

Earnings Management through Capitalizing Operating Costs: Evidence from Accounting for Policy Acquisition Costs in the Insurance Industry

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Abstract

We examine whether managers of public insurers use reporting discretion in capitalizing policy acquisition costs to manage earnings, and the extent to which accounting standards that provide guidance in practice could deter insurers from managing earnings. The accounting standard, ASU 2010-26, establishes a higher threshold at which acquisition costs meet eligibility for deferral. We expect this guidance to reduce the discretion afforded to managers to categorize acquisition costs as an asset. We find empirical evidence that public insurers manage earnings through capitalizing acquisition costs before ASU 2010-26, which became effective in 2012, but not after 2012. We also find that this earnings management is achieved primarily through capitalizing discretionary rather than nondiscretionary acquisition costs. Furthermore, the capitalized acquisition costs are more significantly associated with contemporaneous stock returns and future insurance premiums in the period after ASU 2010-26, suggesting that the capitalization of acquisition costs under the ASU 2010-26 guidance is more value relevant for investors. Taken together, our empirical results indicate that public insurers manage earnings through capitalizing rather than expensing acquisition costs, and that accounting standards that limit such discretion can help reduce this pattern of earnings management and increase the value relevance of the accounting information.

Keywords: Earnings management; Accounting discretion; Insurance industry

JEL No: M41; G22; G28

**Earnings Management through Capitalizing Operating Costs:
Evidence from Accounting for Policy Acquisition Costs in the Insurance Industry**

1. Introduction

This paper studies whether managers of public insurers use reporting discretion in deferred policy acquisition costs (DAC or DFPAC, the asset account associated with the costs of acquiring insurance contracts) to manage earnings, and the extent to which accounting standards that provide guidance in practice could deter insurers from managing earnings. This investigation is a valuable research area because statutory reports of insurers provide detailed data on the components of the policy acquisition costs, permitting an opportunity to measure managerial discretion.

Policy acquisition costs in the insurance industry represent expenditures incurred in the normal course of business that are associated with activities relating to the acquisition of new contracts and the maintenance of existing contracts. Typical policy acquisition costs include agent commissions, general operating expenses, taxes, licenses and fees. While Statutory Accounting Principles (SAP) prescribed by the National Association of Insurance Commissioners (NAIC) require insurers to expense all acquisition costs immediately, GAAP permits insurers to capitalize certain costs as an asset account (i.e. DAC) and to amortize them over the life of related policies in proportion to expected future gross profits.¹ This provides an empirical setting to investigate whether managers use the discretion of capitalizing certain operating costs to manage earnings.² Capitalizing operating costs instead of expensing them immediately is considered to be a pervasive accounting practice

¹ The economic magnitude of the amount of capitalized deferred acquisition cost (CDPAC) is significant for insurers. For our sample firms, the average CDPAC is 2% of total assets and 16% of total insurance premiums. See section 2.1 of the paper for more background information on policy acquisition costs in the insurance industry.

² There are several channels through which public insurers could use DAC to manage earnings including the capitalization of policy acquisition costs, overstating the persistence rate of insurance policies thus insufficiently amortizing DAC, and the failure to write down DAC assets when needed. Our focus is on the first channel of capitalization of policy acquisition costs.

(Schilit and Perler 2010). However, there is limited research about this earnings management mechanism.³ It is challenging to identify an empirical setting in which managers are provided discretion and the capitalized amount can be quantified. The accounting of policy acquisition costs in the insurance industry provides a suitable setting for this investigation. First, GAAP permits insurers to capitalize certain policy acquisition costs, and the capitalized amount of acquisition costs can be collected from public insurers' 10-K filings, which allows a direct examination. Second, the detailed information of acquisition costs and insurance premiums disclosed in insurance statutory reports helps address the issue of measuring the level of accruals (deferrals) absent managerial bias in the area of earnings management (McNichols and Wilson 1988, McNichols 2000).⁴ Specifically, we are able to more clearly identify acquisition costs with a long-term benefit (and more likely should be capitalized) from other acquisition costs that might involve more discretion.

We first examine whether managers of public insurers use reporting discretion in capitalizing acquisition costs to manage earnings.⁵ As mentioned earlier, GAAP permits insurers to capitalize certain policy acquisition costs as an asset. Earlier accounting standards (FAS 60) define DAC vaguely, describing such costs as those that “vary with and are primarily related to the acquisition of insurance contracts.” Thus, insurers and auditors were left to interpret which expenses were eligible for deferral, leading to a broad range of expenses being categorized as DAC. Given the vague

³ We note that there are two differing views on earnings management. While some researchers consider it to be opportunistic managerial behavior due to capital market pressure and/or managerial compensation contracting, others view it as an optimal reporting choice of managers to signal to the capital market about the future of the company (see, Beatty and Harris 1999 and Arya, Glover and Sunder 2003 for example). While we do not take a stand in the investigation of whether managers use discretion to manage earnings, we conduct value relevance tests of the capitalized policy acquisition costs (CDPAC) in further analyses to disentangle these two views.

⁴ Accruals are expected future cash receipts and payments resulting from current and past transactions, and deferrals are expected future expenses and revenues resulting from current and past cash receipts and payments.

⁵ The incentive to manage capital is not relevant in our setting because the Risk-Based Capital (RBC) requirements are enforced by the state regulators under statutory accounting standards. Statutory accounting standards, however, require expensing of all policy acquisition costs. Therefore, managers do not have the discretion to manage capital through the choice of capitalizing versus expensing policy acquisition costs.

definitions, it is plausible that managers of public insurers can use this accounting flexibility to manage earnings by capitalizing acquisition costs associated with unsuccessful acquisitions that did not result in long term benefits rather than expensing them right away.

Next, we investigate the extent to which accounting standards that limit managerial discretion could deter firms from managing earnings. In October 2010, the FASB announced ASU 2010-26 to address concerns that the ambiguity of DAC-able costs allowed firms to abuse the DAC asset, and to create comparability within the insurance industry. This guidance became effective for fiscal years beginning after December 15, 2011 (i.e. starting fiscal year 2012). ASU 2010-26 tightens the DAC definition to “costs that are related *directly* to the *successful* acquisition of new or renewal insurance contracts.” Specifically, the updated guidance imposes two restrictions on the acquisition costs that can be capitalized: the first is to limit the capitalized acquisition costs to only those associated with *successful* placement of business, and the second is to restrict the capitalization costs to be *directly* linked to top-line sales. We expect this guidance to create a higher threshold at which acquisition costs meet eligibility for deferral, which could reduce the discretion afforded to managers to categorize acquisition costs as DAC.

Using a sample of public insurance companies during the period of 2009-2014, we examine whether the likelihood of managing earnings through capitalizing acquisition costs changes after ASU 2010-26 became effective in 2012. We focus on two proxies of earnings management – meeting or just beating last year’s earnings to avoid earnings decreases, and meeting or just beating analyst consensus earnings forecasts (Beaver, McNichols and Nelson 2003; Gunny 2010).

Briefly, we find that capitalized acquisition costs are positively and significantly associated with the likelihood of meeting or just beating earnings benchmarks, suggesting that public insurers manage earnings through capitalizing rather than expensing acquisition costs. However, we only

observe this result in the period before ASU 2010-26. We do not find significant results, suggesting that public insurers manage capitalized acquisition costs to meet or beat earnings benchmarks in the period after ASU 2010-26 became effective.

One notable feature of the insurance industry is that the insurers file statutory reports to state regulators in which they provide more details about the categories of acquisition costs and insurance premiums. This allows us to identify components of acquisition costs that involve more discretion. Of the insurance policy acquisition expenditures, sales commissions are paid as sales are placed, so most of these expenditures should be capitalized based on the matching principle. In contrast, insurers are likely to have more discretion over the accounting treatment for expenditures such as office expenses under the earlier accounting standards. We estimate a model that uses insurance premiums and components of acquisition costs as determinants of capitalized acquisition costs. Consistent with our expectation that ASU 2010-26 reduces managerial discretion in capitalizing more discretionary acquisition costs, the results show that capitalized acquisition costs are more (less) significantly associated with insurance premiums and sales commissions (office expenses) after ASU 2010-26 became effective.

We then develop a prediction model of capitalized acquisition costs as a function of changes in insurance premiums, which indicate the success of the insurers' policy acquisitions. From this prediction model, we derive discretionary and nondiscretionary components of capitalized acquisition costs. We predict and find evidence that earnings management is achieved primarily through capitalizing discretionary acquisition costs.

We further analyze this pattern separately for private insurers, and fail to detect evidence of earnings management through managing acquisition costs. Given the differences in ownership structure, public insurers' shareholders are more likely than private insurers' shareholders to rely on

simple earnings benchmarks to evaluate firm performance (Beatty, Ke and Petroni 2002). As such, managers of public insurers might have stronger incentive to manage earnings. The results from this test using private insurers help address the concern that our results on public insurers are not attributable to earnings management, but simply a reflection of the underlying earnings distribution.

We also analyze this pattern separately for life insurers and other insurers. Life insurers are those with the ratio of total assets of life insurance subsidiaries over total assets of the insurance holding company in the top tercile of the distribution. We find that our main empirical results are concentrated in public life insurers, suggesting that these companies have more reporting discretion in accounting for acquisition costs as a result of the nature of their business models.

Finally, we investigate value relevance of the capitalized acquisition costs. There is a debate about the incentive to manage earnings. While some consider earnings management as opportunistic managerial behavior, others view it as an optimal reporting choice of managers to signal to the capital market about the future of the company (Arya et al. 2003). While the finding of public insurers managing earnings through capitalizing acquisition costs does not provide insights about the incentive to manage earnings, the value relevance tests of the capitalized policy acquisition costs (*CDPAC*) help disentangle these two views. If the accounting choice of capitalizing acquisition costs is a signal to the capital market about the future of the company or reflects the proper application of the matching principle, we would expect the capitalized acquisition amount to be positively associated with contemporaneous stock returns and future insurance premiums. On the other hand, if the accounting choice is a result of opportunistic reporting behavior, we would not expect capitalized acquisition costs to be value relevant. The results suggest that capitalized acquisition costs are more significantly associated with contemporaneous stock returns and future insurance premiums in the period after ASU 2010-26

relative to the period before, indicating that the capitalization of acquisition costs under the ASU 2010-26 guidance is more informative about the insurers' economic fundamentals.

Taken together, our empirical results indicate that managers of public insurers manage earnings through capitalizing rather than expensing acquisition costs, and that accounting standards that limit such discretion can help reduce this pattern of earnings management. The empirical evidence from the value relevance analyses is more consistent with the view that the use of discretion to manage earnings through capitalizing acquisition costs captures opportunistic reporting behavior.

Our paper makes two primary contributions. First, our study contributes to the literature on earnings management. We provide systematic empirical evidence about earnings management through capitalizing instead of expensing operating costs using a unique deferral account of public insurers. While prior studies document earnings management activities in the insurance industry, these studies mainly focus on loss reserves of property-casualty (P&C) insurers (e.g. Petroni 1992; Beaver et al. 2003). Given that life insurers incur significant up-front acquisition expenses in policy's first-year premiums, our study provides some insights on understanding accounting practices that impact life insurers. While we also use detailed information disclosed in insurance statutory reports to isolate managerial discretion, our paper is distinct in that we study a specific accounting choice – whether to capitalize or expense operating costs.

Second, the FASB is expected to issue an exposure draft on changes to the accounting for long-duration insurance contracts that revise the recognition and amortization model for DAC which includes specific guidelines of discount rates and amortization methods. Examining ASU 2010-26 could generate insights into the extent to which providing more specific guidance in accounting standards is more informative for investors.

2. Background, Related Research, and Hypothesis Development

2.1 Background

The focus of our investigation is accounting for *policy acquisition costs* in the insurance industry, the large upfront costs incurred by the insurance companies in acquiring new business and maintaining existing business.⁶ These costs are in the form of commissions to sales agents, underwriting, bonuses and other acquisition expenditure. While Statutory Accounting Principles (SAP) require insurers to expense all acquisition costs immediately, GAAP allows insurers to capitalize some costs as an asset (i.e. DAC), and amortize them over the life of related policies. The income effect of the policy acquisition costs capitalized versus expensed could be substantial. The matching principle requires that the acquisition costs be capitalized and amortized in proportion to the revenues earned in the future. However, given that capitalizing rather than expensing acquisition costs increases both reported earnings and assets, the uncertainty surrounding the estimation of the capitalized acquisition amounts provides managers with discretion to manage earnings.

Before 2012, the primary accounting standard on accounting treatment for insurance acquisition costs is SFAS 60 – Accounting and Reporting by Insurance Enterprises (FASB 1982). SFAS 60 defines policy acquisition costs as “those costs that vary with and are primarily related to the acquisition of new and renewal insurance contracts.” With regard to the accounting treatment, SFAS 60 states, “Acquisition costs should be capitalized and charged to expense in proportion to premium revenue recognized.”

In October 2010, the FASB announced ASU 2010-26 that addresses the diversity in practice regarding the interpretation of which costs relating to the acquisition of new or renewal insurance contracts qualify for deferral (FASB 2010). The guidance became effective for fiscal years beginning

⁶ We found nine out of ten firms describing DAC accounting in their 10-K ‘Summary of Significant Accounting Policies’ section.

after December 15, 2011 (i.e. starting fiscal year 2012) and allowed early adoptions.

ASU 2010-26 tightens the DAC definition to “costs that are related *directly* to the *successful* acquisition of new or renewal insurance contracts” based on the following four criteria: (1) incremental *direct costs* of a *successful* contract acquisition; (2) portions of employees’ salaries and benefits *directly related* to time spent performing specified acquisition activities for a contract that has been acquired; (3) other costs *directly related* to the specified acquisition activities that would not have been incurred had that acquisition contract transaction not occurred; (4) advertising costs that meet the capitalization criteria in other US GAAP guidance (i.e., certain direct-response marketing).⁷

2.2 Hypothesis Development

We first investigate whether managers of public insurers use reporting discretion in capitalizing acquisition costs to manage earnings. There is uncertainty surrounding the estimation of the capitalized acquisition amounts, which provides managers with discretion to manage earnings. As mentioned above, SFAS 60 was the earlier accounting standard on accounting treatment for insurance acquisition costs, which provided a vague definition on the characteristics of policy acquisition costs that qualify for deferral. This presents an opportunity for managers and auditors to interpret which expenses could be eligible for deferral, which could lead to a broad range of expenses being categorized as DAC. Therefore, we hypothesize that public insurers could use this discretion to manage earnings by capitalizing policy acquisition costs as DAC.⁸

⁷ See EY (2018): “Accounting for certain life insurance and annuity products.”

(https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=2ahUKEwiwlcFwSLngAhXp7IMKHcfCDeoQFjABegQICBAC&url=https%3A%2F%2Fwww.ey.com%2Fpublication%2Fvwlassetsdld%2Ffinancialreportingdevelopments_00362-181us_lifeannuity_25january2018-v2%2F%24file%2Ffinancialreportingdevelopments_00362-181us_lifeannuity_25january2018-v2.pdf&usg=AOvVaw3Y7jNfq17BNbRsgoYD_Ao-)

⁸ Observing AAER for anecdotal evidence, there is a case that the SEC filed a civil fraud action lawsuit in 2004 against three former officers of New England Financial (NEF), a subsidiary of MetLife, Inc., for misclassifying some overhead expenses as sales commissions. This resulted in the improper capitalization of over \$100 million in expenses, the direct result of which was the publication of materially false financial statements of MetLife, the holding company

The earnings management proxies we use are the incidences of meeting or just beating earnings benchmarks, specifically last year's earnings and analyst consensus earnings forecasts. We focus on these benchmark beating proxies because studies of earnings management suggest that the disproportionate likelihood of meeting or just beating earnings benchmarks is a significant indication of earnings management (Burgstahler and Dichev 1997; Degeorge, Patel, and Zeckhauser 1999). The two most important earnings benchmarks are earnings of prior years and analyst consensus earnings forecasts. Survey evidence also suggests CFOs believe that meeting or beating earnings benchmarks is important (Graham, Harvey and Rajgopal 2005). We formalize the hypothesis below, stated in the alternative form:

H1: Public insurers meet or just beat earnings benchmarks through capitalizing rather than expensing policy acquisition costs.

The second objective of our study is to assess the extent to which accounting standards that provide more guidance in practice could deter firms from managing earnings. In October 2010, the FASB announced ASU 2010-26 to address the diversity in practice regarding the characteristics of policy acquisition costs that qualify for deferral (FASB 2010). Specifically, ASU 2010-26 designates two features of the capitalized acquisition costs under GAAP. First, only acquisition costs that result from actually obtaining a contract (i.e. successful efforts) can be capitalized as DAC. Before ASU 2010-26, companies usually did not differentiate between insurance policies that eventually were issued versus policies not taken. This is because insurance companies in general determined deferrable costs based on a block or portfolio of business. However, ASU 2010-26 requires companies to observe these costs at a contract level. Second, only these costs resulting directly from and essential to the successful contracts can be capitalized, such as sales commissions, third-party medical and inspection

(<https://www.sec.gov/litigation/admin/ia-2489.pdf>).

fees for successful contract acquisition, premium related taxes and assessment. In the past, however, some companies deferred expenses related to product development, administrative costs, rent, data processing equipment, training and/or market research etc. These expenses are no longer eligible for deferral under ASU 2010-26 because these are considered period costs that would have been incurred by the insurer regardless of the actual contract transaction.

Therefore, ASU 2010-26 establishes a higher threshold at which acquisition costs meet eligibility for deferral. We expect the new guidance to reduce the discretion afforded to managers to categorize acquisition costs as DAC and thus deter managers from managing earnings through capitalization of policy acquisition costs. We formalize the hypothesis on the impact of ASU 2010-26 below, stated in the alternative form:

H2: Public insurers are less likely to meet or just beat earnings benchmarks through capitalizing rather than expensing policy acquisition costs post ASU 2010-26 relative to pre ASU 2010-26.

Finally, we investigate the incentive to manage earnings through capitalizing acquisition costs. There are two opposing views about the incentive of using discretion to manage earnings. The popular financial press and some scholars argue that earnings management is a reflection of opportunistic managerial behavior, which might arise from capital market pressure and managers' risk associated with equity ownership or stock-based compensation. Prior research finds that meeting or beating earnings benchmarks has significant impacts on capital markets. In particular, firms that meet earnings benchmarks are rewarded with equity premiums, and firms that miss earnings benchmarks face significant declines in stock prices (Bartov, Givoly and Hayn 2002; Kasznik and McNicholes 2002; Skinner and Sloan 2002). The majority of managerial wealth is concentrated in their equity holdings and stock-based compensation, which are sensitive to stock prices. This could provide incentive for managers to use discretion to manage earnings and increase short-term stock price (Ofek and Yermack

2000; Cheng and Warfield 2005).

On the other hand, some scholars view earnings management as an optimal reporting choice to signal to the capital market. Arya et al. (2003) argue that earnings management and managerial discretion are inherently linked to serve multiple functions. The dispersal of information across people is an important characteristic of a decentralized organization. As such, a managed earnings stream can convey more information than an unmanaged earnings stream. Consistent with this view, Beatty and Harris (1999) document that public banks are more likely to use realizations of securities gains and losses to manage earnings than private banks, but that the portion of the current period realized securities gains and losses attributable to earnings management is more positively associated with next period's earnings. Their findings suggest that managers of public banks manage earnings to reduce information asymmetry.

We acknowledge that we are not able to make inferences on the incentive to manage earnings through the investigation of whether public insurers use discretion in capitalizing acquisition costs to manage earnings. However, the empirical analyses of the value relevance of the capitalized policy acquisition costs (*CDPAC*) are likely useful to help disentangle the two views. If the accounting choice of capitalizing acquisition costs is a signal to the capital market about the company's future performance or reflects the proper application of the matching principle, we expect that the capitalized acquisition amount would be positively associated with contemporaneous stock returns and future insurance premiums pre-ASU 2010-26 when managers have more discretion, and that these associations become weaker post-ASU 2010-26. Alternatively, if the accounting choice is a result of opportunistic reporting behavior, we do not expect to observe a significant association between the capitalized acquisition amount and contemporaneous stock returns and future insurance premiums pre-ASU 2010-26, but anticipate these associations to become stronger post ASU 2010-26 when the

discretion is reduced. We formalize the hypotheses below, stated in alternative forms:

H3a: If the use of discretion to capitalize acquisition costs to manage earnings is a signal to the capital market or is a proper application of the matching principle, CDPAC is positively associated with contemporaneous stock returns and future insurance premiums pre-ASU 2010-26, and these associations between CDPAC and value indicators are weaker post ASU 2010-26 relative to pre-ASU 2010-26.

H3b: If the use of discretion to capitalize acquisition costs to manage earnings reflects opportunistic reporting behavior, CDPAC is not associated with contemporaneous stock returns and future insurance premiums pre-ASU 2010-26, and these associations between CDPAC and value indicators are stronger post ASU 2010-26 relative to pre-ASU 2010-26.

2.3 Related Research

This study is closely related to the accounting choice literature in the insurance industry. A large body of research in earnings management uses accruals models, but the inferences drawn from these models are often confounded by the difficulty of measuring the level of accruals (deferrals) absent managerial bias (McNichols and Wilson 1988). To overcome this problem, McNichols (2000) suggests that researchers focus on a specific industry and model specific accruals where they could use institutional knowledge to characterize the non-discretionary and discretionary components. A number of papers adopt this strategy, focusing on loss reserves estimated by firms in the property-casualty (P&C) insurance industry. The loss reserve is the largest liability of P&C insurers, and the estimation of the reserve requires significant managerial judgment. Importantly, the total claim losses paid are disclosed in statutory reports, which could be used as an unbiased expectation of claim losses. Petroni (1992) uses the difference between the estimated expectation and the liability reported on the balance

sheet to measure managerial bias, and documents that managers of financially weak insurers underestimate their claim loss reserves relative to other insurers. Subsequent research employs a similar strategy, and documents that P&C insurers manage loss reserves to justify the competitive level of insurance premiums to regulators (Nelson 2000), avoid financial distress and regulatory interventions (Gaver and Paterson 2004), and for managerial compensation purposes (Eckles and Halek 2010). While insurers understate loss reserves to increase earnings in most cases, insurers sometimes overstate reserves for tax and regulatory reporting purposes (Gaver and Paterson 1999).

Along those lines, Beaver et al. (2003) examine the relation between discretionary loss reserve accruals and the distribution of reported earnings of a sample of P&C insurers. They find that public insurers with small positive earnings understate loss reserves relative to those with small negative earnings, suggesting that public P&C insurers manage reserve accruals to avoid losses.

Our study follows prior accounting literature in the insurance industry by leveraging institutional characteristics of the insurance companies. The detailed information on insurance premiums and acquisition costs disclosed in insurance statutory reports also permits us to more clearly identify the level of deferrals absent managerial bias. Our paper is distinct from prior literature in that we study a specific accounting choice – whether to capitalize or expense policy acquisition costs – which is not explored before.

Our study is also related to the early literature on oil and gas accounting as well as the literature on R&D/ intangible accounting. For oil and gas accounting, the primary focus is on whether to use full cost (FC) or successful efforts (SE) methods to account for oil and gas exploration costs. Full-cost accounting allows capitalization of expenditures for oil and gas exploration regardless of the eventual success or failure of the venture. In contrast, successful efforts accounting only allows the capitalization of expenditures that result in discovery, which is similar in spirit to the guidance on

capitalizing policy acquisition costs under ASU 2010-26. The FASB issued an exposure draft that proposed the elimination of full cost in favor of successful efforts accounting for oil and gas companies on July 15, 1977. Just 13 months later, the SEC reversed the FASB position by recommending the continuance of both FC and SE accounting on August 29, 1978. Several papers evaluate the economic consequences of the accounting standard changes by examining stock market reactions to the announcements of the FASB exposure draft and the subsequent SEC rejection (Collins and Dent 1979; Dyckman and Smith 1979; Lev 1979; Collins, Rozeff and Salatka 1982). While the evidence is not conclusive, these studies generally find more negative market reactions to the announcement of the FASB exposure draft for the FC firms relative to the SE firms, and more positive market reactions to the SEC reversal announcement for the FC firms relative to the SE firms. With regard to the choice between the FC and SE accounting, prior research finds that firms' accounting choices are consistent with efficient contracting. For example, Malmquist (1990) hypothesizes and finds that firms are more likely to choose full cost accounting if they are more levered, accessing public bond market, smaller, and with a greater proportion of resources devoted to drilling and exploration rather than producing.

The R&D / intangible accounting literature focuses on the value relevance of intangible capitalization. Aboody and Lev (1998) document that annually capitalized software development costs are positively associated with stock returns. There is limited research on the accounting choice for R&D / intangible development expenditures because US firms are required to expense almost all R&D/ intangible development expenditures. Cazavan-Jeny, Jeanjian and Joos (2011) use a French setting where managers can choose to capitalize R&D expenditures under certain circumstances, and document that R&D capitalizers spend less on R&D, have more volatile R&D efforts, are smaller and more levered than firms that expense.⁹ They also find that capitalizers tend to capitalize R&D

⁹ Under French GAAP, managers can choose to capitalize R&D expenditures if they believe the outlay will lead to commercial success.

expenditures when they need to meet or beat earnings thresholds, but the inferences are clouded by other factors such as the managers' ability to estimate the earnings power of R&D.¹⁰

Our paper extends this line of research by identifying a unique empirical setting where the discretion the managers have about whether to capitalize or expense operating costs decreased after the new accounting standard was in effect. The detailed information from insurance statutory reports also permits us to separate acquisition costs with a long-term benefit (and should be capitalized) from other acquisition costs that involve more discretion.

3. Data and Sample

To identify public insurance companies, we first obtain sample insurers from Compustat for the time period 2009 – 2014. After removing observations that have missing *DFPAC* (Deferred Policy Acquisition Costs), we hand collect observations that have missing *CDPAC* (Capitalized Deferred Policy Acquisition Costs) from the SEC Edgar and firms' 10-K filings. The focus of our empirical analyses is on *CDPAC*. After deleting firm-year observations with missing information on *CDPAC*, *IB* (Income before Extraordinary Items)¹¹, and *AT* (Total Assets), we identify 125 sample firms and 605 firm-year observations for the period 2009 – 2014. Table 1 describes the sample selection process for the empirical analyses.

We use CRSP and I/B/E/S to obtain actual earnings per share and mean consensus analyst forecast closest to annual earnings announcement dates. To obtain firms' statutory information (i.e. agents' and brokers' commissions and other types of policy acquisition costs), we utilize SNL Financial

¹⁰ Several papers examine managerial discretion in the allocation of purchase price to goodwill in M&A, and find some evidence of opportunistic allocation behavior. Shalev, Zhang and Zhang (2013) find that CEOs whose compensation contracts contain earnings based bonuses are more likely to over-allocate the purchase price to goodwill, and Kubic (2018) documents that recording a measurement period fair value adjustment post-acquisition allows firms to exceed earnings thresholds in a disproportionate number of cases.

¹¹ We utilize IB instead of NI (Net Income) variable since Compustat documents net income information in IB variable for insurance companies checking firms' 10-K filings.

database. To link GAAP financial information with statutory financial information, we utilize SEC filings, firms' websites, NAIC's (National Association of Insurance Commissions) *Listing of Companies* reports from 2009 to 2014, and the NAIC's company search website.¹² Specifically, we first obtain company information from SEC 10-K filings or company's websites. Then we compare the company information with the information from the NAIC's company search website, so we can identify a firm's statutory NAIC group number or company code. Lastly, to ensure that we capture the correct parent-subsidary information, we adjust firm-year information based on the NAIC's *Listing of Companies* reports considering firms' merger and acquisition activities.

Panel A of Table 2 reports the descriptive statistics of the full sample. The average (median) *CDPAC* is 2% (0.7%) of total assets, the average probability to avoid earnings declines (*INCREASE*) is 0.337, and the average probability to meet or just beat analyst consensus earnings forecast (*MEET_BEAT*) is 0.046.

Panel B presents Pearson and Spearman pairwise correlation coefficients. The results show a significant, positive correlation between *NI* and *CDPAC*. We also note negative correlations between *CDPAC* and *SIZE* at the 1% level. For the overall sample period, the correlation between *CDPAC* and the likelihood of avoiding earnings decreases (*INCREASE*) is negative and statistically significant at the 10% level.

Table 3 reports more descriptive statistics by separating the sample period into two periods before and after 2012, which is when ASU 2010-26 was adopted. We do not find a significant difference in *CDPAC* before and after 2012.

4. Research Designs and Empirical Results

¹² <https://eapps.naic.org/cis/companySearch.do>

4.1 Earnings Management through Capitalizing Acquisition Costs and the Impact of ASU 2010-26

Stakeholders and regulators showed concerns about the diversity of practice in the insurance policy acquisition costs that were being capitalized and amortized (SOA 2011). We predict that public insurers use reporting discretion in DAC to engage in earnings management. The accounting standard ASU 2010-26 tightened the definition of deferrable acquisition costs, which we predict to reduce insurers' discretion to categorize acquisition expenditures as DAC. Our proxies of earnings management are the incidences to meet or just beat earnings benchmarks. We first consider public insurers' likelihood to meet prior years' earnings. Following Gunny (2010), we define *INCREASE* as an indicator variable that equals one when the difference in the net income between periods *t* and *t-1*, scaled by total assets at the end of period *t-1*, is between 0 and 0.01, and zero otherwise. Next, we analyze the likelihood of public insurers to meet or beat analyst consensus earnings forecasts. *MEET_BEAT* equals one if a firm's actual earnings per share less the most recent analyst consensus earnings forecast just prior to the firm's annual earnings announcement is above zero and below 0.01, and zero otherwise. Specifically, we estimate the following logit regression:

$$\begin{aligned} INCREASE \text{ or } MEET_BEAT = & \beta_1 Post + \beta_2 CDPAC + \beta_3 Post*CDPAC + \beta_4 SIZE \\ & + \beta_5 MB + \beta_6 LEVERAGE + YEAR FE \end{aligned} \quad (1)$$

where *Post* is an indicator variable that equals one for the period 2012–2014 and zero for the period 2009–2011, and *CDPAC* is the annual capitalized acquisition costs scaled by total assets. We also include firm size (*SIZE*), the market-to-book ratio (*MB*), firm leverage (*LEVERAGE*) and year fixed effects as controls.

Table 4 reports the results from estimating regression model (1). The dependent variable is *INCREASE* in column (1), and *MEET_BEAT* in column (2). Across the two columns, we find a

positive and significant coefficient on *CDPAC*, supporting the hypothesis that public insurers use reporting discretion in capitalizing policy acquisition costs to meet or beat earnings benchmarks. We find a negative and significant coefficient on the interaction term of *Post* and *CDPAC* for both earnings management proxies, which suggests that ASU 2010-26 reduces public insurers' discretion to categorize operating expenses as assets to meet or beat earnings benchmarks.¹³

4.2 Discretionary and Nondiscretionary CDPAC

One main challenge for our study is that the inferences of earnings management are confounded by the difficulty of measuring the level of deferrals absent managerial discretion (McNichols and Wilson 1988, McNichols 2000). We address this issue by examining the detailed data on the components of the acquisition costs disclosed in the statutory reports that insurers file to their state regulators.¹⁴ Of different types of policy acquisition expenditures, we are able to identify commissions, office expenses, and selling expenses from statutory filings. Sales commissions are paid when sales are placed, so there is less discretion involved in the accounting treatment of sales commissions. On the other hand, managers of public insurers have more discretion over the accounting treatment for agency office expenses and selling expenses especially when the threshold at which acquisition costs meet eligibility for deferral is lower under SFAS 60. As a first step, we investigate the

¹³ We repeat the regressions in table 4 by removing observations in fiscal years 2011 and 2012, the transition years of the two different accounting standards. We obtain qualitatively similar results when the dependent variable is *INCREASE*. The signs of the coefficients remain the same but the coefficients are no longer statistically significant when the dependent variable is *MEET_BEAT*, which might be a result of reduced power.

¹⁴ There are in general six categories of acquisition costs that can be capitalized under SFAS 60: sales commissions, producer bonuses/rewards, agency manager compensation, agency office expenses/rents, marketing expenses/product information, medical exams, and underwriter compensation. (See http://www.scorgloballifeamericas.com/en-us/knowledgecenter/Pages/Forms/AllItems.aspx?Paged=TRUE&PagedPrev=TRUE&p_SortBehavior=0&p_PublishingContact=James%20Addiego&p_Created=20160729%2018%3A08%3A22&p_ID=599&SortField=PublishingContact&SortDir=Asc&PageFirstRow=151&SortField=PublishingContact&SortDir=Asc&&View=%7BA5B26658-5AB1-4518-81E2-2BA2FD4D9732%7D)

weights public insurers place on different categories of acquisition costs in determining *CDPAC*. We also consider the impact of insurance premiums. Specifically, we estimate the following OLS regression model:

$$\begin{aligned}
 CDPAC = & \beta_1 Commission + \beta_2 Office\ Exp + \beta_3 Selling\ Exp + \beta_4 \Delta Premiums + \beta_5 Post \\
 & + \beta_6 Post * Commission + \beta_7 Post * Office\ Exp + \beta_8 Post * Selling\ Exp \\
 & + \beta_9 Post * \Delta Premiums + YEAR\ FE
 \end{aligned} \tag{2}$$

Table 5 shows the results of estimating regression model (2). The dependent variable is *CDPAC* in both columns. Column (1) shows the results without insurer and year fixed effects, and column (2) shows the results with insurer and year fixed effects. We find that the coefficient on *Office Exp* is positive and significant, suggesting that insurers tend to capitalize more discretionary acquisition costs before ASU 2010-26. However, the coefficient on the interaction term of *Office Exp* and *Post* is negative and significant, supporting the expectation that discretionary acquisition costs are unlikely to meet eligibility for deferral after ASU 2010-26. In contrast, the interaction term of *Commission* and *Post* along with that of $\Delta Premiums$ and *Post* are positive and significant, indicating that acquisition costs that are directly related to the successful acquisition of insurance contracts are more likely to be capitalized under ASU 2010-26.

We expect managers of public insurers to manage earnings through the accounting treatment of more discretionary acquisition costs, and the effect of ASU 2010-26 to reduce earnings management to be more prominent in more discretionary acquisition costs. On the other hand, we expect to find non-result for nondiscretionary acquisition costs from the pre- to the post-ASU 2010-26 period. To test this prediction, we estimate a prediction model of *CDPAC* by year as a function of changes in insurance premiums, which indicates the success of the insurers' acquisition activity. This model is similar in spirit to the Jones' model in estimating nondiscretionary and discretionary accruals (Jones 1991). Table 6 Panel A presents the results of estimating the prediction model of *CDPAC*. Column (1) shows the

regression results for the period before ASU 2010-26, which finds an insignificant coefficient on $\Delta Premiums$. In contrast, the results in column (2) demonstrate a positive and significant coefficient on $\Delta Premiums$ for the period after ASU 2010-26. The association between *CDPAC* and $\Delta Premiums$ is stronger after ASU 2010-26, suggesting the amount of capitalized policy acquisition costs are more closely linked to the success of the insurers' operations.

We use the predicted values from the prediction model as a proxy of nondiscretionary *CDPAC*, and the residuals as a proxy of discretionary *CDPAC*. We estimate the following regression models to test the association between insurers' discretionary (nondiscretionary) *CDPAC* and earnings management measures:

$$\begin{aligned} INCREASE \text{ or } MEET_BEAT = & \beta_1 Post + \beta_2 Discretionary CDPAC \\ & + \beta_3 Post * Discretionary CDPAC + \beta_4 SIZE + \beta_5 MB + \beta_6 LEVERAGE + YEAR FE \end{aligned} \quad (3.1)$$

$$\begin{aligned} INCREASE \text{ or } MEET_BEAT = & \beta_1 Post + \beta_2 Nondiscretionary CDPAC \\ & + \beta_3 Post * Nondiscretionary CDPAC + \beta_4 SIZE + \beta_5 MB + \beta_6 LEVERAGE \\ & + YEAR FE \end{aligned} \quad (3.2)$$

Panel B of Table 6 reports the results from running regression models (3.1) and (3.2). The dependent variable is *INCREASE* in columns (1) and (3), and *MEET_BEAT* in columns (2) and (4). Consistent with our expectation, we do not find statistically significant coefficients on the interaction term of *Post* and *Nondiscretionary CDPAC* across the first two columns.¹⁵ However, columns (3) and (4) find that the coefficient on *Discretionary CDPAC* is positive and significant, and the interaction term of *Post* and *Discretionary CDPAC* is negative and significant. The contrasting results between using *Nondiscretionary CDPAC* and *Discretionary CDPAC* provide support that managers of public insurers using reporting discretion to manage earnings but that accounting standards that provide

¹⁵ We note that the positive and significant coefficient on *Nondiscretionary CDPAC* in column (1) might capture the mechanical relation between *INCREASE* and $\Delta Premiums$. We do not observe a similar result when *MEET_BEAT* is the dependent variable in column (2).

guidance in practice could deter insurers from managing earnings.

4.3 Private Insurance Companies and Life Insurance Companies

Next, we conduct a falsification test using private insurers to address the concern that our results on public insurers are not attributable to earnings management, but simply a reflection of the underlying earnings distribution. We argue that private insurers face less capital market pressure relative to public insurers because public insurers' shareholders are more likely than private insurers' shareholders to rely on simple earnings benchmarks to evaluate firm performance (Beatty, Ke and Petroni 2002). Therefore, managers of public insurers are more likely to exercise discretion to manage earnings through the accounting treatment on policy acquisition costs.

Private insurers are required to follow SAP to file statutory reports to state regulators. SAP values insurance companies as if they were in liquidation rather than continuing in business, so it adopts a more conservative approach relative to GAAP, and requires insurance companies to expense all related policy costs rather than capitalizing them. Private insurers do not report *CDPAC* in the statutory filings, so we use two different proxies of *CDPAC*. The first proxy is the amount of general expenses, and the second is the amount of agency commissions. Private insurers do not follow GAAP, so we do not expect that ASU 2010-26 has effects on them. Thus, we estimate the following regression for private insurers:

$$\mathbf{INCREASE} = \beta_1 \mathbf{Post} + \beta_2 \mathbf{Proxy_CDPAC} + \beta_3 \mathbf{Post*Proxy_CDPAC} + \beta_4 \mathbf{SIZE} + \beta_5 \mathbf{MB} + \beta_6 \mathbf{LEVERAGE} + \mathbf{YEAR FE} \quad (4)$$

Table 7 reports the results from estimating regression model (4) for private insurers. Given that *MEET_BEAT* is not available for private insurers, we run regressions of *INCREASE* as a dependent variable. Columns (1) and (2) show the results when the proxies of *CDPAC* are general operating expense (*General_Exp*) and agent commissions (*Commission*), respectively. The coefficients on each

proxy of *CDPAC* and the interaction term are not statistically significant. The failure to observe evidence of earnings management through managing acquisition costs in private insurers indicates that our primary results are more likely to reflect earnings management of public insurers rather than a result of the underlying earning distribution of insurance companies. However, there is a caveat in interpreting our results because public insurers' accounting for policy acquisition costs under GAAP is different from private insurers' accounting for policy acquisition costs. The proxies of *CDPAC* of private companies used in the empirical analyses might not capture the underlying construct.

We further explore cross-sectional differences by observing different types of insurance businesses. Moody's and some comment letters state that the accounting standard impact would be stronger for life insurance relative to other insurance sectors.¹⁶ Given that life insurers hold longer duration insurance contracts than other insurers, they would have more discretion to manage earnings through capitalizing policy acquisition costs. Thus, we expect that the empirical results of earnings management through capitalizing acquisition costs would be stronger for life insurers, and that ASU 2010-26 would have a more pronounced effect on life insurers. To investigate this possibility, we separately estimate regression model (1) for life insurers and other insurers, where life insurers are defined as holding life assets more than 67% of the overall holding company's total assets (top tercile).

Table 8 reports the results from estimating regression model (1) for life insurers and other insurers. The regression results for life insurers are presented in columns (1) and (2). We observe similar results of a positive and significant coefficient on *CDPAC*, and a negative and significant coefficient on the interaction term of *Post* and *CDPAC* for the sample of life insurers. Columns (3) and (4) report the regression results for other insurance companies. We do not find statistically significant

¹⁶ <https://www.propertycasualty360.com/2011/10/20/moodys-new-accounting-rules-alone-should-not-impac/?slreturn=20190216125129>,
<http://www.fasb.org/cs/BlobServer?blobkey=id&blobnocache=true&blobwhere=1175827834734&blobheader=application%2Fpdf&blobcol=urldata&blobtable=MungoBlobs>

coefficients on *CDPAC* or the interaction term. These results support our expectation that the business models are different across life and other insurers.

4.4 The Value Relevance of Capitalized Acquisition Costs (*CDPAC*)

Finally, we investigate whether the amount of capitalized policy acquisition costs is value relevant for investors in order to shed some light on the incentive of earnings management. Following Aboody and Lev (1998), we use two different approaches to examine the value relevance of *CDPAC*: associating stock returns with contemporaneous financial data and examining the predictive ability of *CDPAC* with respect to subsequent revenues (insurance premiums). We conduct the value relevance tests in the pre- and post-ASU 2010-26 periods separately to examine the effect of reduced reporting discretion.

The first value relevance test focuses on the association between unexpected *CDPAC* and contemporaneous annual stock returns, which measures the extent to which information reflected in the capitalization of policy acquisition costs is consistent with that used by investors. We estimate the following regression:

$$RET_t = \beta_1 CDPAC_t + \beta_2 \Delta CDPAC_t + \beta_3 Adj. NI_t + \beta_4 \Delta Adj. NI_t + \beta_5 PRE_CDPAC_t + YEAR FE \quad (5.1)$$

where RET_t is the insurer's annual stock returns, cumulated from nine month before fiscal t year-end through three months after it, $CDPAC_t$ is the level of *CDPAC* at end of year t, $\Delta CDPAC_t$ is the annual change in *CDPAC*, $Adj. NI_t$ is the current period adjusted annual earnings (defined as earnings before amortization of DAC), and $\Delta Adj. NI_t$ is the current period changes in adjusted earnings. The variable PRE_CDPAC_t is the predicted value of *CDPAC* for each insurer-year obtained from the annual regression of *CDPAC* on $\Delta Premiums$. We also include year fixed effects in the regression model.

Our next value relevance test examines the association between *CDPAC* and future insurance

premiums. The prediction of future insurance premiums (revenues) is of significant importance to investors. A positive and significant association between capitalized policy acquisition costs and future insurance premiums provides strong evidence of value relevance. We estimate the following regression

$$\mathbf{Premium}_{t+1, t+2} = \beta_1 \mathbf{CDPAC}_t + \beta_2 \mathbf{Adj. NI}_t + \mathbf{YEAR FE} \quad (5.2)$$

where $Premium_{t+1, t+2}$ is one-year or two-year ahead insurance premiums. The variable of interest is $CDPAC_t$. We include $Adj. NI_t$ and year fixed effects in the regression model.

The value relevance results presented in Panel A of Table 9 reports the results on estimating regression model (5.1). We find an insignificant coefficient on $\Delta CDPAC$ in the period before ASU 2010-26 (column 1), and a positive and significant coefficient on $\Delta CDPAC$ in the period after ASU 2010-26 (column 2). The results suggest that the annual capitalized amount of policy acquisition costs is more value relevant when reporting discretion is reduced as a result of more stringent accounting standards.

Panel B displays the results on estimating regression model (5.2). The dependent variable is one year ahead insurance premiums in columns (1) and (2), and two year ahead insurance premiums in columns (3) and (4). The results show that the amount of current period capitalized acquisition costs is significantly and positively associated with subsequent reported insurance premiums in the periods both before and after the implementation of ASU 2010-26. However, the coefficient on $CDPAC$ is of higher magnitude in the period after ASU 2010-26 relative to the period before, and the difference in the coefficient $CDPAC$ across the two periods is statistically significant. The results are consistent with the notion that the capitalization of policy acquisition costs under the ASU 2010-26 guidance provides more value relevant accounting information about the insurers' future fundamentals.

5. Conclusion

In this paper, we study whether managers of public insurers use reporting discretion in policy acquisition costs to manage earnings, and the extent to which accounting standards that provide guidance in practice could deter insurers from managing earnings.

Acquisition costs represent expenditures that an insurer spends to sell and initiate insurance contracts. GAAP permits public insurers to capitalize certain costs as an asset and amortize them over the life of related policies in proportion to expected future gross profits. The vague language under the earlier accounting standards provides managers of public insurers with the discretion to determine the expenses eligible for deferral. We expect managers of public insurers to use this accounting flexibility to manage earnings by capitalizing operating costs as DAC rather than immediately expensing them. However, the recent accounting standard ASU 2010-26 establishes a higher threshold at which acquisition costs meet eligibility for deferral, so we expect this guidance to substantially reduce the discretion afforded to managers to categorize acquisition costs as an asset.

We find empirical evidence that managers of public insurers manage earnings through capitalizing acquisition costs before ASU 2010-26 became effective, but not after ASU 2010-26. The results also suggest that this earnings management is achieved primarily through capitalizing discretionary rather than nondiscretionary acquisition costs. We additionally analyze this pattern separately for private insurers, and fail to detect evidence of earnings management through managing policy acquisition costs. Furthermore, the amount of capitalized acquisition costs is more significantly associated with contemporaneous stock returns and future insurance premiums in the period after 2010-026 relative to the period before, suggesting that capitalization of acquisition costs under the ASU 2010-26 guidance results in more value relevant accounting information

Collectively, our paper documents empirical evidence suggesting that managers of public

insurers manage earnings through capitalizing rather than expensing acquisition costs, and that accounting standards that limit such discretion can help reduce this pattern of earnings management and increase the relevance of the accounting information. The empirical evidence from the value relevance analyses is more consistent with the view that the use of discretion to manage earnings through capitalizing acquisition costs captures opportunistic reporting behavior. Our study contributes to the earnings management literature by providing direct empirical evidence of earnings management through a specific accounting choice – whether to capitalize or expense operating costs.

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Appendix A. Variable Definitions

Variable	Definition
Adjusted NI	Adjusted annual net income of firm (i.e. reported income plus amortization of DAC), scaled by total assets. Obtained from Compustat.
BVPS	Book value of equity per share minus the capitalized software asset per share at year-end
CDPAC	Book value of equity per share. Obtained from Compustat. Capitalized deferred policy acquisition costs scaled by total assets. This item represents policy acquisition costs capitalized in the current period for recovery future periods. Policy acquisition costs such as agent's commissions, underwriting expenses, medical fees, and marketing expenses are deferred and amortized over future periods as a method of matching revenues and expenses. Obtained from Compustat.
CDPAC_PS	CDPAC per share. Obtained from Compustat.
Commission	Agent commissions paid, scaled by total assets. Net commission and brokerage expense are the sum of direct, excluding contingent expense, reinsurance assumed, excluding contingent expense, contingent-direct expense, contingent-reinsurance assumed, and policy and membership fees. Obtained from SNL Financial data.
Discretionary CDPAC (the residual)	Residual values from a regression model that uses Δ Premiums and commissions to predict CDPAC.
EPS	Earnings per share. Obtained from Compustat.
General_Exp	Insurance general expenses paid during year, scaled by total assets. Obtained from SNL Financial data.
INCREASE	Similar to Srinidhi et al. (2011), Frankel, et al. (2002) and Ashbaugh et al. (2003), we define INCREASE as an indicator variable that takes a value of one when the difference in the net income between periods t and (t-1), scaled by beginning of year total assets (t-1) falls in the interval (0, 0.01), and zero otherwise.
LEVERAGE	Total Liabilities scaled by total assets. Obtained from Compustat.
MB	Market-to-Book. Calculated as [Total Assets (AT) - Common Shareholders' Equity (CEQ) + Common Shares Outstanding * Price Close (CSHO*PRCC_f)], scaled by total assets. Obtained from Compustat.
MEET_BEAT	An indicator variable equal to 1 if the reported I/B/E/S actual earnings per share (EPS) less the last consensus analyst EPS forecast immediately preceding firm's annual earnings announcement date falls in the interval (0, 0.01), and zero otherwise.
NI	Net Income scaled by total assets. Obtained from Compustat.

Nondiscretionary CDPAC (the predicted value)	Predicted values from a regression model that uses Δ Premiums and commissions to predict CDPAC.
Office Exp.	General office expenses (ex. Rental expense) and depreciation expense, scaled by total assets. Obtained from SNL Financial data.
POST	An indicator variable equal to 1 for the post-transition period, and 0 for the pre-transition period. POST is 0 for fiscal years 2009–2011 and 1 for 2012–2014.
ΔPremiums	Changes in insurers' premiums earned, scaled by total assets. Obtained from SNL Financial data.
Selling Exp.	Selling expense (ex. Advertising, traveling expenses), scaled by total assets. Obtained from SNL Financial data.
SIZE	Log of total assets. Obtained from Compustat.

Table 1: Sample Selection

This table details the sample selection process discussed in Section 3 and the number of observations in each step.

Description	Firms	Firm-Year
Firms with non-missing DFPAC (Deferred Policy Acquisition Costs), 2009-2014	137	699
Delete missing CDPAC after hand collecting from company's filings	-12	-76
Delete other missing information (ex. Net income, Total Asset)	0	-18
Main Sample:	125	605
	-33	-151
Statutory Sample:	92	454

Table 2: Descriptive Statistics
Panel A: Total Sample

This table reports the descriptive statistics of the variables used in the empirical analysis. All continuous variables are winsorized at the 1% and 99% levels. See Appendix A for variable definitions.

Variable	N	Mean	Std Dev	1st Pctl	25th Pctl	Median	75th Pctl	99th Pctl
CDPAC	605	0.020	0.027	0.000	0.002	0.007	0.032	0.118
NI	605	0.018	0.043	-0.141	0.006	0.017	0.033	0.113
MB	605	0.767	0.116	0.504	0.689	0.769	0.854	0.976
LEVERAGE	605	0.757	0.122	0.443	0.685	0.763	0.849	0.965
SIZE	605	9.190	1.727	5.917	7.908	9.086	10.208	13.224
INCREASE	605	0.337	0.473	0.000	0.000	0.000	1.000	1.000
MEET_BEAT	542	0.046	0.210	0.000	0.000	0.000	0.000	1.000
Δ Premiums	454	0.197	0.200	0.006	0.076	0.153	0.247	1.089
Commission	454	0.046	0.056	0.000	0.010	0.027	0.058	0.304
Office Exp.	454	0.009	0.011	0.000	0.002	0.006	0.012	0.060
Selling Exp.	454	0.002	0.003	0.000	0.001	0.001	0.003	0.014
Discretionary CDPAC (the residual)	454	0.000	0.026	-0.078	-0.015	-0.006	0.012	0.082
Nondiscretionary CDPAC (the predicted value)	454	0.024	0.016	0.005	0.015	0.019	0.026	0.088

Panel B: Correlation Table

This table reports the pairwise correlation table with Spearman in upper diagonal and Pearson in lower diagonal. All variables are defined in Appendix A, and continuous variables are winsorized at the 1st and 99th percentiles. Numbers in bold indicate statistical significance at least at the 5% level.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)	CDPAC	1												
(2)	NI	0.150 (0.00)	1											
(3)	MB	-0.350 (0.00)	-0.410 (0.00)	1										
(4)	LEVERAGE	-0.360 (0.00)	-0.410 (0.00)	0.940 (0.00)	1									
(5)	SIZE	-0.370 (0.00)	-0.110 (0.02)	0.610 (0.00)	0.570 (0.00)	1								
(6)	INCREASE	-0.110 (0.02)	0.0500 (0.30)	0.160 (0.00)	0.130 (0.00)	0.200 (0.00)	1							
(7)	MEET_BEAT	0.0400 (0.38)	0 (0.94)	0.0200 (0.66)	0.0300 (0.48)	-0.0600 (0.22)	0.0500 (0.33)	1						
(8)	Δ Premiums	0.320 (0.00)	0.180 (0.00)	-0.410 (0.00)	-0.410 (0.00)	-0.410 (0.00)	-0.110 (0.02)	-0.0200 (0.62)	1					
(9)	Commission	0.400 (0.00)	0.180 (0.00)	-0.420 (0.00)	-0.410 (0.00)	-0.430 (0.00)	-0.140 (0.00)	0 (0.92)	0.720 (0.00)	1				
(10)	Office Exp.	0.410 (0.00)	0.110 (0.02)	-0.390 (0.00)	-0.410 (0.00)	-0.400 (0.00)	-0.120 (0.01)	-0.0200 (0.71)	0.700 (0.00)	0.860 (0.00)	1			
(11)	Selling Exp.	0.310 (0.00)	0.170 (0.00)	-0.310 (0.00)	-0.330 (0.00)	-0.260 (0.00)	-0.0800 (0.07)	-0.0600 (0.20)	0.540 (0.00)	0.650 (0.00)	0.760 (0.00)	1		
(12)	Discretionary CDPAC (the residual)	0.840 (0.00)	0.0300 (0.47)	-0.170 (0.00)	-0.180 (0.00)	-0.150 (0.00)	-0.0400 (0.39)	0.0700 (0.18)	-0.0100 (0.76)	0 (0.95)	0 (1.00)	0 (1.00)	1	
(13)	Nondiscretionary CDPAC (the predicted value)	0.540 (0.00)	0.220 (0.00)	-0.380 (0.00)	-0.390 (0.00)	-0.450 (0.00)	-0.140 (0.00)	-0.0200 (0.66)	0.620 (0.00)	0.750 (0.00)	0.770 (0.00)	0.590 (0.00)	0 (1.00)	1

Table 3: Descriptive Statistics of Pre and Post- ASU 2010-26 standard periods

This table reports the descriptive statistics for pre- and post- ASU 2010-26 sample periods. All continuous variables are winsorized at the 1% and 99% levels. See Appendix A for variable definitions. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

Variable	PRE ASU 2010-26				POST ASU 2010-26				Difference in Median	Difference in Means
	N	Mean	Std Dev	Median	N	Mean	Std Dev	Median	POST - PRE	POST - PRE
CDPAC	312	0.020	0.027	0.008	293	0.020	0.027	0.006	-0.002	0.007
NI	312	0.017	0.048	0.016	293	0.019	0.037	0.018	0.001	0.02
MB	312	0.762	0.120	0.765	293	0.772	0.113	0.781	0.015	** -0.649
LEVERAGE	312	0.754	0.125	0.761	293	0.760	0.119	0.768	0.007	-0.635
SIZE	312	9.089	1.680	8.989	293	9.298	1.773	9.243	0.254	** -7.316
INCREASE	312	0.298	0.458	0.000	293	0.379	0.486	0.000	0.000	** 0.188
MEET_BEAT	284	0.060	0.238	0.000	258	0.031	0.174	0.000	0.000	0.114
Δ Premium	221	0.200	0.196	0.151	233	0.195	0.204	0.154	0.004	-0.005
Commission	221	0.047	0.058	0.028	233	0.046	0.055	0.026	-0.001	-0.001
Office Exp.	221	0.009	0.011	0.005	233	0.009	0.012	0.006	0.000	0.000
Selling Exp.	221	0.003	0.003	0.001	233	0.002	0.003	0.001	0.000	0.000
Discretionary CDPAC (the residual)	221	0.000	0.026	-0.006	233	0.000	0.026	-0.005	0.001	0.000
Nondiscretionary CDPAC (the predicted value)	221	0.024	0.018	0.019	233	0.024	0.015	0.019	0.001	-0.001

Table 4: Effects of ASU 2010-26 on Insurance Firms' Incentive to Engage in Earnings Management

This table presents regression results from the estimation of Equation (1), which examines Hypotheses 1a and b. See Appendix A for variable definitions. Standard errors in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

VARIABLES	(1) INCREASE	(2) MEET_BEAT
Post	0.163*** (0.057)	0.025 (0.047)
CDPAC	1.536* (0.933)	0.841* (0.461)
Post*CDPAC	-3.391*** (1.254)	-0.979* (0.562)
SIZE	0.043*** (0.014)	-0.012 (0.009)
MB	0.569 (0.602)	-2.959 (2.724)
LEVERAGE	-0.108 (0.568)	3.148 (2.702)
Observations	605	456
Year FE	YES	YES
Pseudo R2	0.0818	0.0673

Table 5: Weights Placed on Different Categories of Acquisition Costs in Determining CPDAC

This table presents regression results from the estimation of Equation (2). See Appendix A for variable definitions. Standard errors in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

VARIABLES	(1) CDPAC	(2) CDPAC
Commission	-0.014 (0.056)	-0.014 (0.102)
Post*Commission	0.166* (0.091)	0.165* (0.097)
Office Exp.	1.362*** (0.349)	1.347** (0.550)
Post*Office Exp.	-1.505*** (0.551)	-1.484** (0.591)
Selling Exp.	-0.474 (1.026)	-0.396 (1.142)
Post*Selling Exp.	1.258 (1.387)	1.171 (1.137)
Δ Premiums	0.079 (0.058)	0.092** (0.043)
Post*ΔPremiums	0.165** (0.074)	0.152 (0.102)
Post	-0.001 (0.003)	-0.002 (0.004)
Observations	454	454
R-squared	0.255	0.256
Firm FE	NO	YES
Adj R2	0.240	0.234

Table 6: Discretionary and Nondiscretionary CDPAC**Panel A: The Prediction Model of CDPAC**

This table presents regression results from estimating CDPAC on Δ Premiums. See Appendix A for variable definitions. Standard errors in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

VARIABLES	(1)	(2)
	<i>Pre-Period</i> CDPAC	<i>Post-Period</i> CDPAC
ΔPremiums	0.103 (0.081)	0.317*** (0.083)
Observations	233	221
Firm FE	YES	YES
Adj R2	-0.00104	0.176

Panel B: Earnings Management

This table reports the results from running regression models (3.1) and (3.2). See Appendix A for variable definitions. Standard errors in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

VARIABLES	(1) INCREASE	(2) MEET_BEAT	(3) INCREASE	(4) MEET_BEAT
Post	0.269 (0.181)	-0.053 (0.109)	0.069 (0.064)	0.036 (0.052)
Nondiscretionary CDPAC*Post	-8.797 (8.646)	3.242 (3.873)		
Nondiscretionary CDPAC	0.632*** (0.211)	-0.054 (0.078)		
Discretionary CDPAC*Post			-2.912** (1.308)	-0.965* (0.509)
Discretionary CDPAC			0.578*** (0.223)	0.937*** (0.017)
SIZE	0.040** (0.017)	-0.018* (0.010)	0.040** (0.016)	-0.016 (0.010)
MB	0.747* (0.396)	-4.065 (5.082)	0.813** (0.406)	-5.221 (5.822)
LEVERAGE	-0.544 (0.379)	4.292 (5.105)	-0.586 (0.379)	5.535 (5.844)
Observations	454	350	454	350
Year FE	YES	YES	YES	YES
Pseudo R2	0.0704	0.0698	0.0738	0.0749

Table 7: Private Insurers

This table presents regression results from the estimation of Equation (4) for private insurers. See Appendix A for variable definitions. Standard errors in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

VARIABLES	(1) INCREASE	(2) INCREASE
Post	0.115***	0.102***
	-0.037	-0.037
General_Exp	-0.443	
	-0.635	
Post*General_Exp	-1.313	
	-0.882	
Commission		-0.545
		-0.337
Post*Commission		-0.546
		-0.437
SIZE	0.023***	0.025***
	-0.006	-0.006
LEVERAGE	0.172**	0.134*
	-0.074	-0.069
Observations	1,677	1,677
Year FE	YES	YES
Pseudo R2	0.0644	0.0673

Table 8: Cross-sectional Analyses

We categorize firms to be life insurance firms if a firm's life assets consist of more than 67% of its total assets (life assets > 67% of total assets) and categorize firms to be non-life insurance firms if a firm's life assets consist of less than 67% of its total assets (life assets < 67% of total assets). We then estimate Equation (1) for life and non-life insurance firms. See Appendix A for variable definitions. Standard errors in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

VARIABLES	Life Insurers		Non-Life Insurers	
	(1) INCREASE	(2) MEET_BEAT	(3) INCREASE	(4) MEET_BEAT
Post	0.103	0.185	0.186***	-0.017
	-0.108	-0.17	-0.068	-0.037
CDPAC	3.998*	2.465**	0.548	0.42
	-2.4	-1.197	-0.959	-0.358
Post*CDPAC	-10.995***	-2.313	-1.827	-0.541
	-3.279	-1.448	-1.418	-0.399
SIZE	0.028	0.003	0.042***	-0.013
	-0.025	-0.02	-0.015	-0.01
MB	0.769	-14.944	0.632	-0.826
	-1.618	-9.636	-0.42	-1.654
LEVERAGE	0.334	14.91	-0.653	0.965
	-1.416	-9.647	-0.409	-1.629
Observations	193	143	412	313
Year FE	YES	YES	YES	YES
Pseudo R2	0.195	0.107	0.0694	0.0882

Table 9: Value Relevance of CDPAC**Panel A. Annual Stock Returns**

This table presents regression results from the estimation of regression equation (5.1), which estimates firm's annual return on CDPAC and other control variables. See Appendix A for variable definitions. Standard errors in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

VARIABLES	(1)	(2)
	<i>Pre-Period</i> Annual Stock Return	<i>Post-Period</i> Annual Stock Return
CDPAC	-5.463*** (1.563)	-0.325 (0.628)
ΔCDPAC	-2.066 (6.477)	6.162** (2.994)
AdjustedNI	-0.000 (0.000)	0.000 (0.000)
ΔAdjustedNI	-4.721 (2.957)	1.121 (1.326)
PRED_CDPAC	-44.584 (28.846)	4.385 (2.775)
Observations	200	185
Firm FE	YES	YES
Adj R2	0.221	0.233

Panel B. Future Insurance Premium

This table presents regression results from the estimation of regression equation (5.3), which examines firm's future (t+1) and (t+2) premium levels pre- and post- periods. See Appendix A for variable definitions. Standard errors in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

VARIABLES	(1)	(2)	(3)	(4)
	<i>Pre-Period</i>	<i>Post-Period</i>	<i>Pre-Period</i>	<i>Post-Period</i>
	Premium _{t+1}	Premium _{t+1}	Premium _{t+2}	Premium _{t+2}
CDPAC	1.400***	1.838***	1.424***	1.950***
	(0.422)	(0.406)	(0.458)	(0.412)
Adjusted NI	1.399***	1.726***	1.730***	2.155***
	(0.404)	(0.427)	(0.516)	(0.464)
Observations	210	201	200	189
Firm FE	YES	YES	YES	YES
Adj R2	0.481	0.613	0.466	0.660