THE SIGNALING CONTENT OF DIVIDEND CUTS AND STOCK MARKET REACTION IN THE BANKING INDUSTRY DURING THE FINANCIAL CRISIS OF 2007 AND 2008

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Introduction:

Like many previous financial crises, the credit crunch of 2007 and 2008 affected the financial industry first, especially those involved in the sub-prime mortgage market. During the crisis, the stock market experienced about $8 trillion loss, more than half of which was incurred by the banking industry. Credit became scares and financial institutions, especially banks which traditionally operate with high leverage, found themselves in the brinks of collapse.

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. Investors may have to rely more on implicit information and signals about firms.

Information asymmetry in the banking industry has traditionally been more pronounced than in other industries due to the opaque nature of banking firms and their vulnerability to runs. With limited information about the financial health of the banking firms, investors may rely more heavily on implicit signals in the market, especially during a financial crisis when banks become more hesitant to reveal explicit information about their financial health in fear of "runs" on their deposits or being cut from the credit market by other financial institutions. One market signal has traditionally been the commencement of dividends and/or omission of dividends (i.e. dividend cuts.)

A dividend cut by a firm gives signal about financial state of the firm. One perception could be that the firm cannot afford to continue paying dividend and thus a negative signal. The negative signal of dividend cuts has been investigated and the consensus is that dividend cuts have traditionally been accompanied by negative stock market reaction.

Could a banking firm have decided to cut dividends because it cannot afford to continue paying dividends? Or could it do so as a precaution because of the uncertainty in the credit and liquidity markets? If a bank happens to cut dividends for the precautionary reasons, then it might have a positive market reaction because the banking firm management is taking precautionary action and making the firm financially better.

It is this possibility of a dividend cut as a precautionary measure and as a signal during the recent financial crisis of 2007 and 2008 that we aim to investigate in this paper. More specifically we would attempt to answer the following research questions:

1- Did the banking industry experience more dividend-cuts during the financial crisis of 2007 and 2008 than in the pre-crisis period?
2- How did the stock market react to dividend cuts by the banking industry during the financial crisis?
3- Is there a systematic shift in the market perception of dividend-cuts by the banking industry during the financial crisis?
4- If there is any significant negative or positive reaction to dividend cuts by the banking industry during the financial crisis, can it be explained by firm specific factors?

To address these questions, we utilize the event study approach developed by Fama, French, Jensen and Roll (FFJR 1969) and the methodology used by Bessler and Nohel (1996).

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 due to the precautionary implication of dividend cuts as doing so would leave the bank with more internal funds and thus making the firm more solvent. The rest of the paper is organized as follows. In

part II, we review previous studies; in part III we discuss data and methodology; in part IV we discuss results; and in part V we summarize with concluding remarks.

Part II: Literature Review:

The literature on dividend pay-out policies and firm values started with the seminal work of Miller and Modigliani (1961, henceforth, MM) which imply the irrelevance of dividend pay-out policy on firm valuation. Under the assumptions of MM's work, of which no-tax is one of them, the dividend irrelevance theory postulates that a firm's value is independence of its dividend pay-out policy. The proposition implies that a firm's decision whether to pay-out free cash flows as dividends or keep the cash flow will not change the value of the firm because if the firm does not distribute the earnings as dividends, the value of firm's equity will increase by the same amount. In other words, it makes no difference to investors who will receive a $10 dividend per share or a $10 appreciation in the value of shares if tax differences on dividends and capital appreciation are ignored. Since the MM's dividend irrelevance theory, scholars have extensively studied dividends and its implications on firm values.

Black (1976) raises two fundamental questions regarding dividends asking why firms pay dividends and why investors pay attention to dividends. He argues that the answers to these questions are not obvious and that dividends are puzzle. Researchers have attempted to answer the two fundamental questions about dividends both theoretically and empirically and they can be grouped in to two. One group of dividend studies focuses on the tax differences, investor preferences for dividends and agency problem. The other group of dividend studies focuses on dividends as signals about firms' financial health. Our research falls in to the "signaling" group

and we shall focus on this group in reviewing dividend studies, especially in those in the banking industry.

Lintner (1956) is perhaps the first researcher to address the determinants of dividend payout ratios. Lintner (1956) reviews over 600 well established American companies and selects a sample size of 28 for detailed investigation about dividend payouts. In addition to data analysis, Lintner also interviews corporate managers in the study. He finds that firms had a target dividend pay-out ratio based on current and reasonably foreseeable profits. He finds that the relationship between an existing dividend rate and the target rate based on future earnings is of much more significant and stronger factor in dividend decisions. Lintner's finding that management's perspective about future earnings is reflected in dividend pay-out decisions implies that dividend increases or "cuts" could serve as signals about the management's perception of future company earnings.

Bhattacharya (1979 and 1980) develops a signaling model of corporate dividend policy. Assuming that investors have imperfect information about firm's future earnings, Bhatacharya suggests that dividends serve as signals about future cash flows. He also argues that investors react negatively to dividend cuts and this negative reaction is larger than a positive reaction to the same amount of dividend increase due to information asymmetries. Bar-Yosef and Huffman (1986), adopting an optimal dividend pay-out ratio equilibrium model, show that the size of declared dividends is an increasing function of future cash flows. Ambarish, John and Williams (1987) construct an equilibrium model of dividends and investment opportunities known to corporate insider and find a positive stock price reaction to dividends. Asquith and Mullins (1986) study 168 US firms that initiate dividends for the first time or after 10 years of no dividend and find positive stock market reaction to dividend announcements. In their sample,

two days around the dividend announcement event, stock market reaction result in a statistically significant +3.7 % abnormal return to dividend initiation announcement.

A more complete study is conducted by Haely and Palepu (1988). They study market reaction to dividend initiations and omissions. They find that firms initiating dividend payments experience positive stock market reaction both before and after the dividend policy change, while, those omitting dividend payments have negative earning changes. They also find that the stock price reactions to subsequent earnings announcements as well as dividend announcements are smaller, suggesting subsequent dividend changes are partially anticipated. In a similar study of market reaction to dividend initiation and omissions, Michaely, Thaler and Womack (1995) find that the negative stock market reaction to dividend omissions is stronger and more robust that the positive stock market reactions to dividend initiations. Their study suggests that the stock market penalizes firms trying to falsely signal about their future earnings by initiating a dividend. Any stock positive stock market reaction gained by initiating a dividend not supported by future earnings of the firm will be more than reversed when firms cannot continue the dividend policy and omits dividend payments.

The uncertainty of future earnings and the strong negative stock market reaction to dividend cuts make dividends a less popular pay-out policy. Fama and French (2001) document cash dividend payouts disappearing among US corporations. They document that the proportion of firms paying cash dividends falls from 66.5% in 1978 to 20.8% in 1999. They attribute the reduction in the popularity of dividends to changing characteristics of publicly traded firms- new listed firms are smaller companies with low profitability and stronger growth opportunities which have characteristics of typical firms that have never paid dividends. They also find that regardless of firm characteristics and future earnings, firms have become less likely to pay

dividends. The consensus among researchers regarding dividends is that dividends do emit a signal about the management's perception of future earnings as well as financial health of the firms. Dividend initiations and increases supported by future earnings of the company have had positive stock market reaction and dividend cuts have had negative stock market reaction.

In the majority of dividend studies in the context of signaling, banking firms have been omitted due to the special characteristics of the banking firms. The rationale for excluding banking firms has been that banks are highly regulated; they operate with high leverage; and are subject to runs due to the contagion effect among banks. For these reasons, bank dividend studies are limited to a few. Nonetheless, dividend policy in banking firms is an interesting topic because market reaction to implicit market signals in this industry is predicted to be more pronounced due to the opaque nature of banking firms. Negative explicit information is discouraged in the industry due to the contagious effects in the industry. On the other hand, financial information by banks report book values rather than market values. Although financial accounting standards nowadays require public banks and public bank holding companies to reveal fair market value of assets and liabilities in a footnote in the annual report, this information is typically not reported along regularly produced financial reposts, such as quarterly earnings reports. White (1989) argues that since market values are not revealed on a continuous basis, depositors, investors, and creditors know too little about the actual net worth and risks of banking firms. This lack of explicit financial information in the banking industry may make implicit signals such as dividend policy more important in the banking industry.

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 assets quality through dividend policy to differentiate themselves from poor-asset-quality institutions. Their argument is

consistent with the literature on dividend as a signal and empirical studies that the market penalizes dividend omissions more severely than dividend initiations. 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.

Bessler and Nohel (1996) study the stock market reaction to dividend cuts and omissions by a sample of 17 banks over the period 1975-1991 and conclude that the announcement effect of dividend reduction is more severe for banks than for non-financial. Their results support the notion that the signaling effects of dividends are more pronounced in the banking industry than in other industries. Other researchers have also studied dividends in the banking industry from different angles than the impact of dividend cuts in the banking industry during the financial crisis of 2007 and 2008. Acharya et al. (2011) study the bank dividend pay-outs and capital during the recent financial crisis and find that despite financial hardship and regulatory pressure, banks persisted paying out dividends. They argue that dividend payments during the financial crisis represent a transfer from creditors and potentially tax-payer to equity holders in violation of the priority of debt over equity. They explain this violation in the context of agency problem noting that bank managers are also equity holders of their firms.

A recent study of bank dividend in the context of the recent financial crisis is that of Abreu and Gulamhussen (2013). They study 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 (size, profitability and growth opportunities), agency cost hypothesis, signaling hypothesis, and regulatory pressure. They find that firm characteristics, agency cost hypothesis and signaling hypothesis explains bank dividend

payouts. Their findings suggest that regulatory pressure has been ineffective in limiting bank dividend payouts during the financial crisis.

The most recent study to our knowledge is the comprehensive dividend trends study of Floyd et al. (2014). They compare payout policies of US industrials 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) 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 use dividend to signal financial strength.

Given the firm characteristics hypothesis, agency cost, and signaling and regulatory pressure hypotheses in the banking industry during the financial crisis of 2007 and 2008, what has been the stock market reaction to dividend cuts in the banking industry during the period? Has there been a shift in the stock market reaction to dividend cuts compared to pre-crisis period? What was the magnitude of stock market reaction to bank dividend cuts? These research questions have not been investigated adequately. We attempt to fill this gap in the literature on banking research.

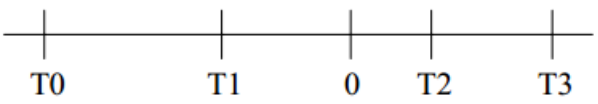
Part III.a. Data and Methodology:

We collect dividend omission and cuts for 98 bank holding companies (BHC) on the NYSE/AMEX or NASDAQ listed in COMPUSTAT from 2003 through 2013, inclusive. Using CRSP data on dividend payment history, we identify a potential dividend omission when a firm has not paid a dividend within 1 quarter, 6 months or 1 year from the previous payment if the firm pays 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. If there is more than one reduction in the fiscal year, we take the first occurrence of the cut as the dividend event.

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 previous dividend cut or omission, the observation is excluded. For instance if a firm cuts dividends, then increases dividend payouts and then cuts dividends again within the same 90 days, we omit the observation. This would reduce information contamination of dividend cuts and omissions.

Then we used event study methodology to measure the valuation effect of a dividend announcement, by examining the response of a stock price around the announcement of the event. The steps for an event study as follows: identifying the event date; defining an event window; defining the estimation period abnormal return measurement, selecting the sample of firms, calculating the "normal" event returns (the returns that would have occurred in the absence of the event); calculating the abnormal returns (actual returns that occurred because of the event minus the returns that would have occurred without the event, that is nonevent returns); calculating the cumulative abnormal returns (aggregation of the abnormal returns); and finally determining the statistical significance of the abnormal returns (ARs) and cumulative abnormal returns(CARs). The timeline for a typical event study is shown below in event time:



The interval T0-T1 is the estimation period; T1-T2 is the event window; Time 0 is the event date in calendar time; T2-T3 is the post event window. In an event study we wish to

calculate the abnormal performance associated with an event. In this paper abnormal returns are calculated using the market model approach. It is assumed that normal returns are generated according to the following process:

$$R_{j,t} = \alpha_j + \beta_j R_{m,t} + \varepsilon_{j,t} \qquad (1)$$

$R_{j,t}$ denotes the realized rate of return of security j on day t, $R_{m,t}$ denotes the return on the market portfolio on day t. α_j and β_j are the market model parameters estimated over 200 day pre-event period from t=-254 to -54 and $\varepsilon_{j,t}$ is the unexpected return of security j, which is assumed to have an expected value of zero and variance of σ_j^2.

We employ test methodology (Boehmer et al., 1991) that allows for the possibility of event-induced variance. This test is powerful and gives the proper rejection rate, accounting for serial correlation between prediction errors. More details on the properties of the test statistic under various circumstances can be found in Boehmer et al. (1991).

Part III. B. Cross sectional analysis of announcement effects:

To explain what factors determine the magnitude of the individual bank stock reaction to dividend cut, we run cross sectional regression analysis of the abnormal returns over several event windows around the announcement dates on explanatory variables. We postulate the following three models in determining what explanatory variables affect abnormal returns:

$$AR_i^* = \beta_1 + \beta_2 CAPASS_i + \beta_3 PCHANGE_i + \beta_4 SIZE_i + \beta_5 SECASS_i + \beta_6 LLPASSi \qquad \text{(Model 1)}$$

$$+ \beta_7 RE\_LOAN_i + \beta_8 ROA_i + \beta_9 MVBVi + \beta_{10} HPR_i + \varepsilon_{i1}$$

$$AR_i^* = \beta_1 + \beta_2 TIER1_i + \beta_3 PCHANGE_i + \beta_4 SIZE_i + \beta_5 SECASS_i + \beta_6 LLPASSi + \beta_7 RE\_LOAN_i + \beta_8 ROA_i + \beta_9 MVBVi + \beta_{10} HPR_i + \varepsilon_{i1} \quad \text{(Model 2)}$$

$$AR_i^* = \beta_1 + \beta_2 TIER1_i + \beta_3 PCHANGE_i + \beta_4 SIZE_i + \beta_5 SECASS_i + \beta_6 LLPASSi + \beta_7 RE_{LOAN_i} + \beta_8 ROA_i + \beta_9 MVBVi + \beta_{10} HPR_i + \beta_{11} NONINT_i + \varepsilon_{i1} \quad \text{(Model 3)}$$

$$AR_i^* = \beta_1 + \beta_2 TIER1_i + \beta_5 SECASS_i + \beta_6 LLPASSi + \beta_7 RE\_LOAN_i\, ROA_i + \beta_9 HPR_i + \beta_{11} NONINT_i + \varepsilon_{i1} \quad \text{(Model 4)}$$

Where AR_i is the abnormal returns over -7 to +1 day period around the dividend cut announcement event and the independent variables are as follows.

Bank Capital ($CAPASS_i$) is the ratio of bank capital to total assets in the year prior to the dividend cuts. During the financial crisis a bank's ability to obtain external funds by issuing new equity or debt may be limited. Well capitalized banks tend to sustain a financial turmoil better and not need external funds.

Bank Capital (TIER1): Better capitalized banks are more likely to pay dividends. A more stringent measure of bank capital is the tier-1 capital which is also considered the most loss absorbing form of capital.[3] Poorly capitalized banks may be forced by regulators to suspend

[3] 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. Retrieved from http://www.occ.gov/news-issuances/bulletins/2013/bulletin-2013-23.html on July 23, 2014.

dividends. So banks with lower capitalization are more likely to skip dividends. We denote this explanatory variable as $TIER1i$ in our models.

PCHANGE$_i$ is the percentage reduction in dividends divided by share prices at the time of the dividend cut, i.e. the dollar difference between the new dividend payout and the former payout divided by the share price at the time of the dividend cut. This will measure the percentage change in dividend cuts relative to share stock prices. Since dividend cut conveys negative information to the market regarding the bank's financial condition, it is hypothesized that a larger dividend decrease should result in a stronger negative valuation effect.

SIZE$_i$: Larger banks tend to have more cash at their disposal and tend to sustain adverse credit market better due to their better access to capital markets as well as implicit governments guarantees that they are too-big-to-fail and the government may rescue them if they are in financial trouble. Therefore, continuing dividend payments policies may be easier for larger banks than for smaller ones because of their too-big-to-fail size and recognizable brand. We measure size of banks as the log of its total assets in the year prior to the dividend cuts and denote it as $SIZE_i$ in our models.

SECASS$_i$ is the proportion of marketable securities to assets in the year prior to the dividend cut. Maintaining large portion of marketable security provides liquidity cushion for banks especially during the crisis when alternative investment opportunities are scarce.

Loan-Loss Provision (LLPASS): Banks with higher levels of loan-loss provisions are better positioned to absorb loan losses and as a result are less affected by financial crisis. We expect that banks with higher levels of loan-loss provisions were more likely to afford dividend payment continuation. We denote loan loss provisions as LLPASS in our models.

Exposure to Real-Estate Market (RELOAN): Banks exposed to the real estate market debacle of 2007 and 2008 tend to incur greater losses during the financial crisis. We measure the exposure as the proportion of real estate loans to assets in the year prior to the dividend cut.

Return of Assets (ROA): ROA has traditionally been one of the major firm characteristics and it is one measure of operational efficiencies as well as profitability. Return on asset is a scaled measure of bank profitability, which is independent of bank leverage. According to some academic studies for non-banking firms, profitable firms are more likely to pay dividends. Banks generating higher returns on assets may be less likely to rely on external funds. On the other hand, having higher returns on assets and net income could result in higher valuation of the firms and hence banks with higher ROA could be expected to experience more pronounced negative stock price reaction to dividend cuts. We denote this explanatory variable as ROA_i.

Market-to-Book Value (MVBV): Market to book value has traditionally been a firm characteristics and it measures investors' perceptions about firm values. Banks with higher market to book ratio tend to be established banks with recognized brands. These banks are likely to have better access to capital markets and have better ability to continue paying dividends. We denote this bank characteristic as MVBV in our analyses.

HPR_i is the holding period return prior to dividend cuts. Banks with stronger holding period returns are likely to be more favored by investors and thus giving banks better ability to raise new funds. Banks with better ability to raise external funds might be less likely to cut dividends. This ratio will also help us deal with the endogeniety problem of returns during the event of dividend cut announcements. We calculate HPR in the (-30, -8) days prior to the dividend cut announcement.

Non-Interest Income (NONINT): The rate of defaults on bank loans increased during the financial crisis reducing income for banks which heavily depended on interest income. Banks with less dependent on interest income might be financially better positions during the crisis and thus less likely to undergo dividend cuts. We include measure this variable as the total non-interest income relative to total assets and denote it as NONINT in our models.

Part IV. Results and Discussion:

Graph 1A shows the total number of dividend increases and cuts by banking firms from 2003 to 2013, inclusive. Banks generally increased dividend payouts from 2003 until 2006 and then started to cut dividend payments in 2007 and 2008. Therefore, a majority dividend cuts in our sample happened during 2007 and 2008.

Part IV.a. Stock Market Reaction Results:

The market reactions to dividend cut announcements over several event windows are summarized in Table 1A. Market reactions to dividend cuts are statistically insignificant for shorter days around the dividend cut announcement dates. This finding is different from previous studies of dividend cuts and market reaction in the banking industry. For instance Bessler and Nohel (1996) report that on average banks experienced a negative excess return of -4.64% on the day of the dividend cut announcement and -3.38% one day after the event. Both test statistics are significant at 1% level. Their results imply a -8.02% abnormal return two days around the dividend cut announcement event. In our tests, the only statistically significant abnormal return to dividend cut announcement event is the excess return of -4.10% -7 to +1 day around the event and it is significant only at 5% level. We also tested for different event windows and reported only few of them.

Our results of stock market reaction to dividend cuts in the banking industry during the financial crisis support our main hypothesis that stock market reaction to dividend cuts might have changed due to the nature of the financial crisis and that banking firms cutting dividends may not face the same negative market reaction to their stock prices. Banks may have cut dividends not because of signaling and/or financial distress, but perhaps because of taking precaution or to responding to regulatory pressure.

Part IV.b. Cross-Sectional Regressions Results:

Table 2A summarizes descriptive statistics of explanatory variables we use in our models. The results of our cross sectional regressions, especially in Model 4 give us interesting insight into the market reaction to dividend cuts and bank characteristics. In Model 1 we use traditional bank characteristics, including bank capital as measured by total capital (CAPASS), and find that apart from holding period returns prior to the dividend cut announcement event and the amount of marketable securities, none of the other variables explain the negative stock market reaction to dividend cuts. While this could be due to model misspecifications, the results at the face value do not support any of general believe that firms larger, more profitable and better capitalized banks are likely to pay dividends. However, we do not rely on this model with traditional variables because an important variable might be the amount of non-interest income of banks which is omitted in Model 1 and Model 2.

In Model 2, Model 3 and Model 4, we modify bank capital measure and only count the level of Tier1 capital for the reasons we describe in earlier part of this paper. After trying to find the best fit model and carefully postulate models to account for all relevant variables we choose to report only four of them in this paper. Model 4 seems to be the best model explaining the

stock market reaction to dividend cuts in the banking industry during the financial crisis. Hence we shall focus our discussion on the results of Model 4.

Tier 1 capital and marketable securities (SECASS) are significant variables at 5% level. Loan loss provision (LLPASS), exposure to the mortgage market (RE_LOAN), bank profitability (ROA), prior holding period return (HPR), and non-interest income (NOINT) are all significant explanatory variables at 1% significance level.

The signs of LLPASS and ROA are negative implying that banks with higher levels of loan loss provision and more profitable banks experienced more severe negative stock market reaction to their announcement of dividend cuts. This is contradictory to previous studies and the general believe that more profitable banks with higher levels of "cushion" to absorb loan losses would be deemed financially sound banks and thus a less market reaction to their dividend cuts. Our results sound to imply the opposite of the above notion, however, it is not contradictory to the general believe and the notion. The results simply imply that dividend cuts announced by such banks deemed to be more profitable and have more cushion to absorb loan losses were more surprise to investors. More profitable banks with higher levels of loan loss provisions were not expected to cut dividends.

Part V. Summary and Concluding Remarks:

The signaling theory of dividends that managers use dividends as signals about their firms' financial health, has been studied extensively and in the majority of such studies banking firms are excluded for the reason that they are highly regulated, operate with high leverage, and are opaque institutions by nature of the banking industry. Scholars have attempted to investigate dividends in the banking industry and find that dividend cuts are accompanied by negative

market reaction, more severe than in non-bank industries. This is supportive of the notion that banks are opaque institutions, less information is available on their assets quality and implicit market signals such as dividend cuts have more pronounced effects in financial markets.

Dividend cuts by banking firms during the recent financial crisis and investors' reaction to them could be different because during financial turmoil a bank may simply cut dividends for reasons other than affordability of dividends. Such reasons may be due to regulatory pressure or simply precautionary in nature to better position the bank against unexpected earnings. If these reasons have merits, then stock market reaction to dividend cuts by banking firms could be different during the recent financial crisis. We attempted to address this research question and fill the corresponding gap in banking research literature.

Using an event study approach, we tested stock market reaction to dividend cut announcements since 2003, and focused our tests on the period of 2007-2009 because a majority of dividend cuts were announced during the financial crisis and too small a sample is left to study market reaction in the pre-crisis period. We find that the investors reacted negatively to dividend cut announcements by banks but the size of reaction is considerably weaker compared to previous studies. Except -7+1 day around the event date, the market reactions for all other reasonable event windows are insignificant. This supports our main hypothesis.

This research is yet far away from completely addressing determinants of dividend cuts in the banking industry during the recent financial crisis and investor reactions to bank payout policy changes during the period. A more complete and thorough study of bank dividend policies and the implications throughout the history is our subject of another paper.

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Appendix A: Tables and Charts

Chart 1A: Dividend increases and cuts trends in US banking firms from 2003 to 2013.

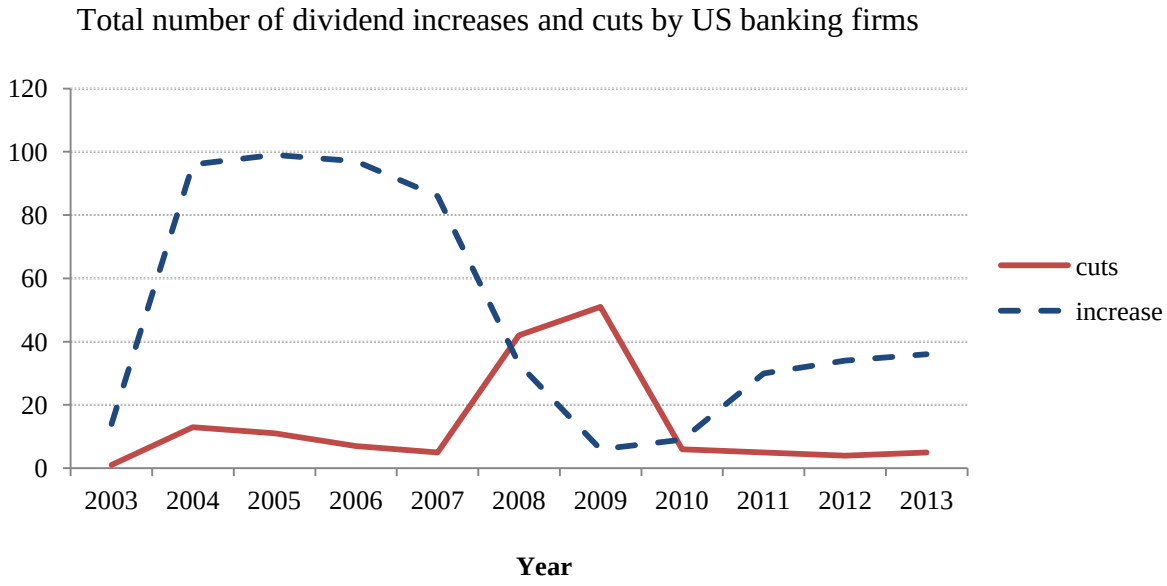

Table 1A. Cumulative Abnormal Return for various event windows (days around the dividend cut announcement date) and corresponding test statistics.

Days Around the Announcement	Number of Observations	Average CAR	BMP Test Statistic
(-1,+1)	94	-0.90%	-0.86
(-7,+1)	94	-4.10%	-2.183*
(-2,+2)	94	-0.58%	-0.456
(-3,+3)	94	-0.97%	-0.563
(0,+3)	94	-0.99%	-0.908

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

Table 2A: Descriptive statistics for various variables used in our models.

Variable	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
CAR(-1,1)	94	-0.0131	0.1063	-0.4160	0.3721
CAR(-30,-2)	94	-0.1128	0.3006	-0.9159	0.8631
CAR(-7,1)	94	-0.0409	0.1693	-0.8804	0.4173
CAR(-2,2)	94	-0.0058	0.1360	-0.6936	0.4246
CAR(-3,3)	94	-0.0097	0.1554	-0.8295	0.4401
CAR(-3,1)	94	-0.0137	0.1499	-0.7206	0.4910
CAR(0,3)	94	-0.0163	0.1135	-0.3946	0.2571
CAR(-1,1)	94	-0.0131	0.1063	-0.4160	0.3721
CAR(-30,-5)	94	-0.1128	0.3006	-0.9159	0.8631
$CAPASS_i$	90	14.2037	2.6910	10.1900	25.3100
$PCHANGE_i$	94	-0.5623	0.2501	-1.0000	-0.0278
$SIZE_i$	94	9.8271	1.4477	6.9126	14.5245
$SECASS_i$	94	0.0504	0.0669	0.0000	0.2763
$LLPASS_i$	94	0.0145	0.0133	-0.0024	0.0550
RE_LOAN_i	94	0.0029	0.0032	0.0000	0.0231
ROA_i	94	-0.0016	0.0188	-0.0600	0.0369
$MVBV_i$	94	1.2744	0.8239	0.1751	4.4501
NONINTi	94	0.0013	0.0016	0.0000	0.0101

Table 3A: Cross sectional regression results of Model 1 through Model 4 of abnormal returns over the period -7 to +1 day around the dividend cut announcement dates of US banking firms over 2003-2013, inclusive.

Dependent Variable= Abnormal returns over -7 and +1 day around the dividend cut announcement date.				
Variable Name	Model_1	Model_2	Model_3	Model_4
Intercept	-0.0485	-0.1282	-0.0242	-0.1155*
$CAPASS_i$	-0.0052			
TIER1		0.01006*	.00674	0.0085*
$PCHANGE_i$	-0.0251	-.02969	-.00961	
$SIZE_i$	-0.0061	-.00092	-.01336	
$SECASS_i$	.40003*	.40578	.49791	.40116*
$LLPASS_i$	-3.0389	-4.2233	-7.0848	-7.5373**
RE_LOAN_i	4.5172	6.3785	7.5802	9.3626**
ROA_i	-1.2074	-1.9921	-3.3272	-3.4331**
$MVBV_i$	.00391	.01317	.00157	
HPR_i	.30954**	.30699**		.29272**
$NONINT_i$			4.8187	4.3441**
N	90			
Prob > F	0.0001	0.0001	0.0001	0.0001
Adj-R-Sq	0.3923	0.4083	0.4774	0.4639

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