

# Audit Firm Reputation and Earnings Quality in Publicly Traded US Bank Holding Companies

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This paper examines the association of audit quality and earnings management in publicly traded Bank Holding Companies (BHCs). A bank's management has the opportunity to overstate (or understate) net income through discretionary accruals. External audits provide a means to constrain the earnings management. However, audit quality varies and high quality auditors should be more capable of detecting and objecting to biased financial reporting. Using a sample of publicly traded BHCs from 2005 to 2012, we find evidence that audit firms who specialize in auditing BHCs are associated with lower discretionary accruals when clients enhance earnings. On the other hand, we do not find significant relationship for firm years with income reducing discretionary accruals. Our findings suggest that auditors specializing in the banking industry have greater incentives to object to income increasing, rather than income decreasing, accounting choices.

*JEL Classification:* G21; M41; M42

*Keywords:* Earnings Management, Auditor Market Share, Auditor Specialization, Bank Holding Company

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## 1. Introduction

There is ample evidence in the finance and accounting literature that banks use loan loss provisions to manage earnings. That is, they manage earnings downwards during good times and upwards during bad times in an effort to smooth out earnings. Kanagaretnam *et al.* (2003) find indications that "bank managers do save earnings through loan loss provisions in good times and borrow earnings using loan loss provisions in bad times." Estimation of loan loss provisions has a major impact on income reported by BHCs. Consequently, earnings management behavior by big BHCs has not escaped the attention of the popular press. A 2013 Wall Street Journal article points out that "J.P. Morgan Chase & Co, Wells Fargo & Co, Bank of America Corp. and Citigroup Inc., the nation's largest banks by assets, tapped a total of \$4.9 billion in loan-loss reserves in the third quarter of 2013, up by about a third from both the second quarter and the same quarter a year before, after adjustments." (Rapoport, 2013) The article continues "In all, it made up 18% of the banks' third-quarter pretax income excluding special items, the highest percentage in a year, according to an analysis by The Wall Street Journal."

Regulators have been voicing their concerns about the earnings management practices of banks for many years. In 2001, the SEC (Securities and Exchange Commission) issued a SAB (Staff Accounting Bulletin) 102 as a guideline in validating the methodology used to estimate loan loss allowance. According to SAB 102, procedures of estimating loan loss reserves intended to reduce the difference between estimated loan losses and actual subsequent charge-offs were considered valid. SAB 102 was issued following a \$100 million downward restatement of Suntrust Bank's allowance of loan lease and losses as well as the SEC investigating several other banks on the allegation that the banks have overstated their loan loss allowances in order to create cookie jar reserves (Beck & Narayanamoorthy, 2013).

Quality of earnings is also of special importance to investors because it improves the usefulness of financial statements in making investment decisions. Firms with higher earnings quality, which are more useful in making resource allocation decision, are less mispriced compared to other firms (Perotti & Wagenhofer, 2014). This is because abnormal accruals create noise in reported earnings and mislead investors (Healy, 1996) and this results in mispricing of share prices for those firms (Cheng *et al.*, 2012).

This is a reaction to be expected from investors, especially after earnings-manipulations related debacles such as Enron Corp. and WorldCom Inc.

Regulators can combat earnings management practices by changing accounting regulations and investors can do their part by punishing the stock prices of firms with poor earnings quality. However, auditors play a pivotal role in identifying and correcting earning management practices of firms they audit. Auditors do that to protect their professional reputation and to avoid malpractice suits resulting from their engagements. Reputable auditors can afford to deploy more talent and resources into their engagements in order to conduct quality audits. Industry-specific expertise on the part of the auditing firm is crucial in identifying and correcting earnings management practices, especially in an industry as complex as banking. Banks manage earnings through manipulation of loan loss provisions (LLP). Given LLP is significant percentage of earnings, 15% in Kanagaretnam (2009) and 17% in our sample, auditors can play a very significant role in correcting earnings manipulations; therefore, their industry expertise is very valuable.

This study looks at the effect of audit firm expertise in curbing earnings management behavior among U.S. publicly traded BHCs. Specifically, we examine the impact of auditing firms in curbing earnings management behavior of publicly traded BHCs. We use audit firm's industry market share as a proxy for industry expertise. Auditors with the highest market share in the banking industry are expected to have expertise and a reputation they want to maintain in that industry. Thus, they are expected to conduct quality audits. We focus on publicly traded BHCs because (1) many studies of discretionary accruals omit financial institutions from their samples, (2) publicly traded BHCs have the motive and the tendency to manage earnings more than their non-publicly traded counterparts (Beatty et al., 2002), and (3) looking only at one industry avoids the potential cross-industry effects (Cheng et al., 2011).

In an annual sample that extends from 2005 to 2012, we find significant negative relationship between auditing firm's market share and absolute value of discretionary accruals after controlling for variables that are related to discretionary accruals. This is indeed very good news for investors because they can rely on the industry expertise of the auditor in pricing discretionary accruals of BHCs (Kanagaretnam *et al.*, 2009). We further split our sample between firm years with positive discretionary accruals (BHCs that manage earnings upwards) and firm years with negative discretionary accruals (BHCs that manage earnings downwards). We find audit firm's industry expertise to have significant impact in curbing earnings enhancing behavior. This is consistent with the earnings management literature and expected from reputable auditors who may want to avoid litigation expenses resulting from inflated earnings of clients. However, audit firm's industry expertise does not appear to have significant effect in curbing earnings reducing behavior. This continues to show auditors are more concerned with combating inflated earnings and are less concerned when clients are being conservative with their earnings reporting.

## 2. Literature Review and Hypotheses Development

### 2.1 Literature Review

According to Healy and Wahlen (1999), earnings management occurs "when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers." There is ample evidence in the earnings management literature that indicates managers do manage earnings to mislead investors for private gain. Firm executives with high equity incentives are more likely to manage earnings (Bergstresser & Philippon, 2006; Cheng *et al.*, 2011). Sawicki and Shrestha (2008) find evidence that firms with insider buying activity manage earnings downwards while firms with insider selling activity manage earnings upwards. Adams *et al.* (2009) examine the earnings management practices of mutual and non-mutual depository institutions before initial public offering (IPOs). They find that mutuals report lower ROA, and increased loan provisions and loan loss reserves in the period

prior to demutualization. The authors note that their results are consistent with managers of mutual thrifts benefiting at the conversion from managing earnings downwards prior to conversion. Managing earnings downward works in this case, because insiders are net buyers when it comes to demutualization of thrifts, unlike typical IPOs where insiders are net sellers. Louis (2004) finds that acquiring firms overstate their earnings in the quarter preceding a stock swap announcement. They also report reversal in stock price after the merger. Efendi *et al.* (2007) find that the likelihood of a misstated financial statement increases greatly when the CEO has very sizable holdings of in-the-money stock options and misstatements are also more likely for firms that are constrained by an interest-coverage debt covenant, that raise new debt or equity capital, or that have a CEO who serves as board chair.

However, insiders can also manage earnings in order to signal private information to outsiders. Subramanyam (1996) presents evidence that discretionary accruals predict future profitability and dividend change. They find positive association between change in firm value and unexpected accruals. Louis and Robinson (2005) find evidence that managers report positive abnormal returns in the quarter prior to stock splits and that the market positively prices the pre-split abnormal accruals at the split announcement. The authors assert it is a management's way of signaling its optimistic outlook about the firm to the market, and the market construes the pre-split abnormal accrual as a signal of managerial optimism rather than managerial opportunism. The literature documents that positive discretionary accruals associated seasonal equity offerings, IPOs, and stock-for-stock mergers could be motivated by management's opportunistic behavior. On the other hand, positive discretionary accruals associated with stock-splits, stock repurchases, mergers and acquisitions with cash as method of payment, and dividend increases could be motivated by management's desire to signal positive information to the capital market.

Whether abnormal accruals are used to mislead investors for private gain of insiders or to signal positive information to the market, insiders have significant discretion in reporting accounting information to the market. Therefore, auditors have a very important role to play in mitigating the information asymmetry between insiders and outsiders. Publicly traded BHCs are required to have their annual financial statements audited by external, independent auditors. Through their audit reports, auditors convey assurance that financial statements are prepared in accordance with Generally Accepted Accounting Principles (GAAP). Auditing standards require the auditor to "design the audit to provide reasonable assurance of detecting errors and irregularities that are material to the financial statements" (AICPA, 1988). Thus, the audit adds credibility to the financial statements (Wallace, 1980).

All auditors are required to plan and perform their audits according to Generally Accepted Auditing Standards. Although there are some differences in state laws, auditors are subject to the same basic certification requirements. The Public Company Accounting Oversight Board (PCAOB) and the American Institute of Certified Public Accountants (AICPA) have systems of peer and quality reviews to monitor quality control and to assure compliance with professional standards. Therefore, auditing services might be viewed as a homogenous product. Under this view, the audit services provided by one audit firm should be perfect substitutes for services provided by any other firm. The Cohen Commission took this position in asserting that there is little or no product differentiation between financial statement audits (AICPA, 1978).

Extant research has provided evidence that audits might be heterogeneous products. Evidence suggests that auditing is differentiated on quality (Teoh & Wong, 1993), fees (Craswell *et al.*, 1995), and litigation (St. Pierre & Anderson, 1984). Our study focuses on the difference in quality of audits. Audit quality has been described as the probability of an auditor discovering a breach in a client's accounting system and reporting the breach (DeAngelo, 1981). DeAngelo (1981) proposed (and demonstrated analytically) that larger audit firms had more to lose in the way of reputation than smaller audit firms. The loss of reputation would lead to the loss of future service fees or "quasi-rents". Larger audit firms, having invested more in terms of reputation, would be motivated to provide higher quality audits.

Becker *et al.* (1998) proposed that audits of higher quality reduce earnings management. Their results provide evidence that companies audited by Big Six auditors had lower discretionary accruals than those audited by non-Big Six auditors. They propose that discretionary accruals are a form of earnings management, and audits of higher quality will mitigate those accruals. Francis and Wang (2008) find earnings quality to be higher among clients of Big 4 auditors in countries with strong investor protection. Their finding is not surprising because loss of reputation capital and litigation expense is higher in regimes with strong investor protection. Since that study, several others have extended this research to other market settings with similar findings; clients of big auditors have higher earnings quality (Francis *et al.*, 1999; Francis & Yu, 2009; Jordan *et al.*, 2010; Lin & Hwang, 2010). Many of these studies, as well as Becker *et al.* (1998) have excluded financial institutions.

Others have looked at the impact of industry specialization of the auditing firms on discretionary accruals. Industry specialists have the expertise to detect earnings management behavior (Krishnan, 2003). Krishnan (2003) measures industry expertise using auditor market share in an industry as well as an industry share in an auditor's portfolio of client industries. They find that industry specialists mitigate accruals-based earnings management more than non-industry specialists do. On a similar note, Kanagaretnam *et al.* (2009) find that market valuation of discretionary loan loss provision is driven by auditor reputation, especially auditor's expertise. The authors note that auditor reputation constrains the opportunistic use of discretion in estimating loan loss provisions.

More recently, in cross-country study of banking firms, Kanagaretnam *et al.* (2010) find auditor specialization (industry market share of greater than 20%, 24%, or 30%) to have significant effect in curbing earnings management behavior while auditor type (Big Five vs non-Big Five) does not. However, U.S. banks were excluded because they "operated in a highly litigious environment that differs from the environment in other countries." They did examine U.S. banks in their sensitivity analysis and found that auditor type was negatively related to income-increasing earnings management. No data was reported for that result. Our study fills this void in the earnings management literature by examining the role of audit firm's industry expertise in curbing earnings management behavior among publicly traded, U.S. BHCs. This study differs from Kanagaretnam *et al.* (2010) in several aspects. First, we only look at publicly traded U.S. BHCs. Second, we separate our sample into two groups, firms with positive discretionary accruals and firms with negative discretionary accruals, to see the impact of audit firm's industry expertise in curbing both income-enhancing as well as income-reducing earnings management behaviors. Third, we look at more recent data that ranges from 2005 to 2012. Finally, we use a continuous variable (audit firm's market share) while Kanagaretnam *et al.* (2010) use a dichotomous variable for auditor expertise.

## 2.2 Hypotheses

The research question investigated is whether audit quality is a function of audit firm's specialization, measured by audit firm's market share, in auditing BHCs. Based on prior research, this study uses the size of discretionary accruals as the primary measure of audit quality. It is expected that discretionary accruals are smaller when the audit is of higher quality. Larger audit firms are expected to provide higher quality audits because they have more to lose in the form of reputation capital. At same time, industry specialists have more expertise to identify and correct earnings management behavior. Although large audit firms could be industry specialists as well, more recent studies find industry specialists to do better job of curbing earnings management behavior (Kanagaretnam *et al.*, 2010). Audit firms specializing in a particular industry are expected to curb earnings management behavior better than audit firms who do not specialize in that industry. Therefore, we propose the following hypothesis:

**H1:** There is **negative relationship** between absolute value of discretionary accruals and the market share of the audit firm.

BHCs may be motivated to under-report or over-report earnings, depending on their circumstances. Firms with positive discretionary accruals may be overstating earnings while firms with negative discretionary accruals may be understating earnings. In the former case, auditors may play a role in curbing earnings management behavior by reducing discretionary accruals; in the latter case, the auditors may help curb earnings management behavior by mitigating income reducing behavior of the client. Thus, we propose the following two hypotheses:

**H2:** For firms with **positive discretionary accruals**, there is **negative relationship** between discretionary accruals and the market share of the audit firms.

**H3:** For firms with **negative discretionary accruals**, there is **positive relationship** between discretionary accruals and the market share of the audit firms.

### 3. Methodology

#### 3.1 Discretionary Accruals

Although both banking firms and non-banking firms have been found to manage earnings, the methods used differ. In both cases, accruals are used to manipulate earnings. The components of accruals used are different for BHCs, given the different nature of the balance sheet items among banks compared to firm in other industries. Bank managers have discretion in estimating loan loss provisions, and the discretion to realize gains or losses from securities available for trading. Thus, loan loss provisions and security gains and losses are components of earnings that are subject to manipulation (Beaver & Engel, 1996; Beatty *et al.*, 2002). Following Beatty *et al.* (2002), we estimate loan loss provisions using Model (1) and realized security gains and losses using Model (2). The error term from Model (1) serves as an estimate of the discretionary component of loan loss provisions while the error term in Model (2) captures of discretionary component of realized security gains and losses.

$$LLP_{it} = \alpha_{tr} + \beta_1 LNASSETS_{it} + \beta_2 \Delta NPL_{it} + \beta_3 LLR_{it} + \beta_4 LOANR_{it} + \beta_5 LOANC_{it} + \beta_6 LOAND_{it} + \beta_7 LOANA_{it} + \beta_8 LOANI_{it} + \beta_9 LOANF_{it} + e_{it} \quad \text{Model(1)}$$

Subscripts  $i$  and  $t$ , respectively, represent bank holding company's identifier and the year indicator spanning from 2005 through 2012;  $r$  captures the U.S. Department of Commerce defined region index; LLP is loan loss provisions as a percentage of average loans; LNASSETS is the natural log of total assets and serves as a proxy for BHCs' size, while  $\Delta NPL$  is change in nonperforming loans (includes loans past due 90 days or more and still accruing interest and loans in nonaccrual status) as a percentage of average assets. LLR is loan loss reserve as a percentage of total loans at the beginning of the year; LOANR is real estate loans as a percentage of total loans; LOANC is commercial and industrial loans as a percentage of total loans; LOAND is loans to depository institutions as a percentage of total loans; LOANA is agriculture loans as a percentage of total loans; LOANI is consumer loans as a percentage of total loans; and LOANF is loans to foreign governments as a percentage of total loans. Finally,  $e$  represents the stochastic error term. Model (1) is estimated using pooled OLS regression controlling for year and region fixed effects. Influential observations are deleted using Cook's (1977) criteria.

Next, the error term from Model (1) is transformed into a proportion of average assets as follows:  $DLLP_{it} = e_{it} * \left( \frac{AVERAGE\ LOANS_{it}}{AVERAGE\ ASSETS_{it}} \right)$ . We further estimate the second component of the earnings management model as shown in Model (2).

$$RSGL_{it} = \alpha_{it} + \beta_1 LNASSETS_{it} + \beta_2 URSGL_{it} + e_{it} \quad \text{Model(2)}$$

RSGL<sub>it</sub> is realized security gains and losses (includes realized gains and losses from available-for-sale securities and held-to-maturity securities) as a percentage of assets at the beginning of the year; URSGL<sub>it</sub> is unrealized security gains and losses (includes only unrealized gains and losses from available-for-sale securities) as a percentage of assets at the beginning of the year. Subscripts *i* and *t* are as previously defined. The model is estimated using pooled OLS regression, controlling for year fixed effects. Influential observations are again deleted using Cook's (1977) criteria.

We measure earnings management variables as absolute value of total discretionary accruals ( $|D\_AC\_REG_{it}|$ ) where  $D\_AC\_REG_{it} = DRSGL_{it} - DLLP_{it}$ . The construction of  $DLLP_{it}$  is shown above, and  $DRSGL_{it}$  is the regression error term ( $e_{it}$ ) from Model (2). A negative value of  $DLLP_{it}$  is added to  $DRSGL_{it}$  because  $DLLP_{it}$  is negatively related to earnings, whereas  $DRSGL_{it}$  is positively related to earnings. Thus a high level of  $|D\_AC\_REG_{it}|$  indicates high prevalence of earnings management.

### 3.2 Audit Firm's Market Share

For each year in our sample, we compute the market share of each audit firm by dividing the total assets of all BHCs audited by the audit firm by the total assets of all BHCs (private as well as public). To test our hypotheses, we run the absolute value of discretionary accruals on the audit firm's market share and control variables. Model (3) is estimated using pooled OLS regression controlling for year fixed effects. Influential observations are deleted using Cook's (1977) criteria.

$$|D\_AC\_REG_{it}| = \alpha_t + \beta_1 LNASSETS_{it} + \beta_2 Market\_Share_{it} + \beta_3 Growth_{it} + \beta_4 EBTP_{it} + \beta_5 PASTLLP_{it} + \beta_6 Equity\_To\_TA_{it} + \beta_7 Loans\_To\_TA_{it} + e_{it} \quad \text{Model (3)}$$

$|D\_AC\_REG|$  is absolute value of discretionary accruals;  $LNASSETS$  is natural log of total assets;  $Market\_Share$  is market share of the auditing firm for that year, computed as a percentage of total assets of BHCs audited by the firm to total assets of all BHCs that filed a FR FY-9C report for that year;  $Growth$  is annual growth rate of BHC's total assets;  $EBTP$  is net income before taxes and loan loss provisions divided by total assets at the beginning of the year;  $Equity\_To\_TA$  is the ratio of the book value of total equity to total assets of a bank;  $Loans\_To\_TA$  is the ratio of total loans to total assets of a bank. Model (3) is estimated using pooled OLS regression controlling for year fixed effects. Influential observations are deleted using Cook's (1977) criteria.

## 4. Sample and Descriptive Statistics

We start with all U.S. BHCs that filed a FR Y-9C report with the Federal Reserve System from 2003 to 2012. We collect annual data from Call Reports available at the website of the Federal Reserve Bank of Chicago. The name of the auditing firm is available in FR Y-9C reports starting from 2005. Our dataset starts from 2003 because we lose two years of data to form lags for some of our variables. We compute the audit firm's market share using the entire sample of BHCs for years 2005 to 2012. We then restrict our sample to publicly traded BHCs by matching our data with the "Federal Reserve Bank of New York. 2013. CRSP-FRB Link"<sup>1</sup> file using bank RSSD ID of each BHC. Thus, our sample includes all publicly traded BHCs for which data is available. We include, in our sample, only publicly traded BHCs because they are expected to face market pressure to manage earnings (Beatty *et al.*, 2002). Our sample period includes part of an economic expansion, a great recession that lasted for 18 months, and economic recovery that followed the great recession.<sup>2</sup>

<sup>1</sup> For more information, please refer to [http://www.newyorkfed.org/research/banking\\_research/datasets.html](http://www.newyorkfed.org/research/banking_research/datasets.html).

<sup>2</sup> On November 28, 2008, Business Cycle Dating Committee of the National Bureau of Economic Research determined December 2007 to be the official start of the recession and almost two year later, on September 10, 2010, the committee determined June 2009 to be official end of the recession.

**Table 1**  
**Descriptive Statistics and OLS Regressions for Models (1) and (2)**

<b>Panel A: Descriptive Statistics</b>						
	Obs	Mean	Std. Dev.	Min	Median	Max
LNASSETS	2646	14.79178	1.57164	12.10387	14.39107	21.58156
LLP	2646	0.00835	0.01015	-0.01355	0.00441	0.06944
ΔNPL	2646	0.00367	0.01711	-0.14003	0.00103	0.11218
LLR	2646	0.01699	0.00726	0.00000	0.01511	0.06525
LOANR	2646	0.74794	0.15980	0.00000	0.77859	1.00861
LOANC	2646	0.15172	0.09975	0.00000	0.13276	0.74755
LOAND	2646	0.00085	0.00587	0.00000	0.00000	0.16405
LOANA	2646	0.00782	0.01739	0.00000	0.00066	0.13856
LOANI	2646	0.05408	0.07447	0.00000	0.02641	0.99041
LOANF	2646	0.00007	0.00088	0.00000	0.00000	0.02579
RSGL	2789	-0.00011	0.00346	-0.08481	0.00002	0.01450
URSGL	2789	0.00013	0.00355	-0.05372	0.00009	0.01500
<b>Panel B: Pooled OLS regressions</b>						
	<b>Model(1)</b>		<b>Model(2)</b>			
VARIABLES	LLP	VARIABLES	LLP			
LNASSETS	0.0003***	LNASSETS	-0.00004**			
ΔNPL	0.1170***	URSGL	0.11100***			
LLR	0.7920***					
LOANR	-0.0039**					
LOANC	-0.0092***					
LOAND	0.0251*					
LOANA	-0.0237***					
LOANI	-0.0069***					
LOANF	-0.2000**					
Constant	-0.0059**			0.00082***		
Bank Years	2646			2714		
Adjusted R-Squared	0.7020			0.15100		
F	116.7000***			32.27000***		
Year controls	YES			YES		
Region Controls	YES			NO		

Notes: Panel A presents the descriptive statistics for the variables used in Models (1) and (2). Panel B presents pooled OLS regression models of Loan Loss Provisions and Realized Security Gains and Losses from 2005-2012. In Panel B, we present OLS regression results with years, and regions dummies for Model (1) and OLS regression results with year dummies for Model (2). Variable names are defined in Section 3 - Methodology. Influential observations are deleted using Cook's (1977) criteria. Standard errors for the estimates are clustered at firms' level. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% level, respectively.

## 5. Results

Panel A of Table 1 shows the descriptive statistics for variables used in Models (1) and (2). The sample size is more than 2646 firm years of BHCs. Models (1) and (2) are used to generate the discretionary accruals variable. The results of the two regressions are in Panel B of Table 1. The first model is a pooled OLS regression with year and region dummies, while the second one is a pooled OLS model with year dummies. From the error terms of the two models, we construct a measure of discretionary accruals ( $D\_AC\_REG$ ). Absolute value of discretionary accruals  $|D\_AC\_REG|$  is used as a measure of earnings management behavior. Firms with high level of  $|D\_AC\_REG|$  have the tendency to manage earnings.

We start our preliminary analysis by comparing the average annual absolute value of discretionary accruals of the two groups in our sample, firms audited by industry specialists and firms audited by non-specialists. BHCs are classified as audited by industry specialist if their auditor has a market share of more than 20% for that year. Otherwise, it is classified as audited by non-specialist. The average annual absolute value of discretionary accruals for each group is shown in Figure I.

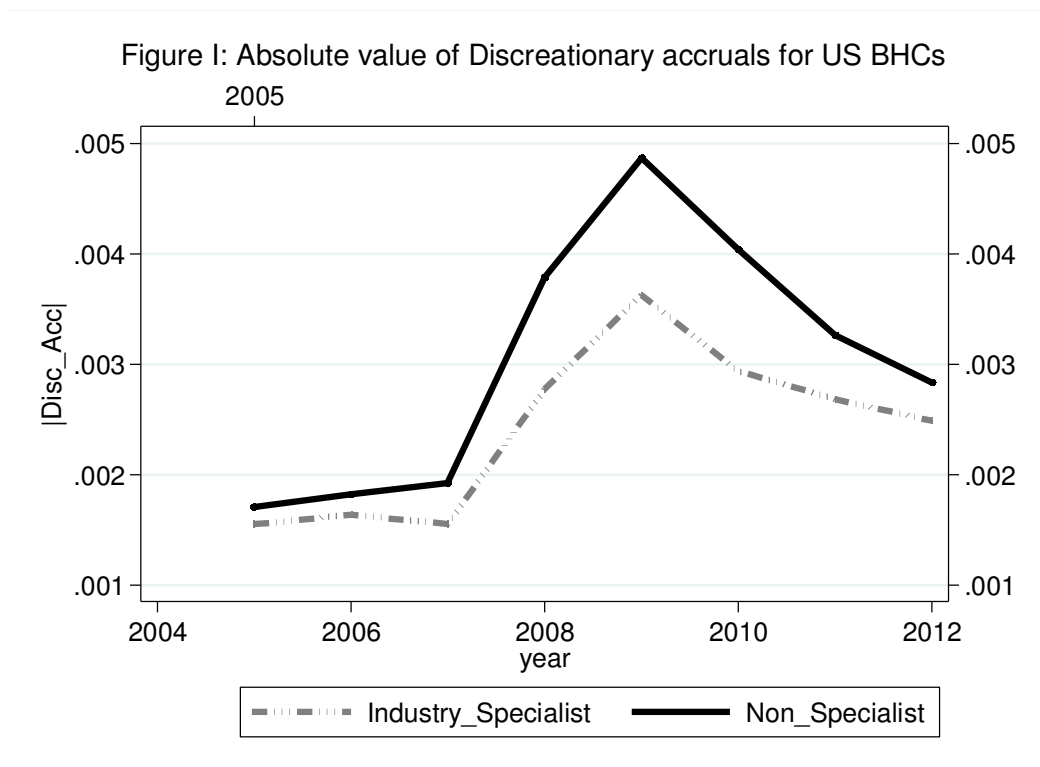


Figure I shows that the earning management practices tend to go up during recessionary periods, and fade during economic recovery and expansionary periods. In addition, BHCs audited by industry specialists, on average, have lower absolute value of discretionary accruals. This is consistent with our first hypothesis. The difference in discretionary accruals between the two groups is wider during recessionary times, when earnings management behavior is more prevalent. This highlights the role of industry-specialist auditor in curbing earnings management behavior in recessionary periods when it bound to happen at a larger scale and with high frequency.

Next we conduct univariate two-sample t-test between BHCs bank years that were audited by industry specialists and those that were audited by non-specialists. Results are reported in Table 2. Again, BHCs firm years audited by industry specialists have significantly lower level of  $|D\_AC\_REG|$  compared to those audited by non-industry specialists. We also test the difference



between the discretionary accruals of the two groups for firm years with positive discretionary accruals ( $D\_AC\_REG > 0$ ) and for firm years with negative discretionary accruals, ( $D\_AC\_REG < 0$ ). For firm years with positive discretionary accruals, we find bank firm years audited by industry specialists have significantly lower discretionary accruals. The result provides preliminary support for our second hypothesis and is consistent with the fact that audits conducted by industry specialists tend to curb earning enhancing behaviors. On the other hand, the t-test for firm years with negative discretionary accruals is positive and significant. That is, bank years audited by industry specialists tend to have discretionary accruals closer to zero compared to firm years audited by non-industry specialists. This also provides preliminary support for our third hypothesis and underscores the fact that industry-specialist audit firms are able to better curb earnings-reducing behavior when banks are inclined to under-report earnings.

**Table 2: Two-sample t-test of discretionary accruals**

Variable	D_AC_REG			D_AC_REG > 0			D_AC_REG < 0		
	Obs	Mean	Std. Err.	Obs	Mean	Std. Err.	Obs	Mean	Std. Err.
Bank_Spciast	641	.0022566	.0000839	364	.0022871	.0001101	277	-.0022166	.0001298
Non_Spciast	1906	.0029211	.0000662	978	.0026691	.0000728	928	-.0031866	.0001117
Difference		-.0006644	.0001241		-.0003820	.0001369		.0009700	.0002165
	Ha: diff < 0, Pr(T < t) = 0.00			Ha: diff < 0, Pr(T < t) = 0.01			Ha: diff > 0, Pr(T > t) = 0.00		

Notes: absolute (|D\_AC\_REG|), positive (D\_AC\_REG > 0), and negative (D\_AC\_REG < 0) discretionary accruals

Although univariate tests in Table 2 support our hypotheses, other variables that affect earnings management behavior of BHCs are not controlled for. We conduct further tests of earnings management behavior as a function of audit firm’s market share. The results of Model (3) are reported in Panel B of Table 3. The descriptive statistics of the variables used in Model (3) are reported in Panel A of Table 3.  $D\_AC\_REG\_P$  is discretionary accruals when it is positive, while  $D\_AC\_REG\_N$  is discretionary accruals when it is negative. Other variables are defined in Section 3 - Methodology. We run pooled OLS regression of discretionary accruals on  $Market\_Share$  and other control variables. Influential observations are deleted using Cook’s (1977) criteria. The results are reported in Panel B of Table 3. In the first version of Model (3),  $Market\_Share$  has a negative and significant effect on absolute value of discretionary accruals. The result supports our first hypothesis that discretionary accruals are lower for BHCs audited by audit firms with higher market share in the banking industry. This is indeed consistent with existing literature and shows the importance of auditor’s expertise in providing good quality audit. The second version of Model (3) examines the effect of  $Market\_Share$  on discretionary accruals for firm years with positive discretionary accruals.  $Market\_Share$  is negative and significant, providing support for our second hypothesis. That is, discretionary accruals are lower for firms audited by audit firms with higher market share in the banking industry when BHCs report positive discretionary accruals. This is when auditor expertise becomes even more important in providing quality audits. In a highly litigious business environment such as the United States, auditors have to be cautious of firms which may mislead investors by managing earnings upwards because it may be very costly to the auditor’s reputational capital. The third version of Model (3) examines the effect of  $Market\_Share$  on earnings management behavior of BHCs with negative discretionary accruals. We do not find strong evidence that audit firms with high market share actually curb the tendency of BHCs to manage earnings downwards.

$Market\_Share$  has the expected positive sign; however, it is statistically insignificant. Our findings are consistent with the earnings management literature; industry-specialist auditors reduce the earnings management behavior of banks. The findings also highlight the priorities of industry-

specialist auditors. Auditors seem to be more concerned when earnings is being managed upwards than downwards.

**Table 3**  
Descriptive Statistics and OLS Regressions Controlling for Year Effects

<b>Panel A: Descriptive Statistics</b>						
<b>Variables</b>	Obs	Mean	Std. Dev.	Min	Median	Max
D_AC_REG	2410	0.00233	0.00195	0.00000	0.00182	0.01000
D_AC_REG_P	1294	0.00236	0.00191	0.00000	0.00188	0.00995
D_AC_REG_N	1116	-0.00231	0.00200	-0.01000	-0.00174	0.00000
LNASSETS	2410	14.78757	1.56624	12.10387	14.38876	21.58156
<b>Market_Share</b>	2410	0.10663	0.14178	0.00002	0.00837	0.40869
<i>Growth</i>	2410	0.08066	0.12985	-0.32673	0.05516	1.03277
<i>EBTP</i>	2410	0.01577	0.00963	-0.04731	0.01599	0.08038
<i>Equity_To_TA</i>	2410	0.09609	0.02671	0.00073	0.09323	0.38070
<i>Loans_To_TA</i>	2410	0.68005	0.12617	0.02343	0.69760	0.94587
<b>Panel B: OLS regression with dummy for bank years</b>						
<b>Independent Variables</b>	<b> D_AC_REG<sub>it</sub> </b>	<b>D_AC_REG &gt; 0</b>	<b>D_AC_REG &lt; 0</b>			
	<b>Model (3A)</b>	<b>Model (3B)</b>	<b>Model (3C)</b>			
LNASSETS	0.000031	-0.000002	-0.000025			
<b>Market_Share</b>	-0.000991***	-0.001010***	0.000594			
<i>Growth</i>	0.000111	0.001760***	0.002280***			
<i>EBTP</i>	-0.015000***	-0.009390	0.017600**			
<i>Equity_To_TA</i>	0.000294	0.002700	0.006460***			
<i>Loans_To_TA</i>	0.002090***	0.001650***	-0.002660***			
<i>Constant</i>	0.000049	0.000296	-0.000617			
Adjusted R-squared	0.167000	0.183000	0.236000			
F	27.230000***	18.380000***	16.360000***			
Year controls	YES	YES	YES			
Observations	2410	1,267	1,140			

Notes: Panel A presents the descriptive statistics for the variables used in Model (3). Panel B presents pooled OLS regression model of discretionary accruals using data from 2005 to 2012. The regressions control for year fixed effects and influential observations are deleted using Cook's (1977) criteria. Model (3A) has |D\_AC\_REG|, an absolute value of discretionary accruals, as a dependent variable; Model (3B) has D\_AC\_REG as a dependent variable for firm years with D\_AC\_REG greater than zero; Model (3C) has D\_AC\_REG as a dependent variable for firm years with D\_AC\_REG less than zero. In panel B, we present OLS regression results. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% level, respectively

## 6. Conclusion

An audit firm's size and specialization have been found to affect earnings quality. We examine the relationship between audit firms' market share in the banking industry and the discretionary accruals of publicly traded BHCs. We find a negative and significant relationship between audit firms' market share and BHC's absolute value of discretionary accruals. This result is consistent with the existing literature and indicates that auditors provide higher quality audits when they have more expertise within an industry.

We further investigate the impact of auditor expertise in curbing upward manipulation of earnings. We find a negative and significant relationship between audit firm's market share and

discretionary accruals for firm years with positive discretionary accruals. We conclude that audit firms who specialize in auditing BHCs play a positive role in curbing accounting choices that enhance earnings. However, when we investigate the relationship between discretionary accruals and audit firm's market share for firms with negative discretionary accruals, we find a positive and insignificant relationship. Thus, an audit firm's market share does not play significant role in curbing the discretionary made by BHCs that reduce earnings. We conclude that auditors may be more inclined to reduce discretionary accruals when firms manage earnings upwards than when they manage it downwards.

While our findings indicate that discretionary accruals are lower for audits conducted by industry specialists, our results suggest that all accruals are not treated equally. The fact that industry-specialist auditors are more inclined to mitigate earnings-enhancing discretionary accruals compared to earnings-reducing discretionary accruals has two implications. First, earnings-enhancing accruals may be more costly to the auditor if they are later found to be improper. An auditor faces litigation losses and a loss of reputation in cases where financial statements are misstated. Therefore, auditors can have the tendency to be more cautious of earnings-enhancing discretionary accruals. Second, auditors may view the informational value of the two types of discretionary accruals differently. Even though both discretionary types of accruals could be used to signal management's private information, auditors may find more value in the information content of negative discretionary accruals compared to that of positive discretionary accruals. That is, auditors may be more lenient towards conservative reporting practices because they may think negative discretionary accruals are more informative to market participants than positive discretionary accruals. Whether investors assign more value to positive discretionary accruals compared to negative discretionary accruals is left for future research.

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