTAT from 2003 to 2013 that had dividend cuts data for the period in the Center for Research in Security Prices (CRSP). We identify a potential dividend omission when a firm has not paid a dividend within one-quarter, six months or one year from the previous payment if the firm used to pay quarterly, semi-annual or annual dividends, respectively. We define a dividend cut as a reduction in a firm's regular cash dividend per share in a particular fiscal year. A dividend cut of 100% would be considered a complete omission. We also refer to omission as cuts throughout the paper.

To determine the exact date of a dividend cut or omission announcement, we use Lexis-Nexis database. If the same company has a dividend cut or omission within 90 days of a previous dividend cut, we exclude the observation.[3] Excluding these observations would reduce information contamination of dividend cuts. Using the filtering system, we identified 90 dividend-cuts announcement over the study period for which cross-sectional data for the issuing bank was available. Figure 1 shows the number of dividend cuts in in each year.

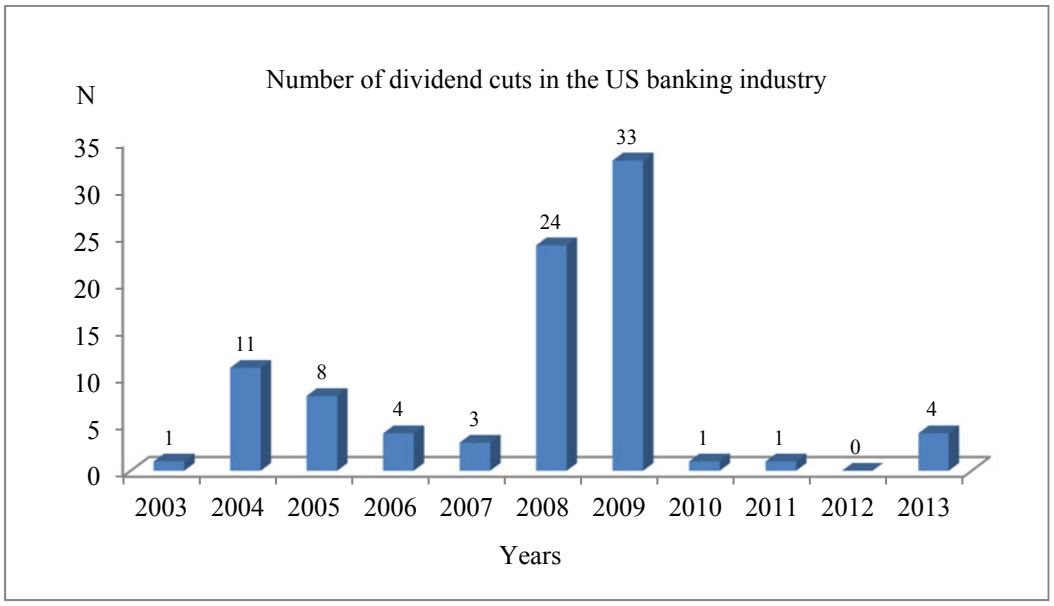

Figure I. The number of dividend cuts in the US banking industry from 2003 to 2013.

B. Methodology

i. Estimating Stock Market Reaction to Dividend Cuts

[3] Since regular dividend payments are quarterly, semiannually or annually, it is very unlikely for a firm to announce more than one dividend-cut during a 90-day period. Nonetheless, we took the possibility into account and identified three banks that had more than one dividend cut announcements within a 90-day period. We included the initial cut and excluded the second dividend cut announcement that happened within 90 days of the first cut.

To estimate the stock market reaction to dividend cuts, we conduct standard event study approach and consider the estimation period of 254 to 45 days before the event. We estimate cumulative abnormal returns (CARs) for various days around the event date. To test the significance of estimates, we employ the test methodology of Boehmer, Musumeci and Poulsen (1991), hence denoted as BMP. This method allows for the possibility of event-induced variance when determining the statistical significance of abnormal returns. The BMP test is powerful and gives the proper rejection rate accounting for possible serial correlation among prediction errors as could be expected among firms in the same industry.

To test how dividend-cuts were perceived by investors in the banking industry before, during and after the recent financial crisis, we study the stock market reaction to dividend cuts in three periods, the pre-crisis, crisis, and post-crisis periods. We define the pre-crisis period from the first quarter of 2003 to the second quarter of 2007, the crisis period from the fourth quarter of 2007 to the fourth quarter of 2008 and the post-crisis period from the first quarter of 2009 to the last quarter of 2013. For robustness purposes, we also report the stock market reaction in the year immediately following the financial crisis, i.e. 2009[4], as well as for the entire study period of 2007 to 2013. We report CARs and BMP test statistics for various event windows around the event date in Table I.

Table I. Market reaction to dividend cuts and omissions

The table summarizes cumulative abnormal returns (CARs) for various event windows (days around the event date of the dividend cut or omission announcement) for different periods.

Panel A: pre-crisis period: 2003 q1 to 2007 q2, inclusive.

Days	Number of Observations	Mean CAR	BMP Test Statistics
(-1,+1)	26	-0.09%	-0.109
(-7,+1)	26	-1.05%	-1.22
(-2,+2)	26	-0.09%	-0.373
(-3,+3)	26	0.39%	0.098
(0,+3)	26	0.12%	-0.209
(+3,+5)	26	-0.26%	-1.23

Panel B: crisis period: 2007 q4 to 2008 q4, inclusive.

Days	Number of Observations	Mean CAR	BMP Test Statistics
(-1,+1)	25	-0.49%	-0.03
(-7,+1)	25	-0.04%	-0.312
(-2,+2)	25	1.04%	0.422
(-3,+3)	25	1.02%	0.34
(0,+3)	25	-2.01%	-0.294
(+3,+5)	25	2.17%	1.332

Panel C: immediate post-crisis period: 2009

Days	Number of Observations	Mean CAR	BMP Test Statistics
(-1,+1)	33	-2.41%	-1.281
(-7,+1)	33	-11.21%	-2.819**
(-2,+2)	33	-3.42%	-1.283
(-3,+3)	33	-5.36%	-1.717*
(0,+3)	33	-3.74%	-1.597
(+3,+5)	33	1.64%	0.881

Panel D: Post-crisis period: 2009-2013, inclusive.

Days	Number of Observations	Mean CAR	BMP Test Statistics
(-1,+1)	39	-2.30%	-1.247
(-7,+1)	39	-9.13%	-3.005**
(-2,+2)	39	-2.82%	-1.115
(-3,+3)	39	-5.06%	-1.86*
(0,+3)	39	-3.75%	-1.672*
(+3,+5)	39	1.25%	1.094

[4] While the economy was still struggling to recover in 2009, banks had already passed stress tests and were re-capitalized and the term-structure of interest rates which concerns banks more than other industries were indicating recovery from the financial crisis.

Table I. continued

Panel E. For all the periods: 2003-2013

Days	Number of Observations	Mean CAR	BMP Test Statistics
(-1,+1)	90	-1.11%	-0.763
(-7,+1)	90	-4.27%	-2.523**
(-2,+2)	90	-0.96%	-0.534
(-3,+3)	90	-1.80%	-0.825
(0,+3)	90	-2.15%	-1.317
(+3,+5)	90	1.07%	1.25

Legend: * 5% significance, ** 1% significance, and *** 0.1% significance.

ii. Cross-Sectional Analysis of Market Reaction to Dividend Cuts

To understand what explains the abnormal returns, we conduct cross-sectional analysis of bank ratios that could explain the market reaction. The set of relevant explanatory variables we use in our study and their descriptive statistics are summarized in Table II and Table III, respectively.

Table II. Explanatory variables in cross-sectional analysis of CARs.

Variables	Abbreviation	Description
Size of dividend-cuts	Divchange	Percentage change in dividends from regularly paid previous dividend amount to measure the size of dividend-cut
Bank Tier-1 capital	Tier1	Tier1 capital of banks to measure bank capital as ratio of total assets
Return on Assets	ROA	measured as the ratio of net income to total assets in the quarter preceding the dividend-cut announcement
Bank Size	SIZE	measured as the natural log of total assets in the last quarter of 2007
Marketable Securities	SECASS	measured as the total of marketable securities which includes mortgage backed securities (MBS) divided by the total assets in the last quarter of 2007
Noninterest Income	NONINT	measured as the ratio of non-interest income divided by total revenue in the quarter preceding the dividend-cut announcement
Real Estate Loan	RE_LOAN	Bank's real estate loan held in the quarter preceding the dividend-cut
Market-to-Book Value	MVBV	Ratio of market-to-book value as a proxy for growth opportunities

Notes:
We use Tier-1 capital as a measure of bank capital rather than total capital. From the regulatory perspective Tier-1 capital is the most loss-absorbing measure of capital. Regulatory Capital Rule of the Office of the Comptroller of the Currency, the banking regulatory unit of the U.S. Department of Treasury. October 11, 2013 Final Rulemaking. Accessed from http://www.occ.gov/news-issuances/bulletins/2013/bulletin-2013-23.html on February 14, 2017.

Table III: Descriptive statistics

Variables	Observations	Mean	Standard Deviation	Min	Max
CAR(-1,1)	90	-0.0111	0.1713	-0.8804	0.4173
CAR(-7,1)	90	-0.0427	0.1079	-0.4160	0.3721
Divchange	90	-0.5637	0.2456	-1.0000	-0.0909
Tier1	90	11.1469	2.5854	5.7800	20.3000
ROA	90	-0.0012	0.0180	-0.0600	0.0369
SIZE	90	9.8471	1.4647	6.9126	14.5245
SECASS	90	0.0503	0.0678	0.0000	0.2763
NONINT	90	0.1187	0.1259	0.0082	1.2915
RE_LOAN	90	0.0028	0.0032	0.0000	0.0231
MVBV	90	1.2650	0.8151	0.1751	4.4501

IV. Results and Discussion

A. Stock Market Reaction Results

Panel A and B of Table I show that the stock market reaction to dividend-cut announcements for the pre-crisis and the crisis period is insignificant for all event windows, i.e. days around the announcement. Panel C and D in Table I show that the stock market reaction to dividend cut announcements in the year immediately following the crisis, i.e. 2009, and the period 2009-2013[5] was negative and significant for the (-7,+1) days window and remained insignificant for the (-1,+1) days window. While the negative reaction for the (-1,+1) days window remained insignificant from the pre-crisis and crisis periods to the post-crisis periods, it became worse. The reaction changed from a -0.09% and -0.49% from the pre-crisis and crisis periods in Panel A and B in Table I to -2.41% and -2.3% in 2009 and in 2009-2013, respectively. The reaction for (-7,+1) window significantly changed from and insignificant -1.05% and 0.04% from the pre-crisis and crisis periods to a significant -11.21% in 2009 and -9.13% in the 2009-2013 period.

The insignificant results in the pre-crisis and crisis indicate that investors didn't perceive dividend-cuts in the banking industry a surprisingly negative signal. Perhaps they were expecting banks to have financial difficulty and cut dividends to retain more of the internally generated funds to weather the financial turmoil. We can't say with certainty that banks cut dividends during the financial crisis for precautionary reasons to build up more financial cushion or whether investors believed banks did so, but the possibility exists and requires a comprehensive

[5] 33 of the 39 dividend-cuts between 2009 and 2013 happened in 2009 alone, making the results for the 2009 as the immediate year after the crisis very similar to the results for the whole post-crisis period of 2009-2013. We report both to provide better insight and clarity.

study beyond the scope of our paper. Perhaps a survey of bank managers and investors will provide us more insight. If bank managers did cut dividends due to this precautionary reason, it would be consistent with the (Miller and Rock 1985) assertion that dividends are part of the investment decisions.

The significant results for the (-7,+1) window for the 2009 and 209-2013 periods imply that investors perceived dividend cuts as negative signals about the firms. Since the market reaction to the dividend-cut announcements for the (-1,+1) days window is still insignificant, it implies that news of dividend-cuts leaked to the market over 7 days preceding the actual announcement date. It may also indicate that investors adjusted their decisions such that when the announcements were actually made, they had insignificant effects on stock prices.

Our finding of insignificant CARs for the (-1,+1) days around the event is different from all previous studies of dividend cuts and market reaction in the banking industry for which the results are significant. For instance, (Bessler and Nohel 1996) report that on average banks experienced a negative excess return of negative 4.64% on the day of the dividend cut announcement and negative 3.38% one day after the event. Both test statistics are significant at 1% level. Their results imply a -8.02% abnormal return. In our tests, while the market reactions are still negative for the 1-day around the event date, they are insignificant for all periods, pre-crisis, crisis, and post-crisis.

The insignificant CARs for the (-7,+1) days window during the financial crisis in Panel B of Table I has two important implications.

Implication I: Investors cannot discern information about dividend cuts during the financial crisis, i.e. dividend cuts do not emit the implicit strong negative signal during financial crisis.

Implication II: Investors understand that there is a credit crunch and banks cutting dividends are not necessarily in adverse financial situation; banks may hold on to more internally generated funds for perhaps precautionary reasons to weather a financial turmoil.[6]

Our test results support the first implication. The mean CARs for the (-7,+1) window during the financial crisis as reported in Panel B of Table I is -0.04%, the lowest among all CARs for all other windows and periods and statistically indifferent from zero. Investors may have had difficulty interpreting what a dividend-cut by a bank during the financial crisis meant. On one hand, it could mean that the dividend-cutting bank is unable to continue paying dividends and thus a negative signal about financial health. On the other hand, it could mean that the bank is cutting dividends to retain more funds to reduce liquidity risk during such financial turmoil. If the second reason for dividend cuts is true, then rational investors would perceive it as a positive

[6] A third implication may be thought as investors anticipated the dividend cut announcements at earlier dates, i.e. at least 8 days prior to the announcement day, and adjusted their investment decision accordingly such that in the period 7 days prior to the announcement to 1 day after, their decision didn't change. We tested for the possibility of this implication by estimating CARs for different windows such as (-14, -8) days and (-30,-8), the tests yielded insignificant results.

sign of good management decision reducing risk and, therefore, market reaction should be positive.

To check for robustness of our results and insure that the significant negative CARs in the immediate post-crisis year of 2009 and the post-crisis period of 2009-2013 are not due to a random stock market down-turn, we generated random dates, set them as event dates and tested for significance of CARs. None of the results were statistically significant which increase our confidence in our methodology.

B. Cross-Sectional Analysis of Cumulative Abnormal Returns

Since we are measuring the stock market reaction to dividend-cut announcements, the CARs on (-1,+1) days and (-7,+1) days around the event is of greater interest as they measure market reaction one day around the event and the gradual reaction from seven days prior to the event to 1 day after the event. We found insignificant CARs on (-1,+1) window, hence, there is not much value in discussion cross-sectional analysis to determine what explains the insignificant CARs on (-1,+1) event window. We shall focus our results and discussion on the cross-sectional analysis of CARs for the (-7,+1) event window. Nonetheless, we report our analysis on both event windows in Panel A and B in Table IV, respectively.

Table IV. Cross-sectional analysis of the stock market reaction to dividend-cuts
The dependent variable is the cumulative abnormal returns (CARs). Panel A summarizes the results of CARs over (-1,+1) around the event date of dividend-cut announcement and Panel B summarizes CARs over (-7,+1) days around the event date.

Panel A. Regression analysis of CARs (-1,+1) over periods between 2003-2013					
Periods	2003-2013	2003-2007	2007q4-2008	2009	2009-2013
CARs (-1,+1)	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients
Divchange	0.1893	-0.0370	0.3783	0.2427	0.2268
Tier1	0.0010	0.013*	0.0136*	-0.0084**	-0.0118**
ROA	0.6895	-2.5499*	-4.3564*	7.1515**	6.9792*
SIZE	0.0039	-0.0103	-0.0574	0.0273	0.0236
SECASS	0.4671	0.3972	0.6603	1.0247	0.9164
NONINT	0.0015	0.0040	0.0094	0.0007	0.0009
RE_LOAN	8.2710	21.7317	-5.3824	20.5106	20.0409
MVBV	0.0281	0.0184	-0.0614	-0.0139	-0.0173
Intercept	-0.0673	-0.1023	0.6369	-0.2221	-0.1419
N	90	25	26	33	39
Prob>F	0.0747	0.0107	0.0413	0.0002	0.0002
Adjusted R-squared	0.1472	0.4403	0.3515	0.3144	0.3151

Table IV. Continued

Panel B. Regression analysis of CARs (-7,+1) over periods between 2003-2013					
Periods	2003-2013	2003-2007	2007q4-2008	2009	2009-2013
CARs (-7,+1)	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients
Divchange	0.0714	-0.0810	0.2658	0.1355	0.1358
Tier1	0.0012	0.0045**	0.0035*	-0.0046**	-0.0045**
ROA	0.2574	-2.7118*	-2.3623*	2.4569*	2.3521*
SIZE	-0.0077	-0.0146	-0.0456	0.0028	0.0024
SECASS	0.3126**	0.0526	0.4112	0.5311	0.4887
NONINT	0.0008	-0.0005	0.0077	0.0005	0.0005
RE_LOAN	1.9073	30.6307*	-6.6883	18.5722*	18.1040*
MVBV	0.0007	-0.0015	-0.0780	-0.0694	-0.0657
Intercept	0.0703	0.0858	0.6146	0.0589	0.0627
N	90	25	26	33	39
Prob>F	0.0007	0.0010	0.0030	0.0001	0.0001
Adjusted R-squared	0.0740	0.4295	0.2799	0.1516	0.1475

Legend: * 5% significance, ** 1% significance, and *** 0.1% significance.

The results in Panel B of Table IV suggest that investors' negative reaction to dividend-cuts were inversely related to the tier-1 capital ratio of banks in the pre-crisis and crisis periods. Investors reacted less to dividend cut announcements by well-capitalized banks during the pre-crisis and crisis periods. The coefficients are 0.0045 and 0.0035, statistically significant at 1% and 5% levels, respectively. Interestingly, the coefficients change signs for the 2009 and 2009-2013 periods. They become -0.0046 and -0.0045, both significant at 1% level. These results suggest that investors perceived dividend-cuts by better-capitalized banks as a positive signal before and during the crisis periods and as a negative signal in the post-crisis periods.

Contrary to tier-1 ratio, returns on assets (ROA) is positively related to the negative reaction to dividend cuts in the pre-crisis and crisis periods and inversely related in the post-crisis periods. Investors reacted more negatively to dividend-cuts by profitable banks in the pre-crisis and crisis periods and less negatively in the post-crisis periods. The coefficients are -2.71, -2.3, 2.46 and 2.35 for pre-crisis, crisis, 2009, and post-crisis periods, respectively. They are all significant at 5% level. They imply that dividend cut announcements by profitable banks were a more severe negative signal in the pre-crisis and crisis periods than in 2009 and beyond. It implies that investors value the maintaining profitability more than dividends in the banking industry.

Banks with more real estate loans on their balance sheet as measured by RE_LOAN experienced less negative reaction to their dividend cut announcements both for the pre-crisis and post-crisis periods, which suggests investors either expected these banks to cut-dividends or found dividend-cuts as a positive move to build up funds and reduce insolvency risk. Contrary to our expectations, investors didn't react significantly to dividend cuts by banks with larger real

estate loans on their balance sheets during the crisis period. The result is negative, meaning dividend cuts were perceived a negative signal, but not statistically significant.

Another interesting result is the size of dividend cuts as measured by Divchange. The signaling theory of dividend cuts suggests that investors would react more to larger dividend cuts than to smaller ones. However, the size of dividend cuts did not impact market reaction to dividend cut announcements. The coefficient is not significant for any periods. It implies that investors did not differentiate between a dividend cut of, say, 20% and 80%, or a complete omission. A dividend-cut announcement of any size was sufficient enough to be considered a negative signal. Other ratios unrelated to the stock market reactions to dividend-cut announcements were bank-size, amount of marketable securities, non-interest income and market-to-book ratios. These ratios were independent of the stock market reaction to dividend cut announcements.

For the entire study period of 2003 to 2013, only tier-1 capital ratio significantly explains stock market reaction to dividend-cuts, all other ratios fail to explain abnormal returns. The failure of ratios to explain the stock market reaction to dividend cuts in the banking industry for the entire study period suggests that certain bank ratios have different importance during different time periods, i.e. pre-crisis, crisis, and post-crisis periods.

V. Summary and Conclusion

The signaling theory of dividends suggests that dividends signal about the financial health and earning potential of firms. In the banking industry, this signaling effect of dividends is more pronounced, attributed to the opaque nature of the banking industry. During the Great Recession of 2007 and 2008, many financial firms, in particular banks, experienced financial difficulty. At the same time, banks wouldn't release explicit negative information about their financials and asset quality in fear of being subject to runs or being cut from credit markets. During the recession, investors may have relied more on implicit signals, such as a dividend-cut, about bank financials. While investor reactions to dividend-cuts have been extensively investigated during normal times, they have not been examined during the 2007 and 2008 financial crisis. We attempted to fill this gap by investigating dividend-cut announcements around the financial crisis.

We studied the stock market reaction to bank dividend-cuts in three periods around the Great Recession; the pre-crisis period, 2003-quarter 1 to 2007-quarter 2; the crisis period, 2007-quarter 4 to 2008-quarter 4; and the post-crisis period, 2009-quarter 1 to 2013-quarter 4. Using event-study methodology and BMP test-statistics, we found that during the pre-crisis and the crisis periods, investors' reaction to dividend cuts was statistically insignificant, although negative. Investors' reaction to dividend cuts was negative and statistically significant in the year immediately following the crisis, i.e. 2009, and in the post-crisis period of 2009-2013. For the event-window of (-7,+1) days around the dividend-cut announcements in 2009, the stock market

reaction (CARs) was negative 11.21%, significant at 1% level. We also found that the size of dividend-cuts, whether a partial cut or a complete omission, had no impact on the size of the market reaction.

Contrary to our expectations, investors didn't react to bank dividend-cuts during the financial crisis. In all other studies of dividend-cut announcements, the stock market reaction has been negative and statistically significant. The insignificant result during the crisis period is a departure from prior results of event studies on dividend-cut. This may imply that investors' perception of dividend-cuts as a signal changed during the Great Recession. Investor's perception of dividend-cuts as a negative signal resumed immediately in the aftermath of the Great Recession and became even more robust.

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