Fostering realism in fair value estimates during financial acquisitions: the role of FDIC Indemnification agreements

Steven Lilien
Weinstein Professor of Accountancy
CUNY, Baruch College
Steven.Lilien@baruch.cuny.edu

Bharat Sarath
Professor of Accounting
Rutgers University
bsarath@andromeda.rutgers.edu

Yan Yan
Assistant Professor of Accounting
Fairleigh Dickinson University
Yyan@fdu.edu

Fostering realism in fair value estimates during financial acquisitions: the role of FDIC Indemnification agreements

Abstract:

ASC 805 gives the management of an acquiring firm flexibility in valuation and the possibility of recognizing day one bargain purchase gains (BPG). BPG acquisitions occurred frequently in the financial services industry during the crisis of 2008 and some of these acquisitions were assisted by the FDIC which provided partial indemnification against future losses. Estimates of potential future losses formed the basis for the indemnification agreements and counter-acted the use of BPG for earnings management. By comparing across all types of bank acquisitions (FDIC assisted and non-assisted), our results show that fair values reflected the underlying economic assets more accurately in FDIC assisted transactions whereas management was able to use inflated fair values to present an over-optimistic picture in Non-FDIC BPG acquisitions. Overall, our results use a novel institutional arrangement to demonstrate the inherent tension between optimism and relevance in fair value measurements.

Keywords: financial institution; bargain purchase gain; ASC 805; fair value measurement; ASC 820; earnings management.

JEL Classification: G20, G28, G34, M41.

1. Introduction

Fair Value accounting involves a natural tension between relevance and reliability. Proponents argue that the use of fair values better depicts the underlying economic realities of the firm in a timely fashion. Opponents counter that the flexibility inherent in determining fair values makes it too easy for management to present a favorably biased financial statement. We examine this tension in a unique period spanning the financial crisis over the period 2008-2012 when the Federal Deposit Insurance Corporation (FDIC) was actively assisting the merger of banks through targeted indemnification agreements, and SFAS 141R (ASC 805) allowing the recognition of Bargain Purchase Gains (BPG) was implemented.[1]

Our examination is based on the interaction of three factors: (i) the adoption of financial models for making fair value estimates; (ii) the abandonment of historical cost as the basis of book values during an acquisition (ASC 805); and (iii) the advent of the financial crisis. ASC 805 permitted the recognition of day-one gains if the fair value of acquired assets exceeded the consideration paid. In normal markets, such acquisitions would be unlikely. However, during the financial crisis, market values of many traded financial assets fell far below the hold-to-maturity values creating doubt over the fair values of non-traded assets as well. In addition, the FDIC faced a significant problem in that healthy banks were unwilling to take on stressed banks opening up the possibility that the FDIC would become liable.[2] In order to protect both themselves and the creditors of the (failing) target bank, the FDIC tried to attract acquirers by entering into loss-sharing arrangements where the agency agreed to partially reimburse the acquirer for incurred

[1] Under SFAS 141R, if the fair value of acquired assets was determined to exceed the consideration paid, bargain purchase gains ("BPGs") were recorded at the time of the combination and credited to net income.

[2] FDIC insures individual accounts against bank failure. It is often in the FDIC (and consumer interest) to fold a failing bank into another bank so that depositors can continue to use their accounts with minimum disruption. Ideally, a failing bank closes on a Friday and resumes under new management the following Monday.

losses on "covered loans" (typically, 80% of the losses) belonging to the target. Therefore, BPG's reported as per ASC 805 in financial service acquisitions during the crisis may have reflected genuine economic gains, particularly if the acquisitions were assisted by the FDIC. In contrast, BPG's reported in non-FDIC transactions were less likely to involve real underlying value.

Our analysis examines whether the reported BPG's on acquisition reflect a manipulation of fair values or a real economic transfer to the acquirer. While this tension has been analyzed in earlier papers (Barth et al., 2015; Dechow et al., 2010; Song et al., 2010), the use of indemnification agreements provides a novel perspective on this trade-off. First, reported fair values in FDIC-assisted transactions can be compared with values reported in non-FDIC acquisitions. Second, the differences in reactions of investors to BPG acquisitions as opposed to goodwill acquisitions can be examined across the whole sample of transactions. Lastly, we can compare differences in investor reaction to BPG and Goodwill transactions separately in the FDIC and non-FDIC subsamples and the difference in the differences across these two groups.[3]

Out of a total of 412 acquisitions over the period 2008 through 2012 resulting in day one gains as defined under SFAS 141R, 201 (roughly half) are in the financial industry. These 201 bargain purchase transactions in our sample constitute 12.15 percent of the 1,654 acquisitions[4] performed by public financial institutions over this time period. This is unexpected since financial assets typically specify future cash flows and fair values and market values for clearly identified cash flows should not diverge substantially. However, the banking turmoil of 2007 created uncertainty as to whether these specified cash flows, would, in fact, be realized, leading market values to fall well below the present value of the statutory cash flows. In turn, this fall in market

[3] In particular, this feature distinguishes our paper from Dunn (2016) which focuses on the earnings management aspect of BPG's within the sample of FDIC assisted acquisitions.
[4] We identify the 1,654 acquisitions from Compustat firms with acquisitions reported in the financial industry.

values led to potential insolvency for a wide spectrum of banks forcing them to merge with other banks, either through choice or under duress. A significant portion of these transactions fell in the post-SFAS 141 R period which required fair value measurement of the acquired financial assets.

In acquisitions of financial institutions, the primary fair value estimate starts with the carrying amount of loans and mortgages transferred at date of acquisition. These loans are then written up (or down) to their fair value. After adjustments, the net value acquired is compared with the consideration paid and the difference booked either as goodwill or as a bargain purchase gain. When indemnification agreements are present, the fair value of the expected reimbursement from the FDIC, typically 80% of all losses on the loans covered by the agreement, has to be booked as an asset associated with the acquisition. Indemnification agreements, therefore, directly increase the net value of assets acquired. However, under a competitive bidding process that maximizes the price paid for the target, the fair value of the indemnification agreement should increase the consideration paid by an equal amount and result in a zero effect on BPG.

Given this background, our primary research questions pertain to the interaction between the use of fair values, the recognition of gains under SFAS 141-R, and the details surrounding the FDIC intervention in bank acquisitions:

- Are BPG's "manufactured" using discretion in fair value estimates primarily for the purpose of increasing market valuations (Huizinga and Laeven 2012) or, alternatively, does the BPGs reflect real economic value because the acquiring management successful in negotiating a favorable business acquisition with the assistance of the FDIC?
- Are the loans acquired being overvalued in order to generate BPGs or undervalued in order to bid a lower price and book a higher receivable from the FDIC?

- Is the FDIC simply folding one failed bank into a healthier financial institution or is there some other strategy implicit in the FDIC contracts with the acquirer?

To answer these questions, we identify Form 10-K filings containing business acquisitions with BPGs by a keyword search on EDGAR Online I-Metrix. Each Form 10-K is reviewed over the period 2008-2012 to collect the fair value of assets acquired, liabilities assumed, and other acquisition deal characteristics. Missing financial information within Compustat, CRSP, and PrivCo for either the acquiring or target firm reduces the sample size to 201 BPG deals in the financial industry.[5] We identify a pair-match control group of 201 acquisitions with goodwill recognized at the acquisition date. With this sample, we examine cross-sectional differences across different "treatment" and "control" samples (1) BPG transactions assisted by the FDIC compared with BPG transactions not assisted by the FDIC; (2) All BPG transactions compared with the matched goodwill sample; and (3) BPG and Goodwill acquisitions separately for FDIC and non-FDIC subsamples. These different comparisons provide a more nuanced picture of the way BPG's are determined and recorded as well as their effects on earnings management.

Consistent with earlier literature (Dechow et al., 2010 and Barth et al., 2015, Dunn et al. 2016), the empirical results show that BPGs are negatively related both to earnings levels and to changes in earnings before BPGs. We also find a positive relationship between bargain purchase gains, and Level 3 fair value estimates of loans (Martin et al. 2006, Ronen, 2008, Kolev 2009) in the combined sample and the non-FDIC subsample but not in the FDIC-assisted subsample. Consistent with this finding, abnormal returns both in the short and long-term are positive for all FDIC assisted transactions and for FDIC-assisted BPG transactions, but not for non-FDIC-assisted

[5] Untabulated statistics based on the sample banks reveal that approximately 77% of targets are private firms, so we obtain financial data for those private targets from PrivCo.

BPG transactions. Lastly, we find that after controlling for the likelihood of FDIC participation in a Heckman Two-stage approach, the negative relationship between pre-BPG earnings and the amount of BPG (i.e. evidence of earnings management) is insignificant in FDIC acquisitions.

This study contributes to two streams of literature. First, it adds to the literature on the trade-off between value relevance and earnings management inherent to fair value estimates. Specifically, we show that in the presence of contractual agreements which incentivize accurate forecasts, reported BPG's provide value relevant information to the market. In contrast, in the absence of such incentives, managers inflate the value of acquired assets, but the resultant BPG's do not significantly affect market prices. Second, the results show that FDIC intervention either intentionally or unintentionally transferred real economic value to the acquiring bank strengthening them in the long run.

This paper calls for the users of financial statements to pay attention to nuances involved with the context of financial reports. The changes implemented in ASC 805 are motivated by an intention to improve the relevance of financial statements. However, many academic studies have argued that Level-3 valuations as described in SFAS 157 simply provide management with a tool to manipulate earnings. This paper documents evidence that both these points of view have some validity and depend crucially on the reporting context. In FDIC-assisted transactions, regulatory monitoring and the discipline imposed by indemnification agreement results in BPG's reflecting underlying economics more accurately, but in non-FDIC transactions, the BPG's seem to reflect management optimism rather than real economic value.

The remainder of this paper is organized as follows. The next section provides a background for bargain purchase acquisitions. Section 3 reviews the previous literature and develops testable hypotheses. Section 4 describes research design, and Section 5 shows the sample

selection and data description. In Section 6, we show the empirical results. Section 7 and 8 discuss the conclusions and implications of our findings.

2. Understanding Bargain Purchase Acquisitions and the FDIC's role

In any acquisition, the purchase price is allocated to assets and liabilities based on their estimated fair values as of the acquisition date. The acquiring management uses methodologies in accordance with SFAS 157 (September 2006) which "defines fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements." The excess of fair value of the net assets acquired over the purchase price is recorded as a BPG and is shown as a separate component of earnings in the acquiring firm's income statement.

SFAS 157 develops a 3-level fair value hierarchy to reflect the level of judgment involved in estimating fair values.[6] This standard does not provide implementation guidance on how to incorporate management judgments in arriving at fair values. Absent clear rules, acquiring firms have subjectivity in fair value accounting and, thus, in the recognition of BPGs. While transactions where the consideration paid is less than the fair value of net assets acquired should be rare exceptions, such transactions occurred frequently in the financial industry during the crisis and around 68% of such bargain purchase acquisitions involved FDIC assistance.

As explained on the FDIC website, [7] "The FDIC works cooperatively with the applicable chartering authorities and Federal regulators to expeditiously resolve failing banks in a least costly manner. The FDIC does not negotiate the proposed transactions terms with each potential bidder.

[6] Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date... Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly… Level 3 inputs are unobservable inputs for the asset or liability… unobservable inputs shall reflect the reporting entity's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk)." (SFAS 157, P.12 paragraph 3, 7; P.15 paragraph 2)

[7] https://www.fdic.gov/buying/FranchiseMarketing/marketing_process.html#processOverview

Rather, the FDIC conducts a sealed bid process based on standard transaction terms. Bids are submitted to the FDIC electronically via a separate secured website to ensure confidentiality, and all bids must be submitted on the FDIC's standard forms. Failing institutions are usually closed within a few weeks after bids are submitted. The whole resolution process usually occurs over a two- to three-month period. The FDIC provides limited indemnification designed to protect the acquirer against liabilities created by the institution prior to the sale date that are not assumed by the acquirer."

As an example of this methodology, on May 23, 2011, PTI, a business development company, acquired Advanced MicroSensors Corporation.[8] PTI discloses that "*..the valuation of the intangible assets was based on methodologies that relied upon forward looking forecasts that considered all known information at that time, the most significant assumption being the revenue growth of the company, primarily in the magnetic sensor business*." PTI reports $4,785,977 in assets acquired at fair value, including $1,881,000 in intangible assets, and $1,041,128 in liabilities assumed at fair value, resulting in total net assets acquired of $3,744,849. The consideration paid was the write-off a loan $1,707,326 and stock worth $385,000, leading to a total consideration of $2,092,326 and a bargain purchase gain of $1,652,523, which is included in the Consolidated Statement of Operations for the year ended December 31, 2011. To understand the nature of the BPG, it is first worth noting that AMS was unable to pay back the advance from PTI and if the acquisition had not taken place, PTI would have been forced to write-off the loan resulting in a loss of $1,707,326. Instead, employing ASC 805, they were able to book a gain of $1,652,323 based on the valuation of intangibles.

[8] Note 4: Business combination to Consolidated Financial Statements) in the Form 10-K of Plures Technologies Incorporated ("PTI") on December 31, 2011.

In the FDIC acquisition (Appendix A), First Bancorp reports $916,048,000 in assets acquired and $873,913,000 in liabilities assumed at fair value. First Bancorp wrote down Cooperative Bank's book value of loans from $828,957,000 to the estimated fair value $601,104,000 and a fair value adjustment of $185,112,000 for the FDIC loss share receivable, First Bancorp reports that differences in interest rates paid on their deposits and the acquired loans also affected fair value calculations and that the application of acquisition accounting results in a bargain purchase gain of $67,894,000, which is included in the Consolidated Statement of Operations for the year ended December 31, 2009.

To summarize, bargain purchase transactions typically involve some special considerations. In the first case, it was a specific failing investment and the amount of BPGs depended heavily on the Level-3 fair value of intangibles (in this case, intangibles are valued at 110% of the BPG). The second acquisition was done during a general crisis with many failing banks where a central authority (FDIC) was acting to shore up the system by providing protection to acquirers. Our main argument is that the character of reported BPG's should be significantly different across these settings.

3. Literature Review and Hypothesis Development

Two main streams of accounting literature are pertinent to this study: (1) literature on earnings management; (2) literature on fair value accounting.

3.1 Fair Value Accounting

The debate over fair value accounting has focused on the tension between representational accuracy and timeliness. Proponents such as Barth et al, (1996); Carroll et al, (2003) find evidence in support of fair-value relevance whereas Nelson (1996) argues that the value relevance of

reported fair values disappears after controlling for profitability and future growth. Opponents of fair value accounting argue that the reliability of fair value can be questionable, as managers have incentives and opportunity to bias reported values (Martin et al., 2006; Danbolt and Rees, 2008). Levels 2 and 3 fair values, where managerial inputs play a significant role, are considered less reliable than mark-to-market (Level 1) fair values (Kolev, 2009). Song et al. (2010) also find that the value relevance of level 3 fair values is significantly smaller than that of Level 1 and Level 2, but relevance of these fair value measures may be improved by strong corporate governance. Liao et al. (2010) shows that fair value accounting is associated with information asymmetry during the financial crisis period while Riel and Seraphim (2011) document that financial institutions with more Level-3 financial assets have a higher cost of capital because of uncertainty regarding their reported values. A recent summary of the conflicting literature may be found in Marra (2016).

3.2 Bargain Purchase Gains and Earnings Management

ASC 805 requires acquiring firms to recognize all assets acquired and liabilities assumed at their fair values. Any excess of amounts allocated to fair value of net assets over purchase price is recorded as a Bargain Purchase Gain (i.e., as income) whereas deficits are recognized as Goodwill (i.e., as an asset). Almost all the assets acquired, and liabilities assumed in acquisitions by financial institutions, are estimated at Level-3.

Managed earnings may be used to signal the good quality of business (Ronen and Sadan, 1981; Demski, Pattell, Wolfson, 1984) in which case they should elicit a positive stock market response or used to prop up stock prices (Burgstahler and Dichev, 1997; Ahmed et al., 1999; Dechow et al. 2010) when the market reaction should generally be negative. Managers are also generally motivated to report earnings strategically in order to increase accounting-based compensation specified in their contracts (Healy, 1985). While these are general motivations for

earnings management, most acquiring firms in our sample (79.6%) are banks, and a reason for earnings management specific to the banking industry is to meet capital adequacy requirements regarding their reported regulatory capital (Moyer, 1990; Collins et al. 1995; Beatty et al., 1995). Relative to other accruals, the loan loss provision is the most prevalent and typically largest bank accrual (Beatty and Liao, 2014) and discretion in the loan loss provision is an important tool for earnings management by banks (Beatty et al. (2002), Kanagaretnam et al. (2004) Anandarajan et al. (2007) Kilic et al. (2012)). Other documented tools are the timing of securities gain and loss recognition (Beatty et al. (1995)) and tax valuation allowances (Schrand and Wong (2003)).

One standard empirical method for establishing earnings management that does not reflect favorable private information is to document a negative correlation between pre-managed earnings and discretionary accruals. Collins et al. (1995) finds such a negative relationship between securities gain and loss recognition and earnings while Dechow et al. establish a similar result for securitizations. Dunn, Kohlbeck, and Smith (2016) document an analogous negative relationship between earnings and BPG in a sample of FDIC assisted acquisitions. The general presumption is that such a negative relationship arises because firms are trying to obscure deteriorating performance using reporting discretion. However, an alternative explanation is that firms whose performance is deteriorating have more incentives to locate value-enhancing projects that generate above average accruals. Reported BPG's would have little long-term impact if they are essentially window-dressing but should have a market impact if they are due to greater effort in value identification.

3.3 Hypotheses Development

Our study focuses on the tensions between timeliness and opportunism that are intrinsic to fair value measurements. We do this by analyzing a sample of BPG and Goodwill acquisitions

with and without FDIC involvement and show a nuanced relationship between pre-adjusted earnings and adjusted earnings post BPG. Dunn et al. (2016) examine a sample of FDIC assisted acquisitions reporting BPG's over 2009-2010 and document that acquirers who reported BPG's would have been on a negative earnings trend absent the BPGs. However, they do not consider the possibility that these FDIC assisted acquisitions involve valuable indemnification agreements that are available to the acquirer (but not the target) and that consequently, the reported BPG's may reflect real economic value. In this alternative explanation, the association between BPG's and negative acquirer performance may represent a strategic FDIC plan to shore up the banking industry. Our hypothesis development tries to separate the effects of real economic value transfers reflected in reported BPG's from the use of flexibility in estimates used to manage earnings.

Our first hypothesis verifies prior findings in the literature (Barth et al. 1995, Dunn et al. 2016) and establishes the baseline for examining how reported BPG's may reflect either value relevance and/or managerial opportunism.

H1: BPGs are larger in acquiring firms with lower income before the effect of BPGs and in firms that have more negative changes in income before the effect of BPGs.

We next turn to the FDIC's role in structuring transactions. If, as we hypothesize, FDIC assistance involved real value transfers, BPG's should be more likely in FDIC assisted transactions. We state this as our second hypothesis

H2: BPGs are more likely in FDIC assisted transactions.

Pursuing the same line of reasoning that BPG's in FDIC assisted transactions are more likely to reflect real value than earnings management, we examine the loans transferred in the acquisition process. Level-3 fair value estimate of loans constitutes around half of the total assets

acquired in our sample,[9] suggesting that optimistic valuation of acquired loans provide a potential tool for acquiring firms to manage reported values at the acquisition date. If the role played by the FDIC in controlling these estimates is not significant, we would expect the relationship between level of loans and BPG's to be unaffected by FDIC involvement. We summarize this argument in two parts in our next hypothesis.

H3a: There is no correlation between BPGs and the level of loans for FDIC-assisted acquisitions;

H3b: The correlation between BPGs and the level of loans is positive for non-FDIC-assisted acquisitions.

We now turn our focus to market reactions. There is general evidence that Level-3 fair values affect market prices (Kolev 2006). H3a above argues that the BPG's for FDIC assisted acquisitions may reflect a more accurate valuation than as may be the case with non-FDIC assisted acquisitions. For this reason, we expect market reactions to be stronger for FDIC assisted transactions. Before presenting this hypothesis, we provide more institutional details to motivate the economics as to how FDIC involvement generates economic transfers to the acquirer.

The indemnification agreement provided to the acquirer should have no effect on the BPG's if its value is also reflected in the consideration paid. However, if the consideration paid does not reflect the full value of the indemnification agreement, there will be a value transfer acquirer. Another institutional feature of the indemnification contracts is a "true up" clause.[10] This

[9] Table 3, Panel C reports that the fair value of loans acquired takes 50.36% of total assets acquired in bargain purchase transactions and 48.50% in goodwill acquisitions.

[10] For example BNC records the following: BNC also has agreed to make a true-up payment to the FDIC 45 days after October 31, 2021 (or, if later, the time of disposition of all acquired assets pursuant to the loss-share agreements) equal to 50% of the excess, if any, of the following calculation: A-(B+C+D), where (A) equals 20% of the intrinsic loss estimate of $41.6 million; (B) equals the Net Loss Amount; (C) equals 25% of the asset (discount) bid or ($4.4 million) and (D) equals 3.5% of total Shared Loss Assets at the inception of the related loss-share

clause counteracts the tendency of the acquiring firm to prematurely write off losses so as to recover 80% under the indemnification agreement. Under this clause, if write-offs are seen to be inaccurate ex-post, the acquiring firm might have to return money to the FDIC as well as face other penalties. These clauses force the acquiring firm to report as accurate an assessment of their loan losses as is possible, since underestimates may force them to raise the acquisition price whereas overestimates may lead to subsequent claw-backs (see Appendix B). Consequently, the fair value estimates in FDIC assisted acquisitions are likely to reflect the best estimates of the acquirer. Under these circumstances, any BPG associated with the acquisition is more likely to reflect a real economic value transfer. In contrast, the BPG's reported in non-FDIC transactions do not have these features associated with the gain recognition and are more likely to be optimistic valuations as summed up in the next hypothesis.

H4a: Cumulated abnormal returns are positive for all FDIC-assisted acquisitions both around the acquisition and the long run.

H4b: Cumulated abnormal returns of bargain purchase gains is positive for FDIC-assisted acquisitions and insignificant for non-FDIC assisted transactions.

H4c: Cumulated abnormal returns around the acquisition announcement are greater for FDIC assisted goodwill acquisitions than non-FDIC goodwill acquisitions.

For our final hypothesis, we return to the issue of managerial flexibility in Level-3 estimates. Given our earlier hypotheses that BPG's are at least partially a consequence of actual economic value in FDIC assisted transactions, the association between declining operating measures and BPG's could arise entirely from the fact that the FDIC chooses to strengthen

agreement of $139.8 million. Based upon BNC's estimate, as of December 31, 2011, no true-up payment will be required to be paid to the FDIC by BNC.

weakening banks through a bargain priced transfer of assets (post-indemnification agreement) and that BPG's in these cases do not involve any misuse of fair value estimates. However, this argument does not apply to non-FDIC assisted transactions. Assuming that BPG's can be decomposed into a value relevant part and an "unvalued" component, the unvalued component should display no significant pattern for FDIC assisted transactions whereas they would show a significant association with the need for EM in non-FDIC transactions. Thus, our last hypothesis is as follows:

H5a: The probability of FDIC assistance is higher for acquirer firms whose financial conditions are worsening; after adjusting for this selection bias, the association between low performance and BPG's (see Hypothesis 1) is insignificant in FDIC assisted transactions.

H5b: The value irrelevant part of BPG's is influenced by low performance only for non-FDIC firms.

Our research design tests hypotheses 1-5 in sequence and presents the results in Tables 3-9.

4. Research Design

In testing H1, we estimate the following two Tobit models with year fixed effect included and firm level standard errors clustered where subscripts indicate acquisition and year, and variables are defined in Appendix C. We use a Tobit model because goodwill acquisitions have zero effect on income.[11]

$$AcqBPG_{i,t} = \beta_0 + \beta_1 AcqROABB_{i,t} + \beta_2 AcqSize_{i,t-1} + \beta_3 AcqAltman_{i,t-1} + \beta_4 TarSize_{i,t-1} + \beta_5 TarROA_{i,t-1} + \beta_6 FDIC_{i,t} + \beta_7 RelSize_{i,t-1} + \beta_8 Payment_{i,t} + Year\ Fixed\ Effect + \varepsilon_{i,t} \quad (1)$$

[11] We also ran an OLS models and obtained similar results.

$$AcqBPG_{i,t} = \beta_0 + \beta_1 \Delta AcqROABB_{i,t} + \beta_2 AcqSize_{i,t-1} + \beta_3 AcqAltman_{i,t-1} + \beta_4 TarSize_{i,t-1} + \beta_5 TarROA_{i,t-1} + \beta_6 FDIC_{i,t} + \beta_7 RelSize_{i,t-1} + \beta_8 Payment_{i,t} + Year\ Fixed\ Effect + \varepsilon_{i,t} \quad (2)$$

Following Dechow et al. (2010) and Barth et al. (2015) Dunn et al. (2016), we expect to find a negative association between the magnitude of BPGs and acquiring firms' earnings and changes in earnings before the effect of BPGs (these pre-BPG earnings variables are denoted as $AcqROABB_{i,t}$ and $\Delta AcqROABB_{i,t}$ respectively).[12] We also use control variables for the magnitude of BPG's based on prior literature. Beatty et al. (2002) argue that larger firms are often subject to more scrutiny from investors which should result in smaller BPGs motivating the control for acquiring firm size (AcqSize) at the beginning of year. We also include acquiring firms' Altman z-score (AcqAltman) in the year preceding the transactions as firms that face higher risk may wish to paint an optimistic picture of the acquisition. Hayward and Hambrick (1997) finds that target's size and underperformance are potential factors influencing the acquisition price, so we control for target's recent size (TarSize) and profitability (TarROA). In addition, they argue that the relative size of the acquisition and the payment method may also have an effect so we control for the assets of the target divided by that of the acquiring firms at the beginning of the period (RelSize) and an indicator variable for whether cash is paid (Payment). We use a dummy variable of FDIC involvement (FDIC) to capture the role of the FDIC played.

[12] In addition, previous literature (Brown and Caylor, 2003) suggest that managers likely have incentives to meet or beat analyst forecast. In untabulated analyses, we also use analyst forecast as a benchmark and arrive at similar inferences: the size of BPGs is negatively related to by how much an acquiring firm's earnings before BPGs miss the I/B/E/S consensus forecast estimate.

To test H2 regarding the relationship between FDIC assistance and real economic value transfers, we estimate a probit model. The analysis uses the same controls as (2) but now tests for a positive relationship between FDIC dummy and the probability of BPG.

$$Prob(BPG_{i,t})=\beta_0 + \beta_1 FDIC_{i,t} + \beta_2 AcqROABB_{i,t} + \beta_3 \Delta AcqROABB_{i,t} + \beta_4 AcqSize_{i,t-1} + \beta_5 AcqAltman_{i,t-1} + \beta_6 TarSize_{i,t-1} + \beta_7 TarROA_{i,t-1} + \beta_8 Relsize_{i,t-1} + Year\ Fixed\ Effect + \varepsilon_{i,t} \quad (3)$$

We next examine H3 that acquiring banks use level-3 fair value estimates of loans acquired to inflate BPG. To test this, we add the fair value measures of all major assets acquired and liabilities assumed (loan, FDIC receivable, OREO, Investment, PPE, other assets, deposits) to our baseline model (1) and (2). We hypothesize that, in FDIC assisted acquisitions, fair value estimates of loans are more accurate because of the existence of loss share agreements and FDIC oversight. Therefore, it is reasonable to expect that a positive relation between the fair value of loans acquired and the amount of realized BPG only exists in non-FDIC-assisted acquisitions.

$$AcqBPG_{i,t}=\beta_0 + \beta_1 AcqROABB_{i,t} + \beta_2 \Delta AcqROABB_{i,t} + \beta_3 FDIC_{i,t} + \beta_4 AcqLoan_{i,t} + \beta_5 AcqFDIC_{i,t} + \beta_6 AcqOREO_{i,t} + \beta_7 AcqInv_{i,t} + \beta_8 AcqPPE_{i,t} + \beta_9 AcqOa_{i,t} + \beta_{10} AcqDep_{i,t} + \beta_{11} AcqSize_{i,t-1} + \beta_{12} AcqAltman_{i,t-1} + \beta_{13} TarSize_{i,t-1} + \beta_{14} RelSize_{i,t-1} + \beta_{15} Payment_{i,t} + Year\ Fixed\ Effect + \varepsilon_{i,t} \quad (4)$$

To test H4, we estimate value-weighted abnormal announcement returns over three-day, thirty-day, and twelve-month event windows for acquirers in FDIC transactions and non-FDIC transactions. We use a standard difference in means test across a four-way partition of our sample as BPG or Goodwill and FDIC assisted or non-FDIC acquisitions. H4 predicts that the fair value estimates in FDIC assisted transactions are likely to reflect true economic value, so the market reaction to BPGs should be significantly positive for FDIC assisted acquisitions both in the short-term and in the long-term, but insignificant for non-FDIC acquisitions. Further, the

short-window reaction to FDIC BPG transactions should be higher than for goodwill transactions.

Our benchmark hypothesis H1, consistent with prior literature, expects that the need to shore up financial statements will lead acquiring firms with a negative earnings trend to report BPGs. However, the existing literature does not consider the possibility, presented in H5, that the FDIC strategically chooses to strengthen acquiring firms through indemnification agreements and a favorable acquisition price. This sample selection bias is particularly relevant for Dunn et al. (2016) which uses an all-FDIC sample. To control for potential FDIC strategic bias, a Heckman two-stage selection model is adopted in our paper. In the first stage, we control for the probability that a firm would be selected by the FDIC as an acquirer. We include acquiring firms' operating measures in past years and expect that weakening firms are more likely to be directed by the FDIC in an acquisition. In the second stage, we include the inverse mills ratio as a control and regress our baseline model using the FDIC subsample. After controlling for the FDIC selection, we wish to examine if the negative relation between declining earnings measures and BPGs is still valid.

Stage 1:

$$Prob(FDIC_{i,t})=\beta_0 + \beta_1 AcqSize_{i,t-1}+ \beta_2 AcqTobin_{i,t-1}+ \beta_3 AcqRet_{i,t-1}+ \beta_4 AcqROA_{i,t-1} + \beta_5 TarSize_{i,t-1}+\beta_6 TarROA_{i,t-1}+\beta_7 Payment_{i,t-1}+Year\ Fixed\ Effect+\varepsilon_{i,t} \quad (5)$$

Stage 2:

$$AcqBPG_{i,t}=\beta_0 + \beta_1 AcqROABB_{i,t}+ \beta_2 \Delta AcqROABB_{i,t} +\beta_3 AcqSize_{i,t-1}+ \beta_4 AcqAltman_{i,t-1} + \beta_5 TarSize_{i,t-1} +\beta_6 TarROA_{i,t-1}+\beta_7 RelSize_{i,t-1}+\beta_8 Payment_{i,t}+\beta_9 IMR_{i,t} +Year\ Fixed\ Effect+\varepsilon_{i,t} \quad (6)$$

In our last hypothesis, we try to separate BPGs into a value relevant component and an unvalued (discretionary) component. We hypothesize that the unvalued component is more likely to be used for earnings management and to be associated with a negative earnings trend. To

identify the value relevant component of reported BPGs, we regress them on the abnormal return (Beaver, Lambert, Morse 1980) and the control variables associated with BPG. Then we calculate the residual from the first stage as the unvalued or discretionary component, and replace the residual as the dependent variable in model (1).

Stage 1:

$$AcqBPG_{i,t}=\beta_0 + \beta_1 CAR_{i,t}+ \beta_2 TarSize_{i,t-1} +\beta_3 TarROA_{i,t-1} +\beta_4 Payment_{i,t} + Year\ FE + \varepsilon_{i,t} \quad (7)$$

Stage 2:

$$\begin{aligned} Residual_{i,t}=\beta_0 &+ \beta_1 AcqROABB_{i,t}+\beta_2 \Delta AcqROABB_{i,t}+\beta_3 NonFDIC_{i,t} \\ &+\beta_4 NonFDIC_{i,t}*AcqROABB_{i,t}+\beta_5 NonFDIC_{i,t}*\Delta AcqROABB_{i,t} \\ &+\beta_6 AcqSize_{i,t-1}+ \beta_7 AcqAltman_{i,t-1} + \beta_8 TarSize_{i,t-1} +\beta_9 TarROA_{i,t-1} \\ &+\beta_{10} RelSize_{i,t-1}+\beta_{11} Payment_{i,t} + Year\ Fixed\ Effect+\varepsilon_{i,t} \end{aligned} \quad (8)$$

To better interpret our result, we create an indicator variable, NonFDIC, which equals one if this acquisition is not assisted by the FDIC. We predict that the coefficients on AcqROABB and ΔAcqROABB lose their significance, and the coefficients on interactions terms with NonFDIC become negative and significant, indicating that the unvalued component is used to boost earnings only in non-FDIC acquisitions.

5. Data Description and Some Univariate Relations

The revised FASB ASC 805 became effective for acquisitions completed during annual reporting periods that begin on or after December 15, 2008. Our sample comprises all bargain purchase acquisitions completed between December 15, 2008 and December 31, 2012 in the financial industry. We use I-Metrix by Edgar Online to search for the keywords “bargain purchase”, “gain from acquisition”, or “gain on acquisition” to identify Form 10-k reporting bargain purchase

acquisitions. The sample consists of 201 bargain purchase acquisitions in the financial industry. We read disclosure notes for acquisitions in each Form 10-k and hand collect deal characteristics including the announcement date of acquisition completion, the amount of BPGs realized, the fair value estimates of assets acquired and liabilities assumed, and the purchase consideration paid. We collect acquiring firms' stock and financial data from The Center for Research in Security Prices (CRSP) and Compustat. Additional financial data of targets are obtained from Compustat or PrivCo.

Table 1, Panel A reports the sample selection and Panel B reports the distribution of bargain purchase acquisitions by industry. Acquisitions in the financial industry, where the use of fair value accounting is much more prevalent than other industries, takes the largest proportion. Depository institutions, non-depository institutions, insurance carriers, holding and other investment offices, real estate, and security and commodity brokers (SIC codes 60, 61, 62, 63, 65, and 67) make up around 54.48% of the total sample. Our paper covers 201 bargain purchase transactions, covering SIC codes 60-67 of which 160 transactions are FDIC-insured financial institutions (SIC code 60) and 75% of the targets are Private firms (PrivCo data). Panel C describes the distribution of bargain purchase acquisitions in the financial industry by calendar year. The occurrence of bargain purchase acquisitions is spread evenly over the sample period after 2008, with a slightly higher concentration in 2010 (32.84%)[13].

<Insert Table 1>

To construct a control group, we collect data on goodwill acquisitions from Thomson's SDC Platinum database. We match each deal to a bargain purchase acquisition using acquiring

[13] There are 12 bargain purchase transactions are in Insurance Carrier (SIC code 63) and Real Estate (SIC code 65). Excluding those observations from our sample does not influence our test results.

firm's size, SIC code, and acquisition year, and include stock and financial data from CRSP and Composted. Our requirements yield a control sample of 201 goodwill acquisitions.

Table 2 shows the acquiring firm, target, and deal characteristics for bargain purchase acquisitions and goodwill acquisitions. All continuous variables are winsorized at the top and bottom 1%. Panel C reveals several notable differences between two groups. For bargain purchase acquisitions, the mean BPGs recognized by acquiring firms is 1.17% of total assets, and the median is 0.29%. For goodwill acquisitions, this variable is denoted as zero for all observations.

We expect that weaker acquiring firms report larger BPGs. Not surprisingly, the mean (median) income before interests, taxes and BPGs deflated by total assets, AcqROABB, equals 0.0057 (0.0136) for BPG group and 0.0283 (0.0225) for GDWL group. ΔAcqROABB is denoted as the change in AcqROABB from the current year to previous year. The mean (median) ΔAcqROABB is 0.0023 (0.0014) for BPG group, and 0.0075 (0.0036) for GDWL group. We find that BPG firms' average income with BPGs included (0.0180), Acerola, is slightly lower that GDWL firms' income (0.0283). However, without the effect of BPGs, the difference between BPG group and GDWL group in earnings performance is more significantly pronounced. Following Chieng (2013), we also calculate acquiring firms' Altman z-score for financial institutions. This variable is lower for BPG group, indicating a higher probability of bankruptcy. In summary, the univariate comparisons suggest strongly that ex-ante weaker firms are associated with BPG transactions.

A possible explanation for the occurrence of bargain purchase acquisitions is that the target is in a very poor financial state, hence a relatively low purchase price is paid for it. In our test, we include target firms' characteristics in the year preceding the acquisition as controls variables. The mean (median) TarROA is -0.1435 (-0.0447) for targets in bargain purchase acquisitions, and -

0.0455 (0.0007) for goodwill acquisitions. Not surprisingly, the targets' profitability is lower and target size is smaller in BP acquisitions, but the difference across the two groups is not significant.

Next, we provide information on deal characteristics. FDIC is an indicator set equal to one for acquisitions directed by the FDIC. Around 68.21% of bargain purchase acquisitions are assisted by the FDIC, while only 17.86% of goodwill acquisitions are directed by the FDIC. This is a notable difference that raises our concern about the FDIC's role in such acquisitions, and later will be analyzed in detail. Panel C shows that the fair value estimate of loans acquired represents a significant portion of total assets acquired both for bargain purchase acquisitions (50.36%) and goodwill acquisitions (48.50%). Notably, FDIC receivables take 10.56% of total assets acquired in bargain purchase acquisitions and make up a lower proportion in goodwill acquisitions (2.52%), as most acquiring firms in bargain purchase acquisitions receive indemnification on loan losses from the FDIC. Panel C also shows that only 28.90% of acquiring firms in bargain purchase acquisitions pay cash, while the proportion is 70.30% for goodwill acquisitions. This finding is consistent with the fact that most BPG acquirers receive cash and indemnification assets from the FDIC instead of paying cash because of the poor financial condition of failed targets.

In Panel D, we compare all FDIC and non-FDIC acquisitions while we restrict the comparison to bargain purchase acquisitions in Panel E. In Panel D, we observe that 79.86% of FDIC acquisitions result in reported BPG's, compared to only 28.72% in non-FDIC groups. In contrast, Panel E shows that the average gain recognized in FDIC bargain purchase acquisitions (0.69% of total assets) is much lower than that in non-FDIC bargain purchase acquisitions (2.26% of total assets). To better understand the FDIC's role, we analyze the probability of BPG recognition and the amount of BPG reported separately (in Table 4). Table 2, Panel F shows that

as documented in earlier studies, AcqBPG is negatively correlated with AcqROABB and ΔAcqROABB.

<Insert Table 2>

6. Empirical Results

6.1 The association between BPGs and earnings measures

Following Haw, Jung, and Lilien (1991) on the relation between earnings trends and pension terminations, we examine the time-series trend of earnings performance of BPG firms with the firms reporting goodwill acquisitions. Table 3 presents the mean and median values of acquiring firms' income deflated by total assets in prior year (AcqROA) and change in income deflated by total assets in prior year (ΔAcqROA) over the years from t=-3 through t=+3 (t=0 if the acquisition year). The z-statistic represents Wilcoxon singed ranks z-value for the change in earning variable between the current and the preceding year. Panel A shows that, for acquiring firms in the BPG group, the median AcqROA increases steadily from year -3 to year +1. However, if the effect of BPG in acquisition year is excluded, the median AcqROA drops from 0.0181 in the preceding year to 0.0126. The Wilcoxon signed ranks z-value of -2.120 shows that the sudden drop is significant at 5% level. By including BPGs, acquiring firms avoid the earnings drop in year 0, and the AcqROA in year +1 (0.0197) is close to year 0's level. For firms recognizing goodwill in acquisitions, we do not observe significant earnings decrease in the acquisition year compared to the preceding year.

The analysis of earnings change presents a similar result in Panel B. For acquiring firms in BPG group, earnings change is slightly negative in year -1. In the acquisition year, earnings change continues to be negative if BPG is excluded, but turns positive because BPG is recognized within

income. We observe that firms avoid small earnings decrease when they report a bargain purchase acquisition. On the contrary, acquiring firms in goodwill acquisitions consistently show earnings increase from year -3 to year +3.

<Insert Table 3>

Following Hand (1989), we plot the time-series of earnings levels and earnings changes from year -3 to year +3. Figure 1 presents the time series of average AcqROA versus AcqROABB for all acquisitions in our sample, and Figure 2 graphs the time-series of 25th, 50th, and 75th percentiles of AcqROA versus AcqROABB only for bargain purchase acquisitions. AcqROA is denoted by solid line, whereas AcqROABB is denoted by dotted line.

<Insert Figures 1 and 2>

Figure 1 and Figure 2 seem to suggest that acquiring managers use the amount of BPGs reported to smooth an unexpected and transitory decrease in the time-series of earnings. Acquiring firms' income (AcqROA) exhibits a transitory decrease in the transaction year provided the BPGs are excluded (AcqROABB) but not if BPGs are included. For comparison, the earnings trendline of acquiring firms in GDWL group is also plotted in Figure 1. We find that GDWL firms' earnings performance is stronger in years before the acquisition, and then is slightly decreasing. On the surface, these findings seem to provide evidence that acquiring firms are utilizing the recognition of BPGs to strengthen their reported earnings performance. However, the figure also shows that BPG firms' income is growing and getting closer to GDWL firms' income after the acquisition year suggesting an opposite finding that at least some BPG firms improved due to the acquisition.

Figure 3 and Figure 4 graphs the time-series comparison of ΔAcqROA versus ΔAcqROABB over a seven-year period centered on the acquisition year. In Figure 3, there is small

earnings decrease in year 0 before the effect of BPGs, but the change becomes positive after BPGs are recorded. We observe the same phenomenon for the median change in earnings in Figure 4. The comparison of each percentile confirms the finding that acquiring firms' earnings fall below prior year's level if BPGs are excluded, but remain on a stable and increasing trend if BPGs are recognized.

<Insert Figures 3 and 4>

We then use multivariate regressions to investigate the relationship between BPGs and negative earnings trend. Table 4, Panel A shows Tobit results of model (1) in our full sample (including BPG and GDWL acquisitions). Consistent with H1, a censored regression shows that the coefficient on $AcqROABB_{i,t}$ is statistically negative and significant (Tobit: -0.0841, P<0.01), indicating that BPGs are larger when earnings are lower prior to the inclusion of the BPG. In regression (2), we add various control variables to the regression but BPG remains significantly negatively related to AcqROABB (Tobit: -0.4368, P<0.01).

The acquiring firms' size (AcqSize) and the positive coefficient on acquiring firms' Altman z-score (AcqAltman) provide evidence that smaller and weaker acquiring firms recognize larger amount of BPGs. The estimated coefficient on TarROA is insignificant across all the regressions, showing that the targets' financial distress is not a significant factor in the recognition of BPGs. Then we split our sample into positive and negative earnings subsamples, and run censored regression in both groups. Regression (3) and (4) show that the coefficient on AcqROABB turns insignificant (-0.0744, P>0.1) in the positive subsample but is consistently significant and negative for loss firms.

In Table 4, Panel B, we repeat the analysis in Panel A but with earnings changes instead of levels. Again, the coefficient on ΔAcqROABB is negative and significant at 1% level (Tobit: -

0.2731, P<0.01) showing that larger BPGs are recognized when the changes in AcqROABB are lower. We also find that BPGs are larger when acquiring firms are smaller and targets are larger. Other variables including AcqAltman, TarROA, Relsize, and Payment do not provide additional explanatory power. Panel B also reveals the censored regression results of model (2) for positive and negative earnings change subsamples. The coefficient on change in AcqROABB is only significantly negative (-0.5234; P<0.01) in the negative subsample, while it becomes marginally positive in the positive subsample. The results in Panel B seem to indicate that firms experiencing an earnings decline before the effect of BPGs report larger BPGs to reverse the earnings decline.

<Insert Table 4>

6.2 FDIC and BPG recognition

In both Panels A and B of Table 4, the FDIC dummy is significantly positive suggesting that FDIC involvement raises BPG's. However, as shown by the univariate analysis, FDIC assisted acquisitions report lower average BPGs. Table 4, Panel C clarifies the seeming discord in these findings between the FDIC presence and BPG recognitions. As we hypothesize in H2, the coefficient on FDIC dummy variable in model (3) is 2.0001, and is statistically significant (p<0.001). As for the control variables, the coefficient on AcqROABB is -10.6615 and insignificant breaking the link between earnings and BPG that appears in Panels A and B. The coefficient on ΔAcqROABB is -16.1062 and statistically significant at P<0.05 suggesting that there could be an earnings management effect in addition to an FDIC effect. The univariate association of lower BPG's with FDIC transactions can be reconciled with the significant positive coefficient on the FDIC dummy in (2) (0.0087, P<0.01) by the fact that acquiring firms are more likely to recognize positive BPGs in FDIC-assisted acquisitions.

6.3 Management discretion in level-3 fair value estimates with FDIC involvement

Table 5, Panel A reports the results of model (3). The coefficient on the level-3 fair value estimate of loans acquired (AcqLoan) is positive and significant at 5% level (0.0185, p-value<0.05) in the full sample. However, Panel B shows that the coefficient on AcqLoan is no longer significant in the subsample of FDIC-assisted acquisitions (0.0078, p-value>0.1), but continues to be positive and significant in the subsample of non-FDIC-assisted acquisitions (0.0355, p-value<0.05). Other level-3 fair value estimates of investments acquired and PPE acquired are also positively associated with BPGs recognized but only in the non-FDIC group. This finding is consistent with our prediction that acquiring firms in non-FDIC-assisted acquisitions have higher levels of flexibility with regard to level-3 fair value estimates.

<Insert Table 5>

6.4 Market reactions

We use an adjusted market model with a CRSP value-weighted benchmark portfolio to estimate abnormal returns over a three-day event window (-1, +1), a thirty-day event window (+1, +30), and a twelve-month event window (+1m, +12m). Table 6, Panel A presents how market reaction differs between FDIC and non-FDIC acquisitions. For FDIC-assisted bargain purchase acquisitions, the average abnormal returns over the (-1, +1), (+1, +30), and (+1m, +12m) intervals are all positive at significance level of 1%. However, for non-FDIC-assisted bargain purchase acquisitions, the return is not significantly positive over the (-1, +1), and (+1, +30) intervals, and turns negative over (+1m, +12m). This supports H4a that the market reacts positively to all FDIC-assisted acquisitions.

In Table 6, Panel B, we investigate the cumulated abnormal returns for BPG acquisitions individually. Results show that shareholders of acquiring companies benefit from bargain purchase acquisitions only if the FDIC directs those acquisitions. The cumulated abnormal returns for FDIC

BPG acquisitions are positive and significant both in the short term and in the long term, while not significantly different from zero with the absence of the FDIC.

Panel C reports the results for goodwill acquisitions. We observe that the market reaction to FDIC goodwill acquisitions is only significantly positive over the (-1, +1) window, and loses its significance in the long run. In addition, the market consistently reacts negatively to non-FDIC goodwill acquisitions but only significantly negative over the (+1m, +12m) window.

<Insert Table 6>

6.5 Heckman two-stage model and two-stage least-squares model

To further test if the association between declining operating measures and BPGs could arise entirely from FDIC involvement rather than opportunistic reporting of BPG's we use the Heckman two-stage procedure. In the first stage, we model the probability of acquiring firms to be assisted by the FDIC. In the second stage, we use the inverse Mills ratio of the probability of FDIC assistance as an independent control variable. Underlying economic factors that lead to FDIC involvement lead to larger values for the Mills ratio.

In Table 7, we find that introducing the Mills ratio makes the effect of poor earnings on BPG's become largely insignificant while the Mills ratio itself is significant and negative. This empirical result suggests that the association between BPG's and poor performance particularly in FDIC assisted transactions may be due to strategic considerations underlying FDIC involvement. The significant negative coefficient on the Mills ratio suggests that failing to adjust for the omitted factors that drive FDIC involvement biased the results in Dunn, Kohlbeck, and Smith (2016).

<Insert Table 7>

As a last test, we decompose the BPG into value relevant and value irrelevant portions using market returns (Beaver, Lambert and Morse (1980) uses the same procedure on earnings). In this approach, we use a two-stage approach where in the first stage, we regress BPG on the acquisition date CAR to identify the value relevant portion of the reported BPG. The residual is treated as a value irrelevant part. In the second stage, we use the value-irrelevant part as a measure of the portion of BPG related to earnings management. Table 8 reports that at the second stage, the coefficients on AcqROABB and ΔAcqROABB are insignificant, while the coefficient on NonFDIC*ΔAcqROABB is negative and significant at 10% (-0.0684, P<0.1). The result shows that the value irrelevant part of the BPG is related to prior losses only for non-FDIC transactions.

<Insert Table 8>

7. Additional Tests and Discussion of Results

Prior to ASC 805, in the unusual circumstance where the fair value of assets acquired exceeded the consideration paid, acquired assets had to be written-down, sometimes completely, before a gain, recorded as extraordinary, could be recognized in the acquirer's income statement. ASC 805 allowed the use of fair values (rather than forcing asset write-downs) creating a possibility for booking gains at acquisitions. In theory, instances where the consideration paid is less than the fair value of net assets acquired should be impossible in an efficient market and unlikely in any normal arms-length exchange.

However, the financial crisis starting in 2008 was a unique period when market values fell of banks fell below fair values because of lack of liquidity. Further, the need to shore up the banking system may have led the FDIC to use failing bangs to strengthen struggling banks. We find that FDIC assisted transactions involve generally accurate fair value estimates lending economic value to reported BPG's whereas the BPG's in non-FDIC acquisitions show

characteristics of earnings management. Our findings show that at least in FDIC assisted acquisitions, disclosure regulation in SFAS 141R had a favorable impact on the market as discussed in Wysocki and Leuz (2016).

As a robustness check, we examine loan loss reserves for the five years following the acquisition (Table 9). We find that reserves are decreasing significantly for FDIC assisted acquirers whereas they show no particular trend for non-FDIC acquirers. While this pattern cannot be attributed entirely to the acquired loans, a possible inference is that firms interacting with the FDIC made more conservative loan loss provisions around the time of the acquisition as compared with non-FDIC assisted acquirers.

<Insert Table 9>

8. Conclusions

Earlier studies have documented that discretion with regard to Level-3 valuations is used by management to smooth a declining earnings trend, and, in particular, that day one bargain purchase gains (BPG's) are a powerful tool for disguising earnings declines. In contrast to prior literature, we provide evidence that the relation between negative earnings trends and BPGs may arise from FDIC strategies to shore up the banking industry. We document that 68.21% of the bargain purchase acquisitions in our sample are FDIC-assisted transactions accompanied by indemnifications of loans and receivables. For these transactions, we argue that regulatory scrutiny and contractual arrangements create incentives to report accurate fair values. Consequently, the BPG's reported in these transactions generate significant cumulative abnormal returns (CAR) and long-term value for the acquirer. However, there is no CAR associated with non-FDIC transactions suggesting that earnings management rather than economic value may drive BPGs in transactions that do not involve the FDIC.

To analyze the effects of FDIC's role in greater detail, we use a Heckman two-stage approach where the first stage models the probability of FDIC involvement. After adjusting for selection bias related to FDIC involvement, we find little evidence of deliberate earnings management in terms of a negative association between BPG's and low acquirer performance for FDIC assisted acquisitions but the association persists in non-FDIC acquisitions. We also use the market reaction (and other factors) to decompose the BPG into a value relevant and a value irrelevant component. We find that the value irrelevant part is associated with negative pre-BPG earnings only for the non-FDIC BPG acquisitions.

In conclusion, our research provides new insights regarding fair value estimates by looking at differences across BPG and Goodwill acquisitions as well as across FDIC-assisted and non-FDIC-assisted transactions. We find that firms can provide timely and valuable estimates under FDIC monitoring and properly structured contractual arrangements. However, in non-FDIC transactions where these features are absent, the incentive structure results in managerial opportunism as argued in prior research.

Appendix A: A FDIC-assisted Bargain Purchase Acquisition

The Business Combination Disclosure in First Bancorp (FBNC) 10-K Annual Report for the Fiscal Year Ending December 31, 2009

($ in thousands)	As Recorded by Cooperative Bank	Fair Value Adjustments	As Recorded by the Company
Assets			
Cash and cash equivalents	$ 66,096	–	66,096
Securities	40,189	–	40,189
Presold mortgages	3,249	–	3,249
Loans	828,958	(227,854) (a)	601,104
Core deposit intangible	–	3,798 (b)	3,798
FDIC loss share receivable	–	185,112 (c)	185,112
Foreclosed properties	15,993	(3,534) (d)	12,459
Other assets	4,178	(137) (e)	4,041
Total	958,663	(42,615)	916,048
Liabilities			
Deposits	$ 706,139	5,922 (f)	712,061
Borrowings	153,056	6,409 (g)	159,465
Other	2,227	160 (e)	2,387
Total	861,422	12,491	873,913
Excess of assets received over liabilities	97,241	(55,106)	42,135
Less: Asset discount	(123,000)		
Cash received from FDIC at closing	25,759		25,759
Total gain recorded			$ 67,894

Explanation of Fair Value Adjustments

(f) This estimated fair value adjustment was recorded because the weighted average interest rate of Cooperative Bank's time deposits exceeded the cost of similar wholesale funding at the time of the acquisition. This amount will be amortized to reduce interest expense on a declining basis over the average life of the portfolio of approximately 15 months.

(g) This estimated fair value adjustment was recorded because the interest rates of Cooperative Bank's fixed rate borrowings exceeded current interest rates on similar borrowings. This amount was realized shortly after the acquisition by prepaying the borrowings at a premium, and thus there will be no future amortization related to this adjustment.

Appendix C. Variable Definitions

AcqBPG	Acquirer's bargain purchase gains scaled by total assets for year t-1.
AcqROABB	Acquirer's income before interests, taxes and bargain purchase gains scaled by total assets for year t-1.
ΔAcqROABB	Acquirer's change in income before interests, taxes and bargain purchase gains scaled by total assets for year t-1.
AcqROA	Acquirer's income before interests, taxes scaled by total assets for year t-1.
AcqSize	Natural logarithm of acquirer's total assets for year t-1.
AcqAltman	Acquirer's altman z-score for year t-1.
AcqTobin	Acquirer's robin's q ratio for year t-1.
Accrete	Acquirer's stock return for year t-1.
TarSize	Natural logarithm of target's total assets for year t-1.
TarROA	Target's income before interests and taxes scaled by total assets for year t-1.
FDIC	Indicator variable equal to one if the acquisition is assisted by the FDIC, and zero otherwise.
NonFDIC	Indicator variable equal to one if the acquisition is not assisted by the FDIC, and zero otherwise.
AcqFDIC	The level-3 fair value estimate of FDIC indemnification assets acquired over the total assets acquired.
AcqLoan	The level-3 fair value estimate of loans acquired over the total assets acquired.
AcqInv	The fair value estimate of investments acquired over the total assets acquired.
AcqOREO	The fair value estimate of other real estate owned acquired over the total assets acquired.
AcqPPE	The fair value estimate of property, plant, and equipment acquired over the total assets acquired.
AcqOa	The fair value estimate of other assets acquired over the total assets acquired.
RelSize	The ratio of target's total assets to acquirer's total assets for year t-1.
Payment	Indicator variable equal to one if cash is paid, and zero otherwise.
CAR	Cumulative abnormal return surrounding an acquirer's announcement of completion.

References

Ahmed, A.S., Takeda, C., Thomas, S., 1999. Bank loan loss provisions: a reexamination of capital management, earnings management and signaling effects. Journal of Accounting and Economics 28 (1), 1-25.

Anandarajan, A., Hasan, I., McCarthy, C., 2007. Use of loan loss provisions for capital, earnings management and signaling by Australian bank. Accounting & Finance 47, 357-379.

Barth, M.E., Beaver, W.H., Landsman, W.R., 1996. Value-relevance of banks' fair value disclosures under SFAS no. 107. The Accounting Review 71 (4), 513-537.

Barth, M.E., Gomez-Bizarre, J., Kasznik, Ron., Lopez-Espinosa, German., 2015. Fair value accounting, earnings management and the use of available-for-sale instruments by bank managers. Working paper, Stanford University.

Beatty, A., Chamberlain, S.L., Magliolo, J., 1995. Managing financial reports of commercial banks: the influence of taxes, regulatory capital, and earnings. Journal of Accounting Research 33 (2), 231-261.

Beatty, A.L., Ke, B., Petroni, K.R., 2002. Earnings management to avoid earnings declines across publicly and privately held banks. The Accounting Review 77 (3), 547-570.

Beatty, A.L., Liao, S., 2014. Financial accounting in the banking industry: A review of the empirical literature. Journal of Accounting and Economics 58 (2), 339-383.

Beaver. W, R. Lambert and D. Morse, 1980. The information content of security prices. Journal of Accounting and Economics 2 (1), 3-28.

Burgstahler, D., Dichev, I., 1997. Earnings management to avoid earnings decreases and losses. Journal of Accounting and Economics 24 (1), 99-126.

Carroll, T.J., Linsmeier, T.J., Petroni, K.R., 2003. The reliability of fair value versus historical cost information: evidence from closed-end mutual funds. Journal of Accounting, Auditing & Finance 18 (1), 1-24.

Chieng, J. R., 2013. Verifying the Validity of Altman's Z-score as a Predictor of Bank Failures in the Case of the Eurozone. Submitted to the National College of Ireland.

Collins, J.H., Shackelford, D.A., Wahlen, J.M.,1995. Bank differences in the coordination of regulatory capital, earnings, and taxes. Journal of Accounting Research 33 (2), 263-291.

Danbolt, J., Rees, W., 2008. An experiment in fair value accounting: UK investment vehicles. European Accounting Review 17(2), 271-303.

Dechow, P.M., Tourers, L.A., Shakespeare, C., 2010. Fair value accounting and gains from asset securitizations: a convenient earnings management tool with compensation side-benefits. Journal of Accounting and Economics 49, 2-25.

Deskin JS, Patell J.M, Wolfson MA., 1984. Decentralized choice of monitoring systems. Accounting Review. 1984, Jan 1:16-34.

Dunn, K., Kohlbeck, M., Smith, T., 2016. Bargain purchase gains in the acquisition of failed banks. Journal of Accounting, Auditing and Finance 31, 388-412.

Hand, J. R. M., 1989. Did firms undertake debt-equity swaps for an accounting paper profit or true financial gain? The Accounting Review 64 (4), 587-623.

Haw, I.H., Jung, K., Lilien, S.B., 1991. Overfunded defined benefit pension plan settlements without asset reversions. Journal of Accounting and Economics 14 (3), 295-320.

Hayward, M. L. A., Hambrick, D. C., 1997. Explaining the premiums paid for large acquisitions: evidence of CEO hubris. Administrative Science Quarterly 42(1), 103-128.

Healy, P.M., 1985. The effect of bonus schemes on accounting decisions. Journal of Accounting and Economics 7, 85–107.

Huizinga, H., Laeven, L., 2012. Bank valuation and accounting discretion during a financial crisis. Journal of Financial Economics 106, 614-634.

Kanagaretnam, K., Lobo, G.J., Yang, D., 2004. Joint tests pf signaling and income smoothing through bank loan loss provisions. Contemporary Accounting Research 21, 843-884.

Kilic, E., Lobo, G., Ranasinghe, T., Sivaramakrishnan, K., 2013. The impact of SAFS 133 on income smoothing by banks through loan loss provisions. The Accounting Review 88 (1), 233-260.

Kirkpatrick, G., 2009. The corporate governance lessons from the financial crisis. OECD Journal: Financial Market Trends, Vol 2009 (1): 61-87.

Kolev, K., 2008. Do investors perceive marking-to-model as marking-to-myth? Early evidence from FAS 157 disclosure. Working paper, Yale School of Management.

Leuz, C., Wysocki, P., 2015. The economics of disclosure and financial reporting regulation: evidence and suggestions for future research. Working paper.

Liao, L., H. Kang, R. Morris, and Q. Tang. 2010. Information asymmetry of fair value accounting and loan loss provisions during the global financial crisis. Working Paper, University of New South Wales.

Lilien, S., Sarath, B., Schrader, R., 2013. Normal turbulence or perfect storm? Disparity in fair value estimates. Journal of Accounting, Auditing & Finance 28(2), 192-211.

Marra, A., 2016. The pros and cons of fair value accounting in a globalized economy: a never-ending debate. Journal of Accounting, Auditing & Finance 31 (4), 582-591.

Martin, R.D., Rich, J.S., Wilks, T.J., 2006. Auditing fair value measurement: a synthesis of relevant research. Accounting Horizons 20 (3), 287-303.

Moeller, S.B., Schingemann, F.P., Stulz, R.M., 2004. Firm size and the gains from acquisitions. Journal of Financial Economics 73, 201-228.

Moyer, S.E., 1990. Capital adequacy ratio regulations and accounting choices in commercial banks. Journal of Accounting and Economics 13, 123-154.

Nelson, K., 1996. Fair value accounting for commercial banks: An empirical analysis of SFAS no.107. The Accounting Review 71, 161–182.

Riedl, E., Serafeim, G., 2011. Information risk and fair values: an examination of equity betas. Journal of Accounting Research 49, 1083–1122.

Roll, R., The Hubris Hypothesis of Corporate Takeovers. The Journal of Business Vol. 59, No. 2, Part 1 (Apr., 1986), pp. 197-216.

Ronen, J., 2008. To fair value or not to fair value: a broader perspective. Abacus 44 (2), 181-208.

Ronen J., S. Sadan., 1981 Smoothing income numbers: Objectives, means, and implications. Addison-Wesley Publishing Company; 1981.

Schrand, C.M., Wong, M.H.F., 2003. Earnings management using the valuation allowance for deferred tax assets under SFAS No. 109. Contemporary Accounting Research 20 (3), 579-611.

Shalev, R., Zhang, IX., Zhang, Y., 2013. CEO compensation and fair value accounting: evidence from purchase price allocation. Journal of Accounting Research 51 (4), 819-854.

Song, C., Thomas, W., Yi, H., 2010. Value relevance of FAS 157 fair value hierarchy information and the impact of corporate governance mechanisms. Accounting Review 85, 1375–1410.

Table 1
Sample Selection and Distribution of Bargain Purchase Acquisitions

Panel A: Sample Selection

Bargain purchase acquisitions completed between 2008 and 2012	412
Excluding non-financial industries	211
Bargain purchase acquisitions in the financial industry	201

Panel B: Distribution of Bargain Purchase Acquisitions by Industry Frequency

SIC code	SIC name	# of acquisitions	Frequency
60	Depository Institutions	160	43.36%
36	Electronic &Other Electric Equipment	21	5.69%
28	Chemical & Allied Products	15	4.07%
67	Holding & Other Investment Offices	15	4.07%
73	Business Services	15	4.07%
13	Oil & Gas Extraction	12	3.25%
35	Industrial Machinery & Equipment	11	2.98%
63	Insurance Carriers	10	2.71%
37	Transportation Equipment	8	2.17%
49	Electric, Gas, & Sanitary Services	8	2.17%
62	Security & Commodity Brokers	8	2.17%
80	Health Services	8	2.17%
33	Primary Metal Industries	7	1.90%
30	Rubber & Plastics Products	6	1.63%
61	Non-depository Institutions	6	1.63%
20	Food & Kindred Products	5	1.36%
34	Fabricated Metal Products	5	1.36%
38	Instruments & Related Products	5	1.36%
58	Eating & Drinking Places	5	1.36%
48	Communications	4	1.08%
51	Wholesale - Nondurable Goods	4	1.08%
50	Wholesale - Durable Goods	3	0.81%
87	Engineering & Management Services	3	0.81%
65	Real Estate	2	0.54%
10	Metal, Mining	2	0.54%
12	Coal Mining	2	0.54%
23	Apparel & Other Textile Products	2	0.54%
24	Lumber & Wood Products	2	0.54%
25	Furniture & Fixtures	2	0.54%
79	Amusement & Recreation Services	2	0.54%
15	General Building Contractors	1	0.27%
27	Paper & Allied Products	1	0.27%
29	Petroleum & Coal Products	1	0.27%
41	Local & Interurban Passenger Transit	1	0.27%
45	Transportation by Air	1	0.27%
54	Food Stores	1	0.27%
56	Apparel & Accessory Stores	1	0.27%
57	Furniture & Home furnishing Stores	1	0.27%
78	Motion Pictures	1	0.27%
82	Educational Services	1	0.27%
83	Social Services	1	0.27%
Total		369	100.00%

Panel C: Distribution of Bargain Purchase Acquisitions by Calendar Year in the Financial Industry

	2009	2010	2011	2012	Total
# of BPG acquisitions	42	66	51	42	201
Percent	20.90%	32.84%	25.37%	20.90%	100%

This table reports sample selection in Panel A, BPG acquisitions by industry in Panel B, sample distribution by fiscal year in Panel C.

Table 2

Descriptive Statistics in the Financial Industry

Panel A: BPG Acquisitions (AcqBPG>0)

	N	Mean	Median	Std. dev.	25%	75%
AcqBPG	201	0.0117	0.0029	0.0418	0.0007	0.0109
AcqROABB	189	0.0057	0.0136	0.0846	0.0023	0.0204
ΔAcqROABB	189	0.0023	0.0014	0.0527	-0.0101	0.0126
AcqROA	189	0.0180	0.0172	0.0722	0.0112	0.0274
AcqSize	190	8.0060	7.9475	1.3379	7.0187	8.8962
AcqAltman	191	3.5916	3.5389	0.8627	3.4523	3.6937
TarROA	119	-0.1435	-0.0447	0.7591	-0.0628	-0.0251
TarSize	175	5.8131	5.7057	1.3792	5.0281	6.4482
FDIC	175	0.6821	1.0000	0.4670	0.0000	1.0000
AcqFDIC	170	0.1055	0.0835	0.1073	0.0000	0.1915
AcqLoan	161	0.5036	0.5371	0.2384	0.4060	0.6418
AcqInv	143	0.1051	0.0652	0.1512	0.0109	0.0136
AcqOREO	147	0.0322	0.0109	0.1497	0.0000	0.0353
AcqPPE	143	0.0359	0.0000	0.1521	0.0000	0.0002
AcqOa	143	0.0129	0.0073	0.0192	0.0019	0.0132
RelSize	164	0.2975	0.0987	0.6711	0.0446	0.2463
Payment	173	0.2890	0.0000	0.4546	0.0000	1.0000

Panel B: GDWL Acquisitions Matched with BPG Acquisitions (AcqBPG=0)

	N	Mean	Median	Std. dev.	25%	75%
AcqBPG	201	0.0000	0.0000	0.0000	0.0000	0.0000
AcqROABB	186	0.0283	0.0225	0.0305	0.0162	0.0293
ΔAcqROABB	186	0.0075	0.0036	0.0142	0.0011	0.0106
AcqROA	186	0.0283	0.0225	0.0305	0.0162	0.0293
AcqSize	186	8.2500	8.0797	1.3537	7.2419	9.0848
AcqAltman	186	4.0050	3.6141	1.7198	3.4789	3.7359
TarROA	118	-0.0455	0.0007	1.0413	-0.0349	0.0096
TarSize	164	5.8591	5.9258	1.9647	4.8720	6.8921
FDIC	169	0.1786	0.0000	0.3841	0.0000	0.0000
AcqFDIC	167	0.0299	0.0000	0.0721	0.0000	0.0000
AcqLoan	160	0.4850	0.5521	0.2669	0.3391	0.6665
AcqInv	134	0.1066	0.0729	0.1217	0.0000	0.1778
AcqOREO	132	0.0062	0.0000	0.0154	0.0000	0.0037
AcqPPE	134	0.0361	0.0061	0.1339	0.0000	0.0193
AcqOa	134	0.0212	0.0103	0.0241	0.0024	0.0373
Relsize	158	0.4109	0.1122	1.2233	0.0434	0.2898
Payment	165	0.7030	1.0000	0.4583	0.0000	1.0000

Panel D: FDIC-assisted and Non-FDIC-assisted Acquisitions

	FDIC-assisted Acquisition		Non-FDIC-assisted Acquisition	
	FDIC BPG	FDIC GDWL	Non-FDIC BPG	Non-FDIC GDWL
Number of Observations	119	30	56	139
AcqBPG	0.0069	0.0000	0.0226	0.0000
AcqROABB	0.0084	0.0119	0.0136	0.0327
ΔAcqROABB	0.0014	0.0074	0.0006	0.0078
AcqROA	0.0156	0.0119	0.0379	0.0327
AcqSize	8.1857	8.6368	7.7169	8.1900
AcqAltman	3.5445	3.4731	3.7773	4.6969
TarROA	-0.1161	-0.0414	-0.3233	-0.0473
TarSize	5.8077	6.5116	5.8154	5.7126
FDIC	1.0000	1.0000	0.0000	0.0000
AcqFDIC	0.1541	0.1569	0.0000	0.0000
AcqLoan	0.5380	0.5166	0.4937	0.4909
AcqInv	0.0819	0.0921	0.1527	0.1102
AcqOa	0.0095	0.0101	0.0195	0.0241
AcqOREO	0.0452	0.0222	0.0047	0.0021
AcqPPE	0.0004	0.0031	0.1085	0.0444
RelSize	0.1735	0.2307	0.5520	0.4542
Payment	0.2521	0.6207	0.7692	0.8030

Panel E: Mean differences across FDIC BPG and Non-FDIC BPG acquisitions

	FDIC BPG	Non-FDIC BPG	Difference
AcqBPG	0.0069	0.0226	**(-0.0157**)**
AcqROABB	0.0084	0.0136	(-0.0052)
ΔAcqROABB	0.0014	0.0006	0.0008
AcqROA	0.0156	0.0379	**(-0.0223***)**
AcqSize	8.1857	7.7169	**0.4688****
AcqAltman	3.5445	3.7773	**(-0.2328**)**
TarROA	-0.1161	-0.3233	0.2072
TarSize	5.8077	5.8154	-0.0077
FDIC	1.0000	0.0000	**1.0000****
AcqFDIC	0.1541	0.0000	**0.1541****
AcqLoan	0.5380	0.4937	**0.0443****
AcqInv	0.0819	0.1527	**(-0.0708***)**
AcqOREO	0.0095	0.0195	-0.0100
AcqPPE	0.0452	0.0047	**0.0405****
AcqOa	0.0004	0.1085	**(-0.1081***)**
Relsize	0.1735	0.5520	**(-0.3785***)**
Payment	0.2521	0.7692	**(-0.5171***)**

Panel E: Mean differences across FDIC BPG and Non-FDIC BPG acquisitions

	FDIC BPG	Non-FDIC BPG	Difference
AcqBPG	0.0069	0.0226	**-0.0157****
AcqROABB	0.0084	0.0136	-0.0052
ΔAcqROABB	0.0014	0.0006	0.0008
AcqROA	0.0156	0.0379	**-0.0223*****
AcqSize	8.1857	7.7169	**0.4688****
AcqAltman	3.5445	3.7773	**-0.2328****
TarROA	-0.1161	-0.3233	0.2072
TarSize	5.8077	5.8154	-0.0077
FDIC	1.0000	0.0000	**1.0000*****
AcqFDIC	0.1541	0.0000	**0.1541*****
AcqLoan	0.5380	0.4937	**0.0443*****
AcqInv	0.0819	0.1527	**-0.0708*****
AcqOREO	0.0095	0.0195	-0.0100
AcqPPE	0.0452	0.0047	**0.0405*****
AcqOa	0.0004	0.1085	**-0.1081*****
Relsize	0.1735	0.5520	**-0.3785*****
Payment	0.2521	0.7692	**-0.5171*****

Panel F: Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
AcqBPG (1)		**-0.52**	**-0.35**	-0.21	-0.20	-0.25	**-0.39**	-0.18	**0.62**	**0.47**	0.02	-0.02	**0.46**	**-0.47**	-0.09	0.06	**-0.46**
AcqROABB (2)	**-0.51**		**0.44**	**0.64**	0.22	**0.35**	**0.38**	0.10	**-0.43**	**-0.34**	-0.27	0.03	**-0.32**	**0.31**	0.08	-0.12	**0.32**
ΔAcqROABB (3)	**-0.55**	**0.22**		-0.17	0.07	-0.05	0.11	0.08	-0.12	-0.02	-0.16	-0.03	-0.03	0.09	-0.10	-0.05	0.17
AcqROA (4)	-0.04	**0.88**	-0.04		0.11	**0.48**	0.27	0.00	**-0.35**	-0.30	-0.26	0.08	-0.33	0.24	0.12	-0.08	0.21
AcqSize (5)	**-0.27**	**0.13**	0.04	0.01		-0.08	0.04	**0.46**	0.01	0.07	-0.06	0.09	0.00	-0.03	0.14	**-0.37**	-0.08
AcqAltman (6)	**-0.11**	**0.51**	0.07	**0.53**	-0.08		0.25	0.03	-0.30	-0.29	-0.22	-0.02	-0.24	**0.33**	-0.08	0.06	0.26
TarROA (7)	0.02	**0.18**	0.05	**0.20**	0.04	**0.21**		0.14	**-0.52**	**-0.48**	0.04	0.03	**-0.36**	**0.33**	0.14	0.08	**0.39**
TarSize (8)	0.01	-0.02	-0.01	0.00	**0.40**	-0.07	**0.13**		-0.16	-0.10	0.07	0.17	-0.16	0.24	0.17	0.58	0.07
FDIC (9)	-0.02	**-0.19**	-0.04	**-0.30**	0.08	**-0.13**	-0.01	0.06		**0.83**	-0.03	-0.05	**0.62**	-0.60	-0.17	-0.13	-0.60
AcqFDIC (10)	-0.03	**-0.14**	-0.01	**-0.24**	0.14	-0.14	-0.06	0.05	**0.77**		-0.14	0.00	**0.62**	**-0.53**	-0.16	-0.13	-0.43
AcqLoan (11)	-0.02	**-0.17**	-0.07	**-0.28**	0.06	**-0.28**	-0.04	**0.14**	**0.15**	0.05		0.03	-0.05	-0.01	0.16	0.13	0.06
AcqInv (12)	0.08	0.02	-0.02	0.10	0.09	0.01	0.00	**0.17**	-0.14	-0.11	-0.13		0.07	0.07	**0.32**	0.14	0.16
AcqOREO (13)	-0.02	-0.03	-0.02	-0.06	0.09	-0.04	0.00	0.07	**0.17**	0.15	0.01	-0.03		**0.41**	-0.13	-0.16	**-0.33**
AcqPPE (14)	0.02	0.14	-0.01	**0.23**	-0.10	**0.30**	0.02	-0.08	**-0.22**	**-0.17**	**-0.39**	**-0.15**	-0.14		0.15	0.22	**0.50**
AcqOa (15)	-0.05	0.04	-0.03	0.01	**0.18**	-0.05	0.04	**0.17**	**-0.29**	**-0.26**	0.15	**0.15**	-0.13	-0.04		0.11	0.23
RelSize (16)	**0.31**	**-0.16**	**-0.14**	**0.09**	**-0.20**	0.07	0.03	**0.41**	**-0.15**	-0.13	0.00	-0.05	-0.03	-0.04	-0.05		0.12
Payment (17)	0.01	**0.16**	0.08	**0.25**	-0.01	**0.14**	-0.01	-0.06	**-0.65**	**-0.45**	-0.09	0.14	**-0.11**	0.13	**0.22**	0.03	

This table reports summary statistics for main variables for BPG acquisitions in Panel A, for GDWL acquisitions in Panel B, the differences in the means between BPG and GDWL acquisitions in Panel C, summary statistics for FDIC and non-FDIC acquisitions in Panel D, the differences in the means between FDIC BPG acquisitions and non-FDIC BPG acquisitions in Panel E. *, ** and *** denote significance based on two-tailed t-test at or below the 10%, 5%, and 1% level, respectively. Panel E reports Person (lower left) and Spearman (upper right) correlations among main variables. Bolded figures indicate significant level less than 1%.

Table 3

Time-series Analysis of Earnings Variables for BPG Firms versus GDWL Firms

Panel A: Time-series Analysis of AcqROA

		Relative years to acquisition (year 0)							
Sample		-3	-2	-1	0a	0b	1	2	3
BPG	Mean	0.0191	0.0178	0.011	0.0171	0.0012	0.021	0.0195	0.0153
Firms	Median	0.0139	0.0156	0.0152	0.0181	0.0126	0.0197	0.0194	0.0165
	z-value		1.55	-0.661	3.264***	(-2.12**)	1.442	-1.392	(-3.702***)
	N	139	139	146	153	153	150	151	147
GDWL	Mean	0.0376	0.0324	0.0342	0.0358		0.0229	0.0235	0.0198
Firms	Median	0.0197	0.0196	0.022	0.0229		0.01965	0.01859	0
	z-value		0.541	2.119**	1.796*		(-2.993**)	(-1.708*)	(-3.344***)
	N	126	131	133	146		135	130	126

Panel B: Time-series Analysis of ΔAcqROA

		Relative years to acquisition (year 0)							
Sample		-3	-2	-1	0a	0b	1	2	3
BPG	Mean	-0.0001	0.0016	-0.0037	0.0133	-0.0023	0.0037	0.0002	-0.0022
Firms	Median	0	0	-0.0001	0.0039	-0.0004	0.0044	0.0006	0
	z-value		0.838	-0.146	4.742***	-1.049	0.287	(-3.963***)	-1.634
	N	133	139	146	150	150	153	151	147
GDWL	Mean	0.0111	0.0026	0.0058	0.0072		-0.0013	0.0016	-0.0025
Firms	Median	0.0026	0.0019	0.0033	0.0036		0.0018	0.0005	0
	z-value		-1.042	2.749**	1.584		(-2.461**)	-1.243	-1.079
	N	106	111	113	116		115	110	106

This table reports acquiring firms' earnings measures across seven years centered on the acquisition year. "a" indicates the year of acquisition when BPG is included, and "b" indicates the year of acquisition when BPG is excluded. The difference test is based on a Wilcoxon-test for equality of medians between the current and the preceding year. *, **, *** denote significance at the 1%, 5%, and 10% percent levels, respectively.

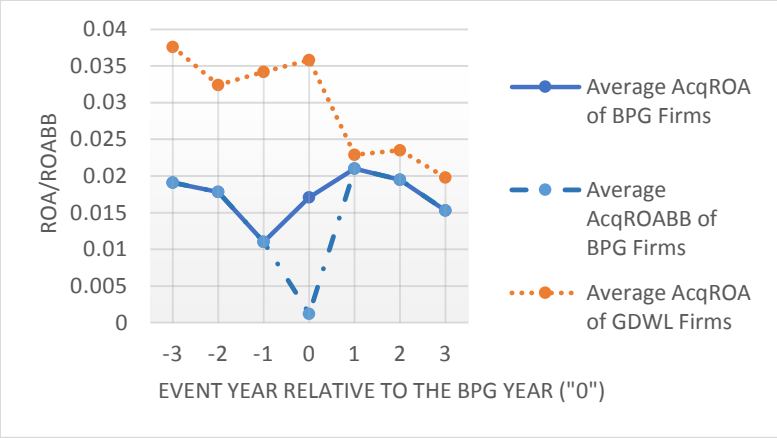

Figure 1

Time-Series Comparison in Event-Time of the Average AcqROA versus AcqROABB

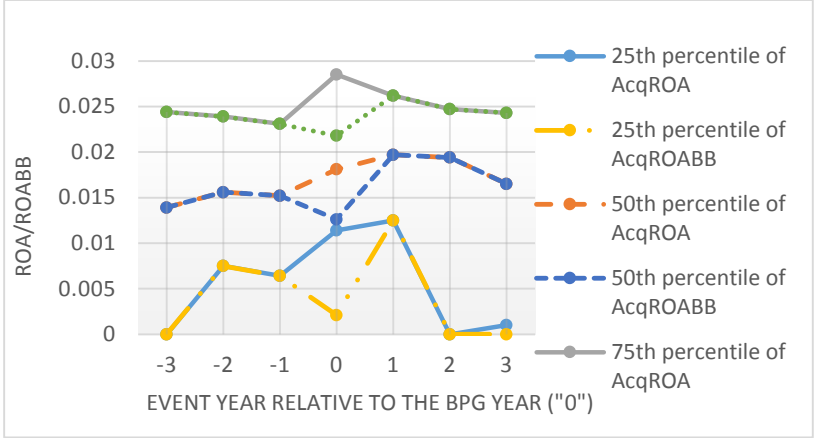

Figure 2

Time-Series Comparison in Event-Time of the 25th, 50th, and 75th Percentiles of AcqROA versus AcqROABB

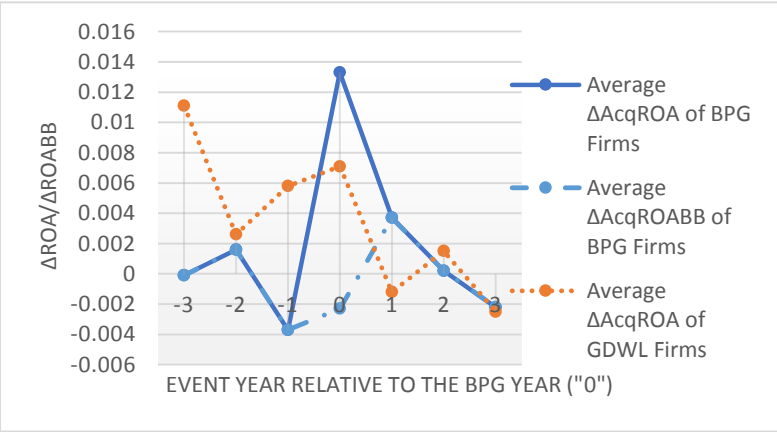

Figure 3

Time-Series Comparison in Event-Time of the Average ΔAcqROA versus ΔAcqROABB

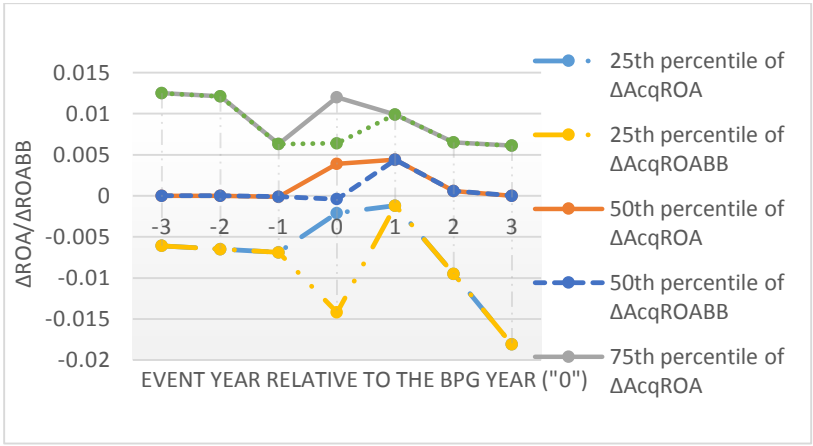

Figure 4

Time-Series Comparison in Event-Time of the 25th, 50th, and 75th Percentiles of ΔAcqROA versus ΔAcqROABB

Table 4

Factors Explaining the Probability of Recognizing Bargain Purchase Gains

Panel A: Regression of the Size of BPG on Earnings Levels

	Full Sample		Positive AcqROABB		Negative AcqROABB	
	1	2	3	4	5	6
Intercept	-0.0005	0.0035	-0.0021*	0.0153*	0.0142***	-0.0971***
	(-0.51)	(0.51)	(-2.00)	(1.81)	(4.09)	(-5.87)
AcqROABB	**-0.0841*** **	**-0.4368*** **	**-0.0269**	**-0.0744**	**-0.0439***	**-0.8104*** **
	(-5.46)	**(-8.31)**	**(-1.04)**	**(-1.33)**	**(-1.74)**	**(7.48)**
AcqSize		-0.0021**		-0.0024**		-0.0046**
		(-2.33)		(-3.05)		(-2.51)
AcqAltman		0.0015**		-0.0011		0.0285***
		(2.09)		(-0.66)		(5.75)
TarSize		0.0014		0.0013*		0.0042
		(1.59)		(1.67)		(1.46)
TarROA		-0.0011		-0.0004		-0.0104
		(-0.98)		(-0.66)		(-0.62)
FDIC		0.0087***		0.0066***		0.0083
		(3.80)		(4.38)		(1.51)
RelSize		-0.0007		-0.0087*		-0.002
		(-0.45)		(-1.75)		(-0.54)
Payment		-0.0035*		-0.0017		-0.002
		(-1.93)		(-1.40)		(-0.47)
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes
N	375	237	315	198	60	39
LR Chi2	29.01	134.33	1.11	85.29	2.93	54.12

Panel B: Regression of the Size of BPG on Earnings Changes

	Full Sample		Positive ΔAcqROABB		Negative ΔAcqROABB	
	1	2	3	4	5	6
Intercept	-0.0021*	0.0077	-0.0085***	0.0141	-0.0015	-0.0229
	(-1.87)	(0.91)	(-5.59)	(1.09)	(-0.90)	(-1.26)
ΔAcqROABB	**-0.0327**	**-0.2731*** **	**0.1359*** **	**0.1347***	**-0.5682*** **	**-0.5234*** **
	(-1.12)	**(-5.03)**	**(4.38)**	**(1.79)**	**(-8.15)**	**(-4.60)**
AcqSize		-0.0035***		-0002**		-0.0066**
		(-3.60)		(-2.02)		(-3.62)
AcqAltman		-0.0001		-0.0038		0.0105**
		(-0.01)		(-1.38)		(2.39)
TarSize		0.0021**		0.0007		0.0055**
		(2.01)		(0.70)		(3.05)
TarROA		-0.0011		-0.0023		-0.0008
		(-0.83)		(-1.50)		(-0.50)
FDIC		0.0147***		0.0127***		0.0068*
		(5.65)		(4.53)		(1.69)
RelSize		-0.0003		-0.0005		-0.0043**
		(-0.21)		(-0.25)		(-2.34)
Payment		-0.0033		-0.0031		-0.0015
		(-1.55)		(-1.53)		(-0.43)
Year Fixed Effect Included	Yes	Yes	Yes	Yes	Yes	Yes
N	375	237	248	159	127	78
LR Chi2	1.26	97.31	18.56	72.43	52.63	44.64

Panel C: Regression of the Probability of BPG on Earnings Performance

	Predicted Relation	Coefficient Estimate	P-value
Intercept	?	2.6200*	0.068
FDIC	**+**	**2.0001*** **	**0.000**
AcqROABB	-	-10.6615	0.19
ΔAcqROABB	-	-16.1062**	0.037
AcqSize	-	-0.1142	0.242
AcqAltman	-	-0.4207	0.191
TarSize	?	-0.1551	0.161
TarROA	-	-0.1615	0.369
Relsize	?	0.0736	0.655
Year Fixed Effects Included			Yes
Number			221
Chi-Square for Model:			136.88
p-value:			0
Pseudo R2			0.4469

This table reports the regression results on the relation between the amount of BPG and acquiring firms' income before BPG in Panel A, the relation between the amount of BPG and acquiring firms' changes in income before BPG in Panel B, and the results on predicting the probability of BPG in Panel C. Variable definitions are presented in Appendix C. Year-fixed effect is included. T-statistics in parentheses and p-values are based on standard errors that are clustered by firm. *, **, *** denote significance at the 1%, 5%, and 10% percent levels, respectively.

Table 5

Relation between Bargain Purchase Gains and Fair Value Estimates

	Full Sample	FDIC	Non-FDIC
	1	2	3
Intercept	0.0738***	-0.0102	0.0796**
	(3.73)	(-0.40)	(2.44)
AcqROABB	-0.8276***	-0.3838***	-1.0115***
	(-11.77)	(-6.27)	(-7.81)
ΔAcqROABB	0.2187**	0.0621	0.4102**
	(3.27)	(1.33)	(3.31)
FDIC	0.0147**		
	(2.23)		
AcqLoan	**0.0185****	**0.0078**	**0.0355****
	(2.10)	**(1.36)**	**(2.24)**
AcqFDIC	0.0158	0.0094	
	(0.63)	(1.02)	
AcqOREO	0.0531	0.0424	0.1971
	(0.60)	(1.17)	(0.74)
AcqInv	0.057***	-0.0186	0.0887***
	(4.33)	(-1.63)	(4.20)
AcqPPE	0.0261*	-0.4357*	0.0489**
	(1.84)	(-1.69)	(2.26)
AcqOa	0.0142	0.031	-0.0239
	(0.16)	(0.47)	(-0.17)
AcqDep	-0.0509***	-0.0083	-0.0655***
	(-7.70)	(-1.45)	(-6.14)
AcqSize	-0.0067**	-0.0018	-0.0089**
	(-3.39)	(-1.29)	(-2.26)
AcqAltman	0.0021	0.0112	0.0002
	(0.60)	(1.65)	(0.03)
TarSize	-0.0013	-0.001	-0.00005
	(-0.78)	(-0.70)	(-0.16)
RelSize	0.0061**	0.0175**	0.0059
	(2.70)	(2.52)	(1.53)
Payment	-0.0137**	-0.0086***	-0.0082
	(-2.76)	(-3.21)	(-0.82)
Year Fixed Effect	Yes	Yes	Yes
N	259	112	147
LR Chi2	279.83	118.69	129.49

***, **, and * indicate significance at p<0.001, p<0.05 and p<0.1, respectively, based on two-tailed tests.

Table 6

Market Reaction around Acquisition Completion

Panel A: Difference across FDIC Acquisitions and Non-FDIC Acquisitions

		FDIC	Non-FDIC	Difference
(-1, +1)	CAR	3.53%***	0.28%	3.24%***
	t-statistic	(4.77)	(0.86)	(4.1725)
	N	140	161	
(+1, +30)	CAR	4.08%***	0.58%	3.48%***
	t-statistic	(3.85)	(0.74)	(2.6763)
	N	140	161	
(+1m, +12m)	CAR	7.98%***	-3.75%	11.73%***
	t-statistic	(2.498)	(-1.004)	(2.6140)
	N	143	172	

Panel B: Difference across FDIC-assisted BPG Acquisitions and Non-FDIC-assisted BPG Acquisitions

		FDIC BPG	Non-FDIC BPG	Difference
(-1, +1)	CAR	3.32%***	1.14%	2.18%*
	t-statistic	(4.800)	(1.060)	(1.6467)
	N	112	40	
(+1, +30)	CAR	4.34%***	3.37%	0.96%
	t-statistic	(3.600)	(1.430)	(0.3921)
	N	112	40	
(+1m, +12m)	CAR	8.62%***	-0.55%	9.17%**
	t-statistic	(2.614)	(-0.048)	(2.6450)
	N	115	39	

Panel C: Difference across FDIC-assisted GDWL Acquisitions and Non-FDIC-assisted GDWL Acquisitions

		FDIC GDWL	Non-FDIC GDWL	Difference
(-1, +1)	CAR	4.34%*	0.00%	4.34%***
	t-statistic	(1.750)	(0.010)	(3.3274)
	N	28	121	
(+1, +30)	CAR	3.04%	-0.33%	3.37%*
	t-statistic	(1.370)	(-0.470)	(1.8684)
	N	28	121	
(+1m, +12m)	CAR	5.38%	(-7.25%*)	12.63%
	t-statistic	(0.7230)	(-1.8780)	(1.4110)
	N	28	133	

This table reports cumulative abnormal returns surrounding an acquiring firms' transaction date. The sample includes 151 firms engage in bargain purchase acquisitions and 149 firms engage in goodwill acquisitions. Announcement date is identified from the 10-k filings. Returns are adjusted to a market model using a CRSP value-weighted benchmark portfolio.

Table 7
Empirical Results of Heckman Two-stage Selection Model

Panel A: Probit Regression of the FDIC's Choice to Assist

	Coefficient	z-value	p-value
Intercept	2.6883*	1.93	0.054
AcqSize	-0.1600	-1.28	0.199
AcqTobin	-0.4563	-0.47	0.636
AcqRet	0.0582	0.10	0.921
AcqROA	-29.3117***	-2.63	0.008
TarSize	0.1738	1.41	0.158
TarROA	-0.0287	-0.25	0.800
Payment	-1.7906***	-5.83	0.000
Year Fixed Effect			Yes
Number of observations			201
Wald chi2 (11)			63.56
Pseudo R2			0.4664

Panel B: Regression of the Size of BPG on Earnings Measures in FDIC Group

	Coefficient	t-statistic	p-value
Intercept	0.0038	0.22	0.823
AcqROABB	**-0.1296**	**-1.57**	**0.123**
∆AcqROABB	**-0.1574***	**-1.85**	**0.071**
AcqSize	-0.0010	-1.16	0.250
AcqAltman	0.0014	0.32	0.752
TarSize	0.0004	0.42	0.675
TarROA	0.0001	-0.01	0.995
RelSize	0.0116	1.12	0.267
Payment	0.0054	1.47	0.148
IMR	-0.0102**	-2.23	0.030
Year Fixed Effect			Yes
Number of observations			107
R-squared			0.6022

Panel A reports the results of the first stage probit regression model, and Panel B reports the second-stage regression results on the relation between the amount of BPG and acquiring firms' earnings performance before BPG. Variable definitions are presented in Appendix C. Year-fixed effect is included. Z-statistics, t-statistics, and p-values are derived based on robust standard errors clustered at the firm level. ***, **, and * indicate significance at p<0.001, p<0.05 and p<0.1, respectively, based on two-tailed tests.

Table 8
Empirical Results of Two-stage Least Squares Regression in FDIC Group

Panel A: Regression of the Size of Bargain Purchase Gain in FDIC Group

	Coefficient	t-statistic	p-value
Intercept	0.0023	0.41	0.682
Car	0.0683***	3.09	0.002
TarSize	-0.0002	-0.25	0.801
TarRoa	-0.0009	-0.6	0.552
Payment	-0.0055	-1.25	0.213
Year Fixed Effect			Yes
Number of observations			156
LR Chi2			18.29

Panel B: Regression of the Residuals of BPG on Earnings Measures

	Coefficient	t-statistic	p-value
Intercept	-0.0065***	-2.68	0.009
AcqROABB	**0.0085**	**1.25**	**0.154**
∆AcqROABB	**-0.0213**	**-0.79**	**0.432**
NonFDIC	0.0018*	1.73	0.086
NonFDIC*AcqROABB	**-0.0223**	**-0.53**	**0.600**
NonFDIC*ΔAcqROABB	**-0.0684***	**-1.67**	**0.098**
AcqSize	0.0005	1.55	0.125
AcqAltman	0.0004**	2.55	0.012
TarSize	-0.0005*	-1.78	0.078
TarROA	0.0009***	3.01	0.003
RelSize	0.0002	0.52	0.602
Payment	0.0013	1.44	0.154
Year Fixed Effect			Yes
Number of observations			156
R-squared			0.5656

This table reports the results of two-stage least squared regression for FDIC-assisted acquisitions. In Panel A, the first stage model includes determinants of the value relevant portion of BPG. The residual is identified as the value irrelevant portion of BPG and is used as the dependent variable in the second stage. Panel B reports the regression results on the relation between the value irrelevant portion of BPG and acquiring firms' earnings performance before BPG. Variable definitions are presented in Appendix C. Year-fixed effect is included. T-statistics and p-values are derived based on robust standard errors clustered at the firm level. ***, **, and * indicate significance at p<0.001, p<0.05 and p<0.1, respectively, based on two-tailed tests.

Table 9

Time-series Analysis of Loan Loss Provision for FDIC and Non-FDIC-assisted Bargain Purchase Acquisitions

		1	2	3	4	5
FDIC	Mean	0.0036	0.0016	0.001	0.0006	0.0004
	Change in Mean		-0.0020	-0.0006	-0.0004	-0.0002
	t-statistic		(-6.0251***)	(-1.7844*)	(-3.0663***)	(-1.259)
	N	115	113	112	98	81
Non-FDIC	Mean	0.0007	0.0000	0.0006	0.0002	0.0002
	Change in Mean		-0.0007	0.0006	-0.0004	0.0000
	t-statistic		(-1.2266)	3.1571***	(-1.3835)	0.0441
	N	55	54	52	43	24

This table reports the mean and the change in the mean of acquiring firms' loan loss provision over 5 years after the acquisition year. The difference test is based on a t-test for equality of means between the current and the preceding year. *, **, *** denote significance at the 1%, 5%, and 10% percent levels, respectively.