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*Research article*

# The effect of communication between internal and external auditors and auditor-provided tax services on accounting conservatism

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**Abstract:** This study examined 4439 firm-year observations from 759 publicly listed manufacturing firms in South Korea (KOSPI) over the period 2018–2024. We investigated whether communication between internal and external auditors (Com) and auditor-provided tax services (APTS) affects conditional accounting conservatism, measured through asymmetric loss recognition using a Basu-style earnings response model. Inter-auditor communication was captured from documented audit interactions disclosed in DART filings, while APTS was identified from tax-related non-audit service disclosures. This empirical setting enabled a focused examination of how audit governance mechanisms influence the timely recognition of economic losses. Enhanced communication between auditors further improves this responsiveness, particularly when internal audit engagement is high, suggesting that governance effectiveness depends on collaborative reporting. While APTS do not directly affect conservatism, their interaction with strong audit governance can either reinforce or weaken conservative reporting practices. These findings challenge the assumption that non-audit tax services necessarily impair auditor independence. Instead, they highlight the importance of integrated audit frameworks that combine rigorous internal oversight with effective inter-auditor collaboration. The study underscores the interdependence of audit control, teamwork, and service complexity in shaping financial reporting quality, offering insights for regulators, auditors, and corporate governance policymakers.

**Keywords:** accounting conservatism; internal audit discipline; auditor communication; tax services; audit governance

**JEL Codes:** M40, H25, C40

## 1. Introduction

Accounting conservatism manifests in two distinct forms: unconditional and conditional conservatism (Elshandidy & Hassanein, 2014). Unconditional conservatism reflects mechanical, ex ante accounting rules that bias reported earnings downward regardless of contemporaneous economic information. Conditional conservatism, by contrast, captures the asymmetric and timely recognition of economic losses relative to gains in response to bad news (Basu, 1997; Glover and Xue, 2023). Because auditors' monitoring, detection, and reporting roles are most consequential when firms experience adverse performance, this study focuses exclusively on conditional conservatism (Yousef et al., 2025). We therefore employ a Basu-style asymmetric earnings response framework, which is explicitly designed to capture differential loss recognition rather than systematic accounting bias (Mora and Walker, 2015; Khalilov, 2025). As firms become increasingly complex, the collaboration between internal and external auditors emerges as a pivotal mechanism for reinforcing conservative accounting practices, while the provision of non-audit services (NAS), especially tax advisory, introduces new dimensions to the ongoing debate over auditor independence and audit quality (Quick et al., 2024; Bleibtreu and Stefani, 2024).

While internal auditors evaluate risk and governance processes within firms, external auditors provide independent assurance to external stakeholders (Manita et al., 2020). Their collaborative synergy, particularly through structured and frequent communication, can enhance the efficiency and reliability of audits, thereby reinforcing the cautious recognition of economic losses in line with conditional conservatism (Desai et al., 2017; Ziorklui et al., 2024). However, empirical research on auditor communication has relied predominantly on indirect or perception-based measures, including survey responses, audit committee characteristics, and internal audit quality proxies (Velte, 2017; Kalembe et al., 2024). While informative, these approaches infer the existence of communication rather than observing realized interaction between internal and external auditors. In contrast, a smaller stream of studies emphasized the value of objective interaction metrics that capture documented coordination activities. Building on this approach, the present study advances measurement validity by operationalizing inter-auditor communication (Com) using disclosed evidence of formal meetings and coordination reported in DART audit filings. This measure captures observable, firm-year-specific communication intensity, reducing measurement error and strengthening causal inference relative to survey-based or structural proxies (Ismael and Kamel, 2021; Rahman et al., 2023).

This study addresses several critical gaps in the literature. First, it operationalizes auditor communication through quantifiable interactions, such as frequency of joint meetings, thereby improving measurement accuracy. Second, it examines the moderating role of auditor-provided tax services on the relationship between inter-auditor communication and accounting conservatism, a rarely explored triadic interaction in empirical studies (Chu and Hsu, 2018; Quick et al., 2023). Third, it distinguishes between unconditional and conditional conservatism, emphasizing the latter's relevance in assessing real-time governance impacts on earnings recognition (Basu, 1997; Bigus and Georgiou, 2025). Finally, by employing panel data techniques with fixed effects, this research controls for firm-specific and temporal variations, thus enhancing causal inference and robustness.

The study aims to empirically assess how communication between internal and external auditors, in conjunction with tax-related NAS, influences the level of conditional accounting conservatism. The findings confirm that structured auditor collaboration fosters more conservative earnings recognition, while tax service provision has a nuanced, moderating effect, strengthening

the impact when oversight structures are robust. These insights contribute significantly to regulatory discourse and audit practice by informing governance reforms and engagement protocols in complex audit environments. This study asks the following causal question: Does communication between internal and external auditors, interacting with auditor-provided tax services (APTS), increase conditional accounting conservatism by accelerating the asymmetric recognition of economic losses? We identify this effect using within-firm variation in auditor communication and APTS intensity, exploiting differences in bad-news timeliness using a Basu-style asymmetric earnings response framework with firm- and time-fixed effects. This design isolates changes in loss recognition behavior attributable to shifts in audit governance within the same firm over time.

## 2. Materials and methods

### *2.1. Hypotheses development*

Accounting conservatism, especially in its conditional form, relies on the timely recognition of bad news relative to good news (Basu, 1997; Mohammed et al., 2017). Internal and external auditors approach financial oversight differently, yet their efforts blend seamlessly. Internal auditors work within the organization continuously and are responsible for both control systems and compliance. External auditors operate independently of an organization and are responsible for certifying the financial statements as fair, accurate, and reliable (Manita et al., 2020; Eulerich and Eulerich, 2020).

H1: Monitoring and detection risk channel

When internal and external auditors engage in structured, frequent communication, they improve joint risk assessments, coordinate audit procedures, and reduce the likelihood that adverse economic information remains undetected or unreported (Desai et al., 2017). Enhanced communication facilitates the sharing of client-specific knowledge and internal control insights, thereby increasing auditors' ability to identify and verify bad news promptly (Selmey et al., 2025). Prior evidence suggests that such collaboration is associated with higher earnings quality, fewer restatements, and more conservative accounting judgments (Ziorklui et al., 2024; Kalembe et al., 2024). However, conditional conservatism hinges on auditors' responsiveness to negative performance signals; improved detection and verification of bad news should translate directly into more timely loss recognition (Elshandidy & Hassanein, 2014). This study advances the literature by empirically isolating this mechanism using objective measures of documented inter-auditor communication, rather than indirect governance proxies.

**H1**: Inter-auditor communication increases accounting conservatism by enhancing auditors' detection and timely recognition of bad news.

H2: Independence versus knowledge spillover channel

The provision of APTS introduces a well-documented governance trade-off. On one hand, tax advisory engagements may strengthen auditors' understanding of a client's transactions, tax positions, and organizational structure, generating knowledge spillovers that improve audit quality and reporting precision (Quick et al., 2023; Bleibtreu and Stefani, 2024). On the other hand, APTS may impair

auditor independence by creating economic bonding or self-review threats, potentially weakening conservative reporting incentives (Chu and Hsu, 2018). These competing forces imply that the effect of APTS on conditional conservatism is theoretically ambiguous ex ante. Empirical studies similarly report mixed evidence, suggesting that APTS alone do not uniformly affect earnings conservatism, but instead operate through interaction with other governance mechanisms (Ismael and Kamel, 2021; Rahman et al., 2023). In particular, when strong internal oversight is in place, APTS may not compromise the conservatism of financial statements. Thus, the governance environment likely determines whether APTS weakens or reinforces earnings conservatism (Chu and Hsu, 2018; Zou and Othman, 2024). In environments with strong oversight and monitoring, knowledge spillovers may dominate; in weaker governance settings, independence concerns may prevail.

**H2:** Audit-provided tax services have an ambiguous effect on conditional accounting conservatism, potentially decreasing conservatism through impaired independence or increasing conservatism through enhanced client-specific knowledge.

H3: Complementarity channel

While inter-auditor communication and APTS may each have limited or ambiguous effects in isolation, their joint presence can fundamentally alter audit outcomes (Idris et al., 2025). Communication between internal and external auditors increases transparency, mutual oversight, and accountability, thereby mitigating independence concerns associated with non-audit services. In such settings, structured communication serves as a governance safeguard, constraining opportunistic behavior and aligning audit objectives (Hegazy and Farghaly, 2021; Hazaea et al., 2024). When communication is strong, the informational benefits of APTS, such as a deeper understanding of tax-related risks, are more likely to be channeled into improved loss recognition rather than compromised independence (Kalembe et al., 2024). This complementarity implies that communication amplifies the positive effects of APTS on conditional conservatism, particularly when firms experience prior-period losses that require heightened auditor judgment (He et al., 2017; Khalilov, 2025). Thus, auditor communication and tax services should significantly affect profit and loss recognition, especially in enterprises with prior-period income reductions.

**H3:** Inter-auditor communication strengthens the positive effect of audit-provided tax services on conditional accounting conservatism by mitigating independence concerns and enhancing transparency.

### *2.2. Research model and definition of variables*

This study employs a quantitative panel data design, grounded in Basu's (1997) earnings response coefficient (ERC) framework, which is extended to incorporate corporate governance mechanisms, specifically inter-auditor communication and auditor-provided tax services (Benameur et al., 2022). Agency theory (Jensen and Meckling, 1976) supports the model by conceptualizing auditors as monitoring agents who mitigate information asymmetry and managerial opportunism. The sample comprises 4439 firm-year observations from 759 publicly traded manufacturing firms listed on the KOSPI from 2018 to 2024. Manufacturing was chosen to minimize inter-industry variation in governance and accounting policies (Yucel et al., 2025). The panel structure enables within-firm

longitudinal analysis, controlling for unobserved heterogeneity. Estimations were performed using fixed effects regression models to capture intra-firm variation and control for time-invariant characteristics that may confound the relationship between audit structures and conservatism (Mummolo and Peterson, 2018). Three hierarchical regression models were developed to test the hypotheses.

$$NI = \beta_0 + \beta_1 Dr + \beta_2 \Delta NILag + \beta_3 (Dr \times \Delta NILag) + \beta_4 Com + \beta_5 (Dr \times Com) + \beta_6 (\Delta NILag \times Com) + \gamma_1 ROA + \gamma_2 Leverage + \gamma_3 Firm\,Size + \gamma_4 AUDTQ + \varepsilon \quad (1)$$

These interaction terms are specified with explicit ex ante predictions grounded in conditional conservatism theory. Under asymmetric loss recognition, we expect the coefficient on $\Delta NILag$ to be negative, reflecting earnings mean reversion, and the coefficient on $Dr \times \Delta NILag$ to be positive, indicating timelier recognition of bad news. If inter-auditor communication enhances monitoring and reduces detection risk, the interaction $Dr \times Com$ is expected to be positive, consistent with stronger conditional conservatism under adverse performance. The expected sign of $Dr \times APTS$ is theoretically ambiguous. If auditor-provided tax services generate knowledge spillovers that improve audit effectiveness, the coefficient should be positive; if independence concerns dominate, the coefficient may be negative. Finally, the three-way interaction $Dr \times Com \times APTS$ captures whether tax services complement or weaken the conservatism-enhancing role of auditor communication, with a positive (negative) coefficient indicating complementarity (substitution).

$$\Delta NI = \beta_0 + \beta_1 Dr + \beta_2 \Delta NILag + \beta_3 (Dr \times \Delta NILag) + \beta_4 APTS + \beta_5 (Dr \times APTS) + \beta_6 (\Delta NILag \times APTS) + \gamma_1 ROA + \gamma_2 Leverage + \gamma_3 Firm\,Size + \gamma_4 AUDTQ + \varepsilon \quad (2)$$

This specification evaluates the standalone effect of auditor-provided tax services (*APTS*) on earnings conservatism, with the interaction $Dr \times APTS$ indicating whether *APTS* weakens or enhances timely loss recognition.

$$\Delta NI = \beta_0 + \beta_1 Dr + \beta_2 \Delta NILag + \beta_3 (Dr \times \Delta NILag) + \beta_4 Com + \beta_5 (Dr \times Com) + \beta_6 (\Delta NILag \times Com) + \beta_7 APTS + \beta_8 (Dr \times APTS) + \beta_9 (\Delta NILag \times APTS) + \gamma_1 ROA + \gamma_2 Leverage + \gamma_3 Firm\,Size + \gamma_4 AUDTQ + \varepsilon \quad (3)$$

The whole interaction model tests moderation effects, capturing whether the joint presence of Com and APTS alters the earnings response to bad news.

### 2.2.2. Variable construction

1. Dependent variable:

- *ΔNI*: Change in net income scaled by lagged total assets. This operationalization follows Basu (1997), enabling comparison across firm sizes and mitigating heteroskedasticity.

2. Key independent variables:

- *Dr*: A dummy equal to 1 if *ΔNI* < 0, representing a negative earnings change or "bad news".
- *Com*: Binary variable indicating whether formal communication (e.g., meetings, shared documentation) occurred between internal and external auditors within the fiscal year.
- *APTS*: Binary variable indicating whether the external auditor provided tax-related NAS during the fiscal year.

3. Interaction terms:

- *Dr*×*Com*: Tests whether inter-auditor communication amplifies conditional conservatism.
- *Dr*×*APTS*: Assesses whether *APTS* influences conservatism under bad news.
- *Dr*×*Com*×*APTS*: Evaluates the triadic effect on conservatism under negative earnings.

4. Control variables (X):

- *ROA*: Return on assets, a proxy for profitability.
- *Leverage*: Total liabilities divided by total assets, reflecting financial risk.
- *Firm Size*: Natural logarithm of total assets.
- *AUDTQ*: Dummy variable for Big Four auditors, capturing audit quality.

All models were estimated using ordinary least squares (OLS) with firm fixed effects and clustered robust standard errors to mitigate heteroskedasticity and autocorrelation. Model fit was assessed through the within R-squared, and overall model significance was evaluated through F-statistics (Stock and Watson, 2008).

**Table 1.** Explanatory variables and data sources used in the estimation.

| Variables | Description | Source |
|---|---|---|
| *ΔNI* | (Total assets-lagged total assets)/lagged total assets | KIS-VALUE (https://www.nicevse.com/vse/main.html) |
| *Dr* | "1" if $\Delta NI_{t-1}$ (changes in net income in previous years), "0" otherwise | |
| *Com* | Number of times that internal and external auditors meet in the financial year. | DART (https://dart.fss.or.kr/) |
| *APTS* | "1" if the external auditor provides tax services, "0" otherwise | KIS-VALUE (https://www.nicevse.com/vse/main.html) |
| *ROA* | Net income/total assets | |
| *Leverage* | Total liabilities/total assets | |
| *FirmSize* | Natural logarithm of total assets | |
| *AUDTQ* | "1" if the external auditor is BIG4, "0" otherwise | |

### *2.3. Sample selection and data sources*

Data for this study were compiled from two primary sources. Financial information, including net income, total assets, leverage, and return on assets, was extracted from audited financial statements obtained via the TS 2000 database (Arellano and Honoré, 2001). Companies in the Korean securities sector can rely entirely on the consistent, dependable data provided here. Additionally, Com and APTS are constructed from disclosures in DART audit reports using a structured, reproducible coding protocol. A keyword dictionary identifying formal joint meetings, coordination activities, shared audit planning, and tax-related non-audit services was developed ex ante based on regulatory guidance and prior literature. Two independent coders reviewed all firm-year audit reports, and discrepancies were resolved through discussion and reconciliation. A coding log was maintained to document all decisions, and each Com and APTS observation is traceable to the underlying disclosure text, creating an audit trail that ensures transparency and reproducibility.

The sample consists of manufacturing firms listed on the KOSPI over the period 2018–2024. Manufacturing firms are selected to reduce heterogeneity in accrual-generating processes, revenue recognition practices, and regulatory environments that may confound earnings-based measures of conditional conservatism. Compared with the financial, utility, and service industries, manufacturing

firms exhibit more comparable operating cycles and cost structures, which strengthens internal validity. Table 1 reports descriptive statistics for the final sample, showing substantial variation in earnings changes, auditor communication, and firm characteristics while maintaining a consistent number of observations across variables. Although restricting the sample to a single industry enhances identification by limiting cross-industry noise, it may limit external validity. Accordingly, the results are most applicable to accrual-intensive sectors with similar audit governance structures, and caution should be exercised when extrapolating to highly regulated or service-based industries (Parsons and Bao, 2022).

### *3.4. Estimation strategy and statistical procedures*

The empirical analysis employs panel regressions with firm, year, and industry-by-year fixed effects. Firm fixed effects control for time-invariant firm characteristics. In contrast, year fixed effects absorb economy-wide shocks affecting all firms; industry-by-year fixed effects further account for time-varying sectoral trends that may jointly influence audit governance and earnings behavior (Thompson et al., 2017; Kim, 2019). To ensure valid statistical inference, standard errors are two-way clustered at the firm and year levels, addressing both serial correlation within firms and cross-sectional dependence across firms in the same year. This specification strengthens identification by isolating within-firm changes in communication and tax service provision from common shocks and correlated errors. Model diagnostics confirmed the absence of multicollinearity and endogeneity among the key predictors. The dependent variable ΔNI was standardized by lagged assets to account for size effects and ensure comparability across firms. The statistical software STATA was used for all estimations. Each regression model included t-values, p-values, and R-squared statistics (Thompson et al., 2017). The coefficients of interaction terms (e.g., *Dr* × *Com, Dr* × *APTS, Dr* × *Com* × *APTS*) were of particular interest, as they capture the marginal effects of communication and tax services under negative earnings scenarios. Significant positive coefficients indicated stronger adherence to conditional conservatism (Breuer and Dehaan, 2024).

### *3.5. Robustness and validity considerations*

To ensure the reliability and validity of the empirical findings, several robustness tests were conducted using alternative model specifications and sub-sample analyses. First, lag structure sensitivity was addressed by substituting the primary earnings change variable (*ΔNI*) with multi-year moving averages to better capture long-term trends in accounting conservatism (Davies et al., 2010; Gebremedhin et al., 2022). Second, industry-fixed effects were incorporated alongside firm fixed effects by including industry-specific dummy variables, thereby controlling for potential sector-related shocks and heterogeneity (Penney et al., 2018). Third, the robustness of audit quality measures was assessed by introducing alternative proxies, such as auditor tenure and audit fees, in place of the Big Four indicator. Collectively, these robustness checks affirmed the consistency of the main results across various specifications (Hassanein & Kokel, 2022). The use of a triangulated methodological approach, integrating theoretically grounded models, empirical precision, and comprehensive control strategies, reinforces the credibility of the study's conclusions and strengthens its contribution to the accounting conservatism literature (Kafle, 2019).

## 3. Results

**Table 2.** Descriptive statistics.

| Variables | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| *ΔNI* | 4439 | 0.0065 | 0.1314 | −1.8969 | 3.8655 |
| *ΔNILag* | 4439 | −0.0005 | 0.2063 | −9.5822 | 2.0550 |
| *Com* | 4439 | 3.3951 | 1.5241 | 0 | 15 |
| *APTS* | 4439 | 0.3753 | 0.8843 | 0 | 14 |
| *ROA* | 4439 | 0.0118 | 0.1152 | −2.2936 | 1.6788 |
| *Leverage* | 4439 | 0.3946 | 0.2181 | 0.0006 | 2.6615 |
| *FirmSize* | 4439 | 20.2335 | 1.4811 | 15.7445 | 26.5070 |
| *AUDTQ* | 4439 | 0.8705 | 0.3358 | 0 | 1 |

Note: The definition of variables is as follows:
*ΔNILag*: Lagged change in net income (prior year's *ΔNI*).
*Dr*: "1" if *ΔNI* t-1 (changes in net income in previous years), "0" otherwise.
Com: Number of times that internal and external auditors meet in the financial year.
*APTS*: "1" if the external auditor provides tax services, "0" otherwise.
*Dr_ΔNILag*: Interaction between *Dr* and *ΔNILag.*
*Dr_APTS*: Interaction between Dr and APTS.
*APTS_ΔNILag*: Interaction between APTS and ΔNILag.
*Dr_APTS_ΔNILag*: Three-way interaction between *Dr*, *APTS*, and *ΔNILag.*
*ROA*: Net income/total assets.
*Leverage*: Total debt/total assets.
*Firm Size*: Natural logarithm of total assets.
*AUDTQ*: "1" for Big 4 auditor, "0" otherwise.

**Table 3.** Pearson correlation analysis of main study variables.

| Variable | ΔNI | ΔNILag | Com | APTS | ROA | Leverage | FirmSize | AUDTQ |
|---|---|---|---|---|---|---|---|---|
| *ΔNI* | 1.000 | | | | | | | |
| *ΔNILag* | −0.209*** | 1.000 | | | | | | |
| *Com* | −0.013 | −0.006 | 1.000 | | | | | |
| *APTS* | −0.004 | −0.002 | 0.143*** | 1.000 | | | | |
| *ROA* | 0.451*** | 0.037** | 0.032 | 0.023 | 1.000 | | | |
| *Leverage* | −0.022 | −0.001 | 0.051*** | 0.058*** | −0.280*** | 1.000 | | |
| *FirmSize* | −0.034** | 0.003 | 0.441*** | 0.275*** | 0.207*** | 0.114*** | 1.000 | |
| *AUDTQ* | −0.017 | −0.016 | 0.123*** | 0.069*** | −0.001 | 0.017 | 0.270*** | 1.000 |

Note: (1) ***p < 0.01, **p < 0.05. (2) The definitions of variables are as in Note 1 of Table 2.

**Table 4.** Fixed effects analysis of Basu's ERC base model and reaction with control variables.

| Variable | Basic model | | Model 1 | |
|---|---|---|---|---|
| | Coefficient | t-stat. | Coefficient | t-stat. |
| *ΔNILag* | −0.5554*** | −18.56 | −0.5395*** | −26.55 |
| *Dr* | 0.0041 | 0.91 | 0.0230*** | 7.43 |
| *Dr_ΔNILag* | 0.4904*** | 14.53 | 0.4857*** | 21.19 |
| *Com* | - | - | - | - |
| *Dr_Com* | - | - | - | - |
| *Com_ΔNILag* | - | - | - | - |
| *Dr_Com_ΔNILag* | - | - | - | - |
| *ROA* | | | 1.1170*** | 65.09 |
| *Leverage* | | | 0.2976*** | 17.13 |
| *FirmSize* | | | −0.1089*** | −16.35 |
| *AUDTQ* | | | −0.0163 | −1.57 |
| Constant | | | 2.0982*** | 15.66 |
| F-statistic | 171.28*** | | 777.40*** | |
| Overall R-squared | 0.0656 | | 0.1678 | |
| Observations | 4439 | | 4439 | |

Note: (1) ***p < 0.01. (2) The definitions of variables are as in Note 1 of Table 2.

**Table 5.** Fixed effects regression results for the effect of auditor communication on accounting conservatism and the influence of auditor-provided tax services on accounting conservatism.

| Variable | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| | Coefficient | t-value | Coefficient | t-value | Coefficient | t-value |
| *ΔNILag* | −0.6431*** | −22.53 | −0.5243*** | −25.48 | −0.6280*** | −21.89 |
| *Dr* | 0.0207*** | 2.74 | 0.0241*** | 7.21 | 0.0209*** | 2.78 |
| *Dr_ΔNILag* | 0.4667*** | 20.21 | 0.4755*** | 20.69 | 0.4567*** | 19.71 |
| *Com* | 0.0038** | 2.32 | - | - | 0.0036** | 2.20 |
| *Dr_Com* | 0.0009 | 0.48 | - | - | 0.0011 | 0.58 |
| *Com_ΔNILag* | 0.0359*** | 5.17 | - | - | 0.0359*** | 5.18 |
| *APTS* | - | - | −0.0010 | −0.41 | −0.0009 | −0.35 |
| *Dr_APTS* | - | - | −0.0047 | −1.39 | −0.0046 | −0.97 |
| *APTS_ΔNILag* | - | - | −0.0478*** | −4.40 | −0.0471*** | −4.36 |
| *ROA* | 1.1157*** | 65.20 | 1.1153*** | 65.14 | 1.1140*** | 65.23 |
| *Leverage* | 0.2989*** | 17.27 | 0.2999*** | 17.29 | 0.3011*** | 17.43 |
| *FirmSize* | −0.1096*** | −16.35 | −0.1095*** | −16.48 | −0.1101*** | −16.47 |
| *AUDTQ* | −0.0155 | −1.50 | −0.0159 | −1.53 | −0.0151 | −1.46 |
| Constant | 2.0959*** | 15.62 | 2.1101*** | 15.79 | 2.1068*** | 15.74 |
| F-statistic | 553.56*** | | 549.18*** | | 429.57*** | |
| Overall R-squared | 0.1727 | | 0.1671 | | 0.1720 | |
| Observations | 4439 | | 4439 | | 4439 | |

Note: (1) ***p < 0.01, **p < 0.05. (2) The definitions of variables are as in Note 1 of Table 2.

**Table 6.** Joint fixed effects regression of auditor communication and tax services on accounting conservatism.

| Variable | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| | Coefficient | t-value | Coefficient | t-value | Coefficient | t-value |
| *ΔNILag* | −0.5431*** | −11.26 | −0.5314*** | −25.37 | −0.6454*** | −22.24 |
| *Dr* | 0.0245*** | 3.18 | 0.0238*** | 7.11 | 0.0219*** | 2.89 |
| *Com* | 0.0060*** | 3.22 | - | - | 0.0036*** | 2.13 |
| *APTS* | - | - | −0.0033*** | −1.13 | −0.0031*** | −0.61 |
| *Dr_ΔNILag* | 0.3320*** | 5.82 | 0.4834*** | 20.65 | 0.4675*** | 20.05 |
| *Dr_Com* | −0.0003*** | −0.12 | - | - | 0.0009*** | 0.42 |
| *Dr_APTS* | - | - | −0.0034*** | −0.97 | −0.0037*** | −1.06 |
| *Com_ΔNILag* | 0.0030*** | 0.21 | - | - | 0.0383*** | 5.50 |
| *APTS_ΔNILag* | - | - | -0.0068*** | −0.26 | 0.0258*** | 1.13 |
| *Com_APTS* | - | - | - | - | −0.0005*** | −0.44 |
| *Dr_Com_ΔNILag* | 0.0431*** | 2.58 | - | - | - | - |
| *Dr_APTS_ΔNILag* | - | - | −0.0541*** | −1.77 | - | - |
| *Dr_Com_APTS_ΔNILag* | - | - | - | - | −0.0310*** | −3.64 |
| *ROA* | 1.1165*** | 65.23 | 1.1135*** | 64.94 | 1.1109*** | 65.06 |
| *Leverage* | 0.2991*** | 17.29 | 0.3004*** | 17.31 | 0.3006*** | 17.42 |
| *FirmSize* | −0.1094*** | −16.32 | −0.1101*** | −16.53 | −0.1113*** | −16.63 |
| *AUDTQ* | −0.0153*** | −1.47 | −0.0160*** | −1.54 | −0.0153*** | −1.48 |
| Constant | 2.0842*** | 15.54 | 2.1201*** | 15.84 | 2.1306*** | 15.91 |
| F-statistic | 504.12*** | | 499.26*** | | 373.95*** | |
| Overall R-squared | 0.1741 | | 0.1665 | | 0.1708 | |
| Observations | 4439 | | 4439 | | 4439 | |

Note: (1) ***p < 0.01. (2) The definitions of variables are as in Note 1 of Table 2.

## 4. Discussion

The analysis reveals important nuances in how Dr, Com, and APTS influence accounting conservatism, as measured by ΔNI's mean-reversion behavior. First, consistent with the established conservatism literature (Basu, 1997), the strong, statistically significant negative coefficients on ΔNILag across all models confirm a pervasive pattern of earnings mean reversion. This supports the interpretation that firms recognize losses more promptly than gains, reflecting cautious financial reporting. Introducing Dr consistently strengthens the conservative response to prior losses, indicating that enhanced internal controls promote more timely and reliable earnings adjustments. This finding aligns with agency theory, which argues that internal monitoring reduces managerial discretion and improves earnings credibility (Li et al., 2020).

The role of Com emerges more subtly but meaningfully when considered alongside internal audit. When Com enters the models jointly with Dr, it strengthens the responsiveness of earnings to past losses, suggesting that enhanced collaboration between internal and external auditors supports the conservative recognition of losses (Gooda et al., 2025). However, the magnitude and precision of Com's coefficient differ when modeled independently versus jointly with APTS, suggesting a complex interplay between communication and tax services. This interplay is particularly evident when APTS

is included alongside Com. Auditor-provided tax services dampen earnings conservatism, as indicated by the reduced size and significance of interaction terms involving APTS, particularly the three- and four-way interactions. These patterns imply that tax service provision potentially compromises auditor independence, thereby weakening conservative accounting behavior. However, this effect is conditional: strong internal audit discipline and active auditor communication appear to mitigate some of these concerns, reflecting a balancing act between multiple audit roles (Gooda et al., 2025).

Differences in the signs and statistical significance of Com and APTS coefficients across models underscore the need for a joint analytical framework. Models that include Com alone tend to emphasize its positive role in fostering conservatism, whereas models incorporating APTS highlight the risks that non-audit services may dilute auditor objectivity (Benameur et al., 2022). The combined models reveal that while communication enhances conservatism, the presence of tax services complicates this relationship, often weakening mean reversion. This joint effect is critical for understanding how auditor roles interact in real-world settings (Hassanein & Kokel, 2022).

Control variables further reinforce these findings. Profitability (ROA) consistently relates positively to earnings fluctuations, reflecting that more profitable firms exhibit stronger income responsiveness. Leverage is also positively associated with conservative reporting, consistent with increased financial risk driving cautious accounting. Larger firms tend to report more conservatively, as indicated by the negative association of FirmSize with ΔNI, likely reflecting greater scrutiny and audit resources. Auditor quality (AUDTQ) shows limited direct impact on conservatism once internal governance factors are accounted for, suggesting that firm-level controls and auditor interactions matter more than auditor brand alone (Nimer et al., 2022).

Table 4 reports fixed-effects estimates that separately introduce auditor communication (Com) and auditor-provided tax services (APTS) to examine their marginal associations with conditional conservatism. In Model 1, Com enters without APTS, capturing the reduced-form effect of inter-auditor coordination on earnings responsiveness. In this specification, Com × ΔNILag is positive and highly significant, indicating that communication amplifies earnings sensitivity to prior-period losses when not jointly conditioned on other auditor services (Akarim and Sevim, 2013; Mashayekhi and Mohammed, 2025). The insignificance of Dr × Com in this model suggests that communication affects conservatism primarily through earnings dynamics rather than through direct interaction with internal audit discipline alone. Model 2 introduces APTS independently, and the negative coefficient on APTS × ΔNILag indicates weaker loss recognition when tax services are provided. Importantly, these models should be interpreted as partial specifications: each captures the effect of a single audit dimension in isolation (Gooda et al., 2025). As a result, coefficient magnitudes and precision reflect both the direct effect of the included variable and the omitted variation associated with the excluded audit mechanism (Musyoki, 2023; Nejad et al., 2024). Consistent with prior research (Musyoki, 2023; Nejad et al., 2024), Model 2 examines whether APTS alter the relationship between internal audit discipline and accounting conservatism. The core indicators of conditional conservatism and internal audit governance remain stable relative to Model 1, indicating that the baseline mean-reversion mechanism and the disciplining role of internal audits are not sensitive to the inclusion of APTS. This stability supports the identification strategy that auxiliary audit services do not mechanically drive internal audit effects (Nimer et al., 2022).

In contrast, the introduction of APTS primarily affects how firms respond to prior-period losses rather than directly influencing earnings behavior (Idris et al., 2025). The lack of an independent APTS effect, as well as the absence of a meaningful joint effect between internal audit discipline and APTS,

suggests that tax service provision does not, on its own, systematically weaken internal governance structures (Alves and Carmo, 2022). However, the interaction between APTS and lagged earnings changes indicates that auditor tax services moderate the asymmetric timeliness of earnings, consistent with the view that joint provision of audit and tax services may attenuate conditional conservatism by softening auditors' responses to bad news (Nejad et al., 2024).

Across specifications, firm-level controls behave as expected and remain qualitatively unchanged, reinforcing the interpretation that the documented effects are driven by governance and audit-channel mechanisms rather than shifts in profitability, capital structure, firm size, or auditor type (Nimer et al., 2022). Table 5 jointly introduces internal audit discipline, auditor communication, and auditor-provided tax services within the same specification, allowing the coefficients to be interpreted conditionally rather than in isolation. Relative to Table 4, the magnitudes and precision of Com- and APTS-related terms change because each coefficient now reflects the incremental effect of that mechanism holding the others constant (Musyoki, 2023; Nejad et al., 2024). The positive Com × ΔNILag coefficient remains significant, confirming that communication strengthens loss recognition when tax services are limited. However, the negative and significant three-way interaction Dr × Com × APTS × ΔNILag indicates that when strong internal audit discipline, intensive communication, and tax service provision coexist, the incremental effect on conservatism weakens (Akarim and Sevim, 2013; Farhangdoust and Sayadi, 2020). This pattern suggests that the governance benefits of communication are partially offset when auditors simultaneously perform tax services, consistent with independence concerns. The joint specification, therefore, reconciles the sign differences across tables by showing that Com and APTS act as substitutes rather than complements in shaping conditional conservatism. This finding suggests that the joint convergence of internal audit discipline, auditor communication, and auditor-provided tax services weakens mean reversion. One plausible explanation is that greater functional overlap and role complexity may reduce accounting conservatism, either by impairing auditor independence or by diminishing monitoring effectiveness when external auditors perform multiple roles (He et al., 2017; Hazaea et al., 2024). This pattern highlights that governance implications arise primarily when these mechanisms operate simultaneously rather than in isolation, helping reconcile differences across models and tables when communication and tax services are introduced jointly (Nimer et al., 2022).

The behavior of the control variables remains consistent with prior literature and does not alter the main inferences. Profitability and leverage are associated with greater earnings responsiveness, while firm size is inversely related to earnings volatility, supporting the view that larger firms tend to adopt more conservative and stable reporting practices (Alves and Carmo, 2022; Li et al., 2020). Auditor type does not appear to exert an independent influence on conservatism once internal governance structures are accounted for, consistent with earlier findings that Big 4 affiliation alone is insufficient to constrain reporting behavior in the presence of strong internal controls (Bakare, 2022). Model 3 shows a within $R^2$ of 0.1708; the F-statistic is 373.95, with a p-value < 0.01, suggesting strong explanatory power and overall significant model performance.

## 5. Conclusions

In conclusion, this thesis examines whether audit oversight influences accounting conservatism by using ΔNI mean reversion. All the elements of audit governance include internal and external audits, APTS, Dr, and Com. Fixed effects models reveal that the ΔNILag coefficient indicates that earnings

tend to repeatedly revert to a similar level. As a result, companies tend to limit their financial reporting. People are better at regulating their emotions and decisions by announcing their losses sooner and their earnings later. In internal compliance governance, as internal auditors increase the Dr variable, they make the company's strategy more conservative, implying that internal compliance governance allows greater flexibility over time. Because of their high level of training and drive, auditors help improve how people respond to changes in profits. In social conversations, internal and external inspectors speak less about what they have seen, as indicated by the interaction term Dr × Com × ΔNILag. Following these communication principles demonstrates that the accuracy of audits, the collection of financial data, and the assessment of risks are best supported by these principles. APTS affects how other government systems use it, but not earnings. The significant four-way interaction term Dr × Com × APTS × ΔNILag suggests that tax services reduce the intensity of earnings adjustment in a disciplined audit environment. This illustrates a delicate balance: NAS may raise concerns about auditor independence, but control and cooperation can mitigate them. Thus, APTS may not compromise financial reporting quality in environments with strong governance safeguards.

Overall, the findings yield several actionable implications for audit practice. First, the positive association between auditor communication and conditional conservatism suggests that firms should establish a minimum communication cadence between internal and external auditors, such as quarterly coordination meetings aligned with key reporting milestones. Second, because the conservatism-enhancing effect of communication weakens when auditors provide tax services, firms should implement independence safeguards, including fee caps on APTS, functional separation between audit and tax teams, and enhanced audit committee oversight of service scope. Third, the results support greater transparency in audit reporting, suggesting that disclosing basic communication metrics, such as the number and timing of formal inter-auditor meetings, would improve stakeholders' understanding of audit quality and loss recognition discipline.

For Korean regulators, the results support targeted reforms rather than blanket restrictions on non-audit services. Specifically, regulators could require standardized reporting of inter-auditor communication activities and clearer disclosure of the scope and fees associated with auditor-provided tax services in DART filings. Such reporting would enable audit committees and investors to assess whether communication enhances monitoring or whether independence risks dominate. By improving transparency and aligning incentives, these measures are expected to strengthen timely loss recognition, reduce delayed bad-news disclosure, and ultimately enhance the credibility of financial reporting in the Korean capital market.

Nevertheless, some constraints must be recognized. First, the study is limited to publicly traded manufacturing companies on the KOSPI, which may limit the applicability of the results to other industries or regions. Second, as proxies for communication and tax service provision, they were carefully constructed. However, their methods for capturing the qualitative dimensions of communication or the complexity of the tax service provided, particularly in terms of granularity, might usefully bypass such nuances. Third, the use of secondary data in the study imposes restrictions on the level of detail with which it can examine the causal mechanisms at play. Subsequent studies could leverage the insights from the current study in conjunction with qualitative approaches, cross-country comparative studies, or experimental designs to broaden their scope.

Despite these constraints, this study suggests the following future research directions: First, it is necessary to distinguish between face-to-face and non-face-to-face communication channels between internal and external auditors and examine which channel contributes more significantly to accounting

conservatism. Second, quantifying the duration of communication rather than the number of such communications would allow for a more precise measurement of the qualitative impact of communication between internal and external auditors.

## Use of AI tools declaration

The authors declare they have not used Artificial Intelligence (AI) tools in the creation of this article.

## Author contributions

Sung Man Yoon: Conceptualization, investigation, supervision, draft writing, and result interpretation. Myo Min Kyaw: Investigation, data collection, and original draft writing and editing, data analysis, result interpretation, and validation.

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The authors declare that this study is based on Kyaw's master's thesis.

## Conflict of interest

All authors declare no conflicts of interest in this paper.

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