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Control Environment and the Professional Judgment of Independent Auditors in the Context of Increasingly Complex Accounting Estimates

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Abstract
Financial statements increasingly rest on accounting estimates rather than on completed transactions, so audit conclusions depend more heavily on the professional judgment of the auditor. Research on the control environment and research on professional judgment have nevertheless developed largely in isolation, leaving unexplained the mechanism through which the control environment of the audited entity shapes the conditions under which auditors exercise judgment, particularly in Vietnam. Using desk research, this paper synthesises, analyses, evaluates and compares auditing standards, professional body publications and prior academic studies in order to build an analytical framework. The findings indicate that the control environment affects professional judgment through three transmission channels: evidence on the estimation process, management bias in assumptions, and audit resources and time pressure. By mapping each control environment principle onto the corresponding judgment requirement in the auditing standards, the paper derives implications for audit firms, audited entities and regulators in Vietnam.

Keywords: Control Environment, Professional Judgment, Accounting Estimates, Audit Quality, Independent Audit

1. Introduction

Modern financial statements rest increasingly on accounting estimates rather than on completed transactions. Fair value measurement and expected credit losses are the two clearest cases, because both are derived from valuation models, from inputs that cannot be observed directly, and from management assumptions about the future. In Vietnam this trend will become more pronounced, since the Ministry of Finance has approved the Scheme on the application of financial reporting standards in Vietnam, which sets out a preparation phase in 2020-2021, a phase of voluntary application of International Financial Reporting Standards in 2022-2025, and mandatory application after 2025 (Ministry of Finance, 2020) [14]. As the measurement framework moves toward fair value, the readily verifiable part of the financial statements narrows while the part that rests on judgment expands.

The professional consequence of this shift is clear. The greater the estimation uncertainty, the harder the audit evidence is to verify, and the more the audit conclusion depends on the professional judgment of the auditor. ISA 540 (Revised) therefore requires the auditor to recognise the spectrum of inherent risk and to consider management bias together with its audit implications, and it emphasises the appropriate exercise of professional skepticism when auditing accounting estimates (IAASB, 2018) [9]. Vietnamese Standard on Auditing No. 540 imposes a comparable requirement, as it obliges the auditor to consider accounting estimates that are susceptible to intentional or unintentional bias on the part of management (Ministry of Finance, 2012) [12]. A gap between requirement and practice nevertheless persists worldwide. In the most recent survey of inspection findings conducted by the International Forum of Independent Audit Regulators, 292 of the 836 inspected audits of listed public interest entities, or 35 per cent, contained at least one finding; accounting estimates, including fair value measurement, recorded the highest frequency of findings, with 112 of the 498 audits inspected under that theme (IFIAR, 2026) [10].

The related literature falls into three streams. The first treats the control environment as the foundational component of internal control under the framework of the Committee of Sponsoring Organizations of the Treadway Commission, in which all five components and the relevant principles must be present, functioning and operating together in an integrated manner (COSO, 2013) [3]. Empirical evidence shows that the control environment, together with control activities and monitoring, has a

positive effect on the quality of internal control in Vietnamese listed banks (Tran *et al*., 2021) [19], and that internal control affects the performance of non-financial listed firms in an emerging economy (Nguyen, 2023) [15]. More pointedly, weaknesses in entity-wide controls rather than in process-level controls are associated with a higher risk of financial reporting fraud (Donelson *et al*., 2017) [4].

The second stream examines judgment and professional skepticism, conceptualising skepticism as both a mindset and an attitude, where the mindset component reflects critical analysis of evidence rather than mere doubt (Nolder & Kadous, 2018) [16], and showing that judgment quality depends on the mode of thinking that is activated: a deliberative mindset intervention improves the ability of auditors to identify unreasonable estimates by helping them identify and incorporate contradictory information (Griffith *et al*., 2015), and a systems-thinking perspective improves the assessment of the complexity of the situation (Bucaro, 2019) [1]. The third stream addresses the practice of auditing complex estimates and finds that auditors overwhelmingly test the details of the estimate of management element by element, which produces over-reliance on the process of the entity instead of a critical analysis of the estimate as a whole (Griffith *et al*., 2015); that high estimation uncertainty is associated with higher inherent risk assessments while few audit adjustments are booked (Cannon & Bedard, 2017) [2]; and that the most common deficiency is the failure to evaluate the reasonableness of the assumptions and methods used by management (Glover *et al*., 2017) [5].

These three streams have developed largely in isolation. The control environment is usually examined in relation to the quality of the information and the performance of the entity itself, whereas professional judgment is examined in relation to the individual characteristics of the auditor and to engagement pressure. The mechanism through which the control environment of the audited entity shapes the very conditions under which the auditor exercises judgment on complex estimates has not been systematised, particularly in the Vietnamese setting.

This gap is not merely academic. The audit needs of the entire economy are currently served by more than 220 audit firms and close to 2,500 registered practising auditors (VCCI, 2025) [20], while legal exposure has risen sharply: breaches by auditors and audit firms relating to audit files and to the quality of audit services may be sanctioned by fines of up to two billion Vietnamese dong (Government of Vietnam, 2025) [6]. When professional resources are thin and legal risk is growing, early identification of the control environment features that erode the conditions for sound judgment becomes a practical management requirement, allowing audit firms to allocate resources by risk and regulators to target their inspections. This study therefore develops an analytical framework that clarifies the channels through which the control environment affects the professional judgment of independent auditors in auditing complex accounting estimates, and addresses two questions: through which channels does the control environment affect professional judgment, and what conditions are required to control judgment risk in the Vietnamese setting. The remainder of the paper presents the theoretical framework and research methodology, the results and discussion, and the conclusions and implications.

2. Theoretical framework and research methodology

2.1 Theoretical framework

Internal control is understood here in terms of the integrated framework of the Committee of Sponsoring Organizations of the Treadway Commission, under which a system of internal control is effective only when each of the five components and the relevant principles is present, functioning and operating together in an integrated manner (COSO, 2013) [3]. The control environment is the first component and is specified through five principles: commitment to integrity and ethical values; exercise of oversight responsibility by the board and the audit committee; establishment of structure, authority and responsibility; commitment to competence; and enforcement of accountability. Unlike the more technical components, the control environment defines the behavioural setting within which every other control procedure operates, so its influence is pervasive rather than confined to a single process. Evidence from Vietnam indicates that the control environment, along with control activities and monitoring, positively affects the quality of internal control in listed banks (Tran *et al*., 2021) [19], while international evidence shows that weaknesses in entity-wide controls, rather than in process-level controls, are associated with a higher risk of financial reporting fraud (Donelson *et al*., 2017) [4].

Professional judgment is understood as the cognitive process through which the auditor applies knowledge, experience and professional standards to reach a conclusion under incomplete information. In audits of complex estimates this process is observable in four groups of behaviour: maintaining professional skepticism; evaluating the reasonableness of the method, the assumptions and the input data; responding to the assessed risk of material misstatement; and documenting the basis of the conclusion. Professional skepticism is conceptualised as comprising a mindset and an attitude, where the mindset component reflects critical analysis of evidence rather than simple doubt (Nolder & Kadous, 2018) [16]. Judgment quality is therefore not a constant attached to the individual but varies with the conditions under which the task is performed: a deliberative mindset intervention improves the identification of unreasonable estimates (Griffith *et al*., 2015); documentation instructions grounded in construal level theory improve skepticism in evaluating complex estimates (Rasso, 2015) [17]; and auditors guided toward systems thinking better assess the complexity of the situation (Bucaro, 2019) [1].

Three underlying theories link the two constructs into a single mechanism. Agency theory holds that when ownership is separated from management, the agency relationship generates agency costs and a demand for monitoring of the manager (Jensen & Meckling, 1976) [11]; in audits of estimates this incentive appears in the selection of assumptions favourable to reported outcomes, which is precisely why both ISA 540 (Revised) and VSA 540 require the auditor to consider management bias (IAASB, 2018; Ministry of Finance, 2012) [9, 12]. Information asymmetry theory explains why evidence on the basis of an estimate is difficult to obtain, since the valuation model and the input data remain in the hands of the audited entity. Behavioural judgment and decision-making theory supplies the final layer, as signals from the organisational setting affect the

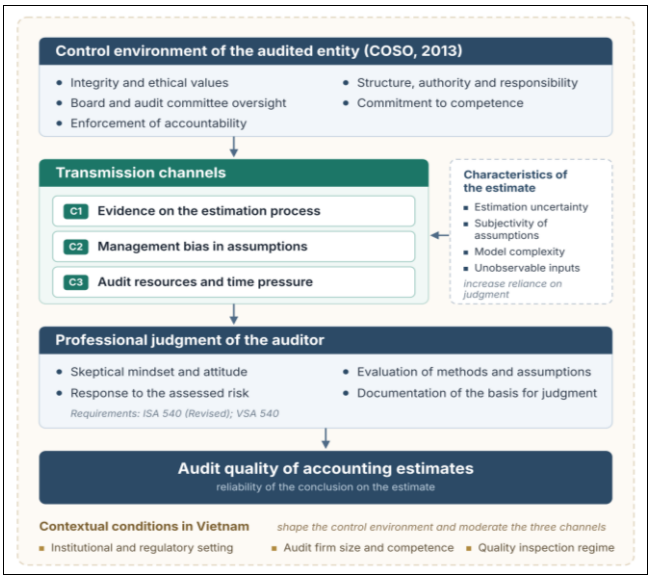
cognitive effort and the mode of thinking that the auditor mobilises. Taken together, the three theories support the proposition that the control environment does not affect the audit conclusion directly, but indirectly, by shaping the conditions under which the auditor exercises judgment.

2.2 Research methodology

The study employs desk research, in which the literature review is used as a research method in its own right rather than merely as background; this approach is appropriate when the aim is to synthesise dispersed and interdisciplinary evidence in order to build a new theoretical model (Snyder, 2019) [18]. Documents were drawn from four groups of sources: international and Vietnamese auditing standards on accounting estimates, principally ISA 540 (Revised) and VSA 540; COSO publications on internal control; reports of regulators and professional bodies, including the inspection findings survey of IFIAR; and academic work published in peer-reviewed journals. Three selection criteria were applied simultaneously: direct relevance to at least one of the three conceptual axes of the study, namely the control environment, professional judgment and complex accounting estimates; verifiability of the publishing source; and availability of the full text for content comparison.

The documents were processed in three successive steps. The first step was to synthesise and code the content along the three conceptual axes. The second step was to compare sources of different kinds, specifically to set the requirements of the standards against empirical evidence on actual auditor behaviour, in order to identify points of agreement and divergence. The third step was to generalise the results of that comparison into an analytical framework that can subsequently be tested quantitatively.

The outcome of these three steps is presented in Fig 1. The framework shows that the control environment of the audited entity does not affect audit quality directly but is transmitted through three channels: the quality and traceability of evidence on the estimation process; the degree of management bias in the assumptions; and the resources available and the time pressure on the engagement. The characteristics of the estimate itself, namely estimation uncertainty, subjectivity of assumptions, model complexity and the weight of unobservable inputs, increase reliance on judgment and thereby magnify the role of these channels. Finally, contextual conditions in Vietnam both shape the control environment of the entity and moderate the extent to which the three channels translate into the actual judgment capability of the auditor.



Source: Compiled by the author.

Fig 1: Control environment and auditors' professional judgment in auditing complex accounting estimates

3. Results and Discussion

3.1 The rising complexity of accounting estimates and the shift in the focus of the audit

Two groups of items display the rising complexity most clearly: fair value measurement and expected credit losses. Field research at the engagement level shows that challenging fair value measurements share four characteristics, namely high estimation uncertainty, high subjectivity, significant and complex assumptions, and the use of multiple valuation techniques (Cannon & Bedard, 2017) [2]. Where these characteristics are present, the focus of the audit shifts in three respects. First, audit evidence shifts from confirming data on completed transactions to assessing the reasonableness of forecasts about the future. Second, audit procedures shift from detailed testing of recorded amounts to the evaluation of methods, assumptions and input data; this is also where the most common deficiency arises, namely the failure to evaluate the reasonableness of the assumptions and methods used by management (Glover *et al*., 2017) [5]. Third, audit risk shifts from the risk of misstatement in recognition to the risk of misstatement originating in bias in the judgment of management, which is why ISA 540 (Revised) requires the auditor to recognise the spectrum of inherent risk and to consider management bias and its audit implications

(IAASB, 2018) [9]. These three shifts lead to an important consequence: the quality of the audit of an estimate depends substantially on the quality of information and the working conditions created by the audited entity itself, that is, on the control environment.

3.2 Components of the control environment and the channels affecting professional judgment

Analysis of each principle of the control environment shows that every principle reaches professional judgment along a distinct path. Commitment to integrity and ethical values determines whether assumptions are selected faithfully or adjusted toward a desired outcome, and therefore operates mainly through the management bias channel. Oversight by the board and the audit committee determines whether valuation models and key assumptions are independently reviewed and approved, and therefore operates first of all through the evidence channel. Structure, authority and responsibility determine whether the estimation process can be traced from data entry to final approval. Commitment to competence determines the quality of the estimate as prepared, and where the competence of the entity is low the verification burden shifts to the audit team. Enforcement of accountability determines the consequences attached to inaccurate estimates and thereby affects both the incentive to bias and the degree of cooperation during the engagement. Table 1 summarises these paths along four dimensions.

Table 1: Mapping the control environment principles onto professional judgment requirements in auditing complex accounting estimates

S. No	COSO control environment principle	Observable manifestation at the audited entity	Channel affecting the auditor's professional judgment	Corresponding standard requirement and implication for judgment risk
1	Commitment to integrity and ethical values	A code of conduct that actually governs the valuation and estimation process; consistency between stated policy and practice when reported results fall short of targets	C2 – management bias in assumptions	ISA 540 (Revised) and VSA 540 require the auditor to consider indicators of possible management bias. A weak ethical tone makes bias more likely to be embedded in the chosen assumptions than in the computation, where it is far harder to detect
2	Oversight by the board and the audit committee	Independent review and approval of valuation models, key assumptions, and changes in assumptions between reporting periods	C1 – evidence on the estimation process; C2	Where oversight is documented, the auditor obtains corroborating internal evidence. Where it is absent, the auditor must develop an independent estimate or range, which raises audit cost and the risk of over-reliance on the process of management
3	Structure, authority and responsibility	Clear allocation of responsibility for data input, model selection, review, and final approval of each material estimate	C1	ISA 540 (Revised) requires an understanding of how management makes the estimate. Diffuse responsibility leaves the process untraceable, weakens the audit trail, and pushes the auditor toward piecemeal verification
4	Commitment to competence	Qualification of the personnel who prepare the estimate; engagement of qualified internal or external valuation specialists	C1; C3 – audit resources and time pressure	Low entity competence transfers the verification burden to the audit team and its specialists, increasing the risk that the model is tested element by element rather than challenged as a whole
5	Enforcement of accountability	Consequences attached to inaccurate estimates; performance measures that do not reward reported outcomes alone	C2; C3	Weak accountability strengthens incentives for favourable assumptions and reduces cooperation during the audit, compressing available time and encouraging acceptance of the range proposed by management

Source: Compiled by the author.

Table 1 brings out two points. First, the five principles do not operate evenly: the two principles concerning ethics and accountability work mainly through the bias channel, the two concerning oversight and the allocation of responsibility work mainly through the evidence channel, and the principle concerning competence works simultaneously through the evidence channel and the resource channel. This separation allows audit firms to identify the appropriate type of additional procedure rather than increasing the volume of work indiscriminately. Second, the mechanism is conditional rather than deterministic. Where the control environment is weak the auditor may still reach the right conclusion, but at the cost of greater resources and higher risk. The empirical evidence supports this reading: auditors overwhelmingly choose to test the details of the estimate of management, verifying individual elements of the assertions of management on a piecemeal basis, which results in over-reliance on the process of management rather than a critical analysis of the overall estimate, and includes failures to notice inconsistencies between the estimate and other internal data or external conditions (Griffith *et al*., 2015). Improving judgment therefore cannot rest on individual effort alone; it must be accompanied by changes in the way audit work is organised (Nolder *et al*., 2019).

3.3 International experience compared with the Vietnamese setting

The comparison is made against three criteria. In terms of standards, ISA 540 was revised in 2018 and became effective for audits of financial statements for periods beginning on or after 15 December 2019 (IAASB, 2018) [9], whereas VSA 540 was issued with Circular No. 214/2012/TT-BTC and took effect on 1 January 2014 (Ministry of Finance, 2012) [12], that is, it was built on the pre-revision version of the international standard. This gap is substantive, because the distinctive features of the revised version lie in the requirement to assess inherent risk factors separately and in the risk-based approach to estimates. In terms of quality monitoring, Circular No. 157/2014/TT-BTC provides that the control of audit service quality includes inspecting the development, promulgation and implementation of the internal quality control policies and procedures of audit firms (Ministry of Finance, 2014) [13], which places the emphasis on the system of the audit firm rather than on the quality of judgment in a specific account area. International experience indicates that this is precisely

where supplementation is needed: in the most recent IFIAR survey, accounting estimates including fair value measurement recorded the highest frequency of findings, while by total number of findings the leading theme was internal control testing, with 213 findings (IFIAR, 2026) [10]. These two leading themes are the two sides of the relationship analysed in this paper. In terms of resources, the market currently comprises more than 220 audit firms and close to 2,500 registered practising auditors (VCCI, 2025) [20], while legal exposure has increased substantially under Decree No. 228/2025/ND-CP (Government of Vietnam, 2025) [6]. The mismatch between professional requirements and available resources makes the third channel, resources and time pressure, more salient in Vietnam than in developed markets.

3.4 Limitations observed in Vietnamese practice

Four limitations can be identified from the comparison. First, the domestic auditing standard on accounting estimates has not been updated in line with the revised international version, so the requirements placed on auditors remain below international practice. Second, the control environment in many enterprises has not been established fully at the level of principles, while domestic evidence shows the control environment to be among the factors with a clear positive effect on internal control quality (Tran *et al*., 2021; Nguyen, 2023) [19, 15]. Third, professional competence in valuation modelling and loss forecasting is unevenly distributed across audit firms, whereas international experience shows that engaging a valuation specialist is a pivotal decision and that procedures performed by specialists have the highest yield in identifying problems (Cannon & Bedard, 2017) [2]. Fourth, audit files do not yet reflect the basis of judgment adequately, although this is precisely the area now subject to administrative sanction. All four limitations can be addressed through measures at the level of the audit firm and at the level of state regulation, which is the subject of the following section.

4. Conclusions and Implications

This study has developed an analytical framework showing that the control environment of the audited entity affects the professional judgment of independent auditors through three transmission channels: the quality and traceability of evidence on the estimation process; the degree of management bias in assumptions; and the resources available and the time pressure on the engagement. The principal contribution lies in connecting three previously separate streams of research into a testable mechanism and in mapping each principle of the control environment onto the corresponding judgment requirement in the auditing standards. The framework supports a practically meaningful proposition: a weak control environment does not directly produce audit failure, but it materially increases the cost and the risk of arriving at a correct conclusion.

For audit firms, three measures are needed. First, develop procedures for assessing the control environment specific to each material estimate rather than for the entity as a whole. Second, link the outcome of that assessment to decisions on staffing and on the engagement of valuation specialists. Third, strengthen documentation requirements for the basis of judgment, recording the grounds on which the assumptions of management were accepted or rejected.

For audited entities, two measures are needed. The first is to standardise the process for approving assumptions and to maintain a complete audit trail of changes in assumptions between periods. The second is to strengthen the independent oversight exercised by the supervisory board over valuation models and input data.

For regulators, the paper offers three recommendations. First, update the domestic auditing standard on accounting estimates in line with the revised international version, which has been effective for reporting periods beginning on or after 15 December 2019 (IAASB, 2018) [9]. Second, make the assessment of the control environment for estimate-related accounts a focus of audit quality inspection. Third, issue application guidance with worked examples for common estimates such as fair value measurement and expected credit losses.

The study is limited by its exclusive reliance on secondary sources, so the framework is proposed rather than tested against empirical data. Future research could test the three transmission channels through a survey of practising auditors, or through case studies of audit files for material estimate accounts in listed companies.

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