

Case Study on Identification and Management of Internal Control Defects in Listed Companies

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Abstract: The 2024 case of financial fraud involving Evergrande Group has exposed the symbiotic risks arising from systemic failures in listed companies' internal control systems and the lack of independence in third-party audits. Such incidents not only trigger a crisis of confidence in capital markets but also highlight the limitations of traditional qualitative evaluation methods and the growing trend toward formalism in internal control frameworks. Based on the COSO framework, this study employs the Analytic Hierarchy Process to construct a three-level quantitative indicator system covering the five key components. Taking Evergrande Group as a typical case, the study conducts an in-depth analysis of its financial control deficiencies, inadequate risk assessments, ineffective internal oversight, and issues related to information disclosure, and calculates a comprehensive defect index for quantitative evaluation. The study finds that the root causes of Evergrande Group's internal control defects lie in the imbalance of its governance structure, the excessive concentration of power among actual controllers, the fundamental conflict between its aggressive expansion strategy and internal control requirements, and a corporate culture overly focused on short-term performance. On this basis, the study proposes recommendations for adjusting key areas and standards of internal control within the real estate industry, outlines a risk-warning mechanism for highly leveraged enterprises, and suggests a design approach for establishing mechanisms to balance the power of actual controllers—providing practical guidance for preventing and addressing internal control deficiencies in listed companies.

Keywords: Internal control deficiencies; Analytic Hierarchy Process; Evergrande Group; Corporate governance; Risk early-warning mechanism.

1. Introduction

The outbreak of the 2024 PwC-Hengda Group audit scandal has once again brought the severity of internal control deficiencies in listed companies into the public spotlight. As one of the Big Four accounting firms globally, PwC, during its 14-year collaboration with Hengda Group, not only failed to detect the company's systematic fraud—where Hengda artificially inflated its revenue by 564.1 billion yuan through “equity disguised as debt” and concealed restricted funds totaling 44.6 billion yuan—but also issued an unqualified audit opinion. As a result, PwC was fined 440 million yuan by China's Securities Regulatory Commission and had its audit business suspended for six months. Such incidents are far from isolated. In recent years, frequent cases of financial fraud among Chinese listed companies have highlighted the widespread nature and destructive impact of internal control deficiencies [1]. For instance, Kangmei Pharmaceutical fabricated bank documents and overstated its cash holdings by 88.7 billion yuan; its auditor, Zhengzhong Zhujiang Certified Public Accountants, had its license revoked for failing to carry out basic confirmation procedures. The incident left over 230,000 investors suffering losses exceeding 30 billion yuan and directly prompted the revision of the Securities Law to introduce the “Special Representative Litigation System.” Similarly, Luckin Coffee fabricated transactions worth 2.2 billion yuan, triggering a crisis of confidence in Chinese concept stocks and causing the Nasdaq China Index to plunge by as much as 40% at one point, forcing the U.S. SEC to adopt the Foreign Company Accountability Act to strengthen cross-border regulatory oversight. A common feature shared by these cases is that internal control deficiencies evolved from localized vulnerabilities into systemic failures, ultimately spreading

through capital markets and posing global risks.

2. Theoretical Framework for Identifying Internal Control Deficiencies

2.1. The Five Components of Internal Control and Types of Deficiencies

The internal control system is based on the COSO framework and comprises five key elements: the internal environment, risk assessment, control activities, information and communication, and internal monitoring [2]. The internal environment serves as the foundation of the internal control system; it includes organizational structure, division of responsibilities, and corporate culture, and determines the company's risk awareness and control atmosphere. Risk assessment is the process of identifying and analyzing both internal and external risks faced by the enterprise and developing appropriate response strategies. Control activities are the policies and procedures designed to ensure that management directives are effectively implemented; these include specific measures such as authorization and approval processes and segregation of duties. Information and communication ensure that relevant information is transmitted promptly and accurately both within and outside the organization. Internal monitoring involves continuous evaluation and independent assessments to verify the effectiveness of the internal control design and operation.

Internal control deficiencies can be categorized by their source into design defects and execution defects [3]. A design defect refers to inadequacies inherent in the control measures themselves; an execution defect, on the other hand, occurs when control measures are reasonably designed but not implemented in accordance with the established procedures.

By degree of impact, deficiencies can be classified as general, significant, and material. General deficiencies have a relatively minor impact on control objectives; significant deficiencies, however, can substantially reduce the likelihood of achieving those objectives. Significant deficiencies may lead to the failure to achieve control objectives. Based on the affected areas, these deficiencies can be categorized into internal control deficiencies in financial reporting and internal control deficiencies in non-financial reporting. The former affect the reliability of financial information, while the latter impact objectives such as operational efficiency and compliance.

2.2. Internal Control Characteristics and Risk Points in the Real Estate Industry

2.2.1. Characteristics of Pre-sale Fund Management

A core feature of the real estate industry is the pre-sale model, which involves collecting payments upfront before delivering the property [4]. Consequently, the management of pre-sale funds has become a critical component of internal controls. Pre-sale funds are characterized by their large scale, stringent regulatory oversight, and restricted use. In typical projects, pre-sale funds can amount to several billion yuan, accounting for 60% to 80% of the project's total investment. The flow of pre-sale funds is strongly correlated with the project's progress; in theory, these funds should be drawn down and used in alignment with the physical progress of the construction work.

The key internal control risk points in the supervision of pre-sale funds mainly include: operational risks associated with fund pooling, where some property developers mix and manage pre-sale funds from different projects; risks of circumventing regulatory accounts—where funds are prematurely transferred from regulatory accounts by fabricating false progress on construction projects; and the risk of formalistic bank supervision, whereby regulatory oversight becomes merely a superficial procedure. Deficiencies in the management of pre-sale funds have become a major contributing factor to the breakdown of property developers' capital chains.

2.2.2. Project Development Cycle and Cost Control

Real estate projects are characterized by long cycles, large investments, and numerous stages; from land acquisition to final delivery, they typically take between 2 and 5 years. Cost control runs throughout the entire project lifecycle and primarily includes land costs, construction and installation costs, marketing costs, and financial costs. Among these, construction and installation costs account for the largest share—approximately 50% to 60%.

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2.2.3. Funding Chain Risks Under a High-Leverage Business Model

The real estate industry is characterized by its highly leveraged business model. The industry's average asset-to-liability ratio has consistently remained above 70%,

significantly higher than that of typical industrial and commercial enterprises. This “high-debt, high-turnover, high-leverage” business model can amplify profits during market upswings, but in a downturn, it easily triggers risks to the capital chain.

The key internal control risk points under a high-leverage model primarily include: the risk of debt maturity mismatch [5], where short-term loans are used for long-term investments, leading to an imbalanced maturity structure; insufficient control over financing costs, with high-cost financing eroding profits; off-balance-sheet liability risks, such as concealing the true scale of liabilities through methods like “equity in name, debt in reality”; and a lack of liquidity risk management, resulting in inadequate contingency plans for periods of peak debt repayment.

2.3. Evaluation Indicator System for Internal Control Deficiencies

2.3.1. Basis for Indicator Selection

To build a scientific and effective evaluation indicator system for internal control deficiencies, it is necessary to comprehensively consider factors such as the theoretical framework, industry characteristics, and operability. This study, based on the COSO five-component framework and taking into account the specific features of the real estate industry, selects evaluation indicators in accordance with the principles of systematicness, pertinence, measurability, and dynamism [6].

The specific criteria for selecting indicators include: regulatory requirements for internal control systems, choosing indicators that comply with relevant legal regulations; industry practice risk factors, identifying key indicators corresponding to frequently occurring risk points; comparability considerations, selecting standardized indicators that can be compared across different enterprises; and accessibility requirements, giving priority to indicators whose publicly available information is readily accessible.

2.3.2. Method for Determining Indicator Weights

This study employs the Analytic Hierarchy Process (AHP) to determine the weights of the indicators. The method involves constructing a judgment matrix, calculating eigenvectors, and ultimately establishing the relative importance of indicators at each hierarchical level. Considering the specific characteristics of the real estate industry, targeted adjustments have been made to the weight assignments: the weights for control activities and the internal environment are relatively high (0.30 and 0.20, respectively); the weight assigned to the compliance rate of pre-sale fund management has been increased from the standard 0.15 to 0.50; and the weight for the effectiveness of debt risk assessment has been set at 0.60, thereby strengthening monitoring of risks associated with highly leveraged operations [7].

2.3.3. Evaluation Criteria and Defect Level Classification

This study developed a Comprehensive Defect Index (CDI) as the primary evaluation metric [8]:

$$CDI = K \times L \times \sum(W_i \times S_i) \quad (1)$$

Among them, K is the industry risk coefficient (for real estate, $K = 1.4$), L is the corporate life cycle factor, W_i is the indicator weight, and S_i is the defect score.

Table 1. Key Internal Control Indicators and Standards in the Real Estate Industry

Primary Indicator	Weight	Secondary Indicator	Weight	Tertiary Indicator (Partial)	Weight	Calculation Method	Standard Value
Internal Environment	0.2	Governance Structure	0.4	Clarity of Separation of Powers	0.6	1 - (Management Overstepping Incidents / 50)	≥0.90
Risk Assessment	0.1	Risk Response Strategy	0.6	Effectiveness of Debt Risk Assessment	0.6	1 - (Actual Debt Ratio / Early Warning Debt Ratio)	≥0.85
Control Activities	0.3	Process Control	0.3	Compliance Rate of Presale Fund Management	0.5	1 - (Misappropriated Funds / Total Presale Funds)	≥0.95
Information and Communication	0.1	Transparency of Information Disclosure	0.6	Completeness Rate of Major Matter Disclosure	0.8	Disclosed Matters / Matters Requiring Disclosure	≥0.90
Internal Oversight	0.2	Independence of Internal Audit	0.5	Rectification Rate of Audit Issues	0.7	Number of Issues Rectified / Number of Issues Identified	≥0.80

Table 2. Deficiency Grade Classification Standards

CDI Value Range	Deficiency Grade	Risk Level	Management Measures
[0, 0.3)	A	Safe	Routine Monitoring
[0.3, 0.45)	B	Basically Safe	Regular Inspections
[0.45, 0.6)	C	At Risk	Enhanced Supervision
[0.6, 0.75)	E	Major Risk	Comprehensive Rectification
≥0.75	F	Systemic Failure	Crisis Intervention

Real estate enterprises can determine their internal control risk levels based on the CDI calculation results and implement corresponding management measures. Enterprises with C-level or higher risks must report to the board of directors and develop specific remediation plans; enterprises with E-level or higher risks must activate their crisis management mechanisms. By regularly calculating the CDI and tracking its trend changes, enterprises can promptly identify weaknesses in their internal control systems, thereby achieving dynamic management and continuous improvement of internal control risks.

3. Case Study on Internal Control Deficiencies at Evergrande Group

3.1. Overview of Evergrande Group

Founded in 1996, Evergrande Group, as of 2020, has established a diversified business portfolio centered on real estate development, encompassing property management, new-energy vehicles, cultural tourism, health and wellness, and financial services. In its core real estate business, Evergrande adopts an operational model characterized by "high turnover, low costs, and standardization." The company currently operates more than 1,300 projects across over 280 cities nationwide, with a total floor area exceeding 180

million square meters. Its business expansion exhibits distinct features of unrelated diversification: between 2018 and 2020, Evergrande invested over 47 billion yuan in the new-energy vehicle sector, acquired Evergrande Health to enter the healthcare industry, and significantly expanded its financial operations, now including financial subsidiaries such as Evergrande Life Insurance and Evergrande Financial Services.

In terms of asset size, Evergrande Group's total assets surged from 381.1 billion yuan in 2016 to 2.3 trillion yuan between 2016 and 2020, with an average annual compound growth rate of 56.8%. Meanwhile, its total liabilities rose from 298.5 billion yuan to 1.96 trillion yuan over the same period, and its debt-to-asset ratio remained consistently above 85%, significantly higher than the industry average of around 70%. Furthermore, as of the end of 2020, Evergrande Group had interest-bearing liabilities of 716.2 billion yuan on its balance sheet. Although the group also carried substantial off-balance-sheet liabilities that were not fully disclosed in its financial statements, subsequent regulatory investigations confirmed that these off-balance-sheet liabilities—including "equity disguised as debt"—amounted to approximately 231.7 billion yuan.

3.2. Identification and Calculation Results of Internal Control Deficiencies within Evergrande Group

Based on the COSO internal control framework's five components and taking into account Evergrande Group's industry characteristics and risk profile, this study has developed a three-level quantitative evaluation indicator system. The system uses the five components—internal environment, risk assessment, control activities, information and communication, and internal monitoring—as first-level indicators, with 15 second-level indicators and 35 third-level indicators beneath them. To ensure the objectivity of the evaluation, the Analytic Hierarchy Process (AHP) was employed to determine the weights of the indicators.

Table 3. Evergrande Group Internal Control Deficiency Evaluation Indicator System and Weights

Primary indicator	Weight	Secondary indicator	Weight	Third-level indicators (some of them)	Weight
Internal Environment	0.2	Governance Structure	0.4	Clarity of Separation of Powers and Responsibilities	0.6
				Independence of the Board of Directors	0.4
		Corporate Culture	0.3	Employee Compliance Awareness	0.7
				Integrity Value Orientation	0.3
		Human Resources Policies	0.3	Key Position Rotation Rate	0.5
				Compliance Incentive Mechanism	0.5
Risk Assessment	0.15	Risk Identification Mechanism	0.5	High-Risk Business Coverage Rate	0.6
				Timeliness of Risk Assessment	0.4
		Risk Response Strategy	0.5	Emergency Plan Execution Rate	0.4
				Effectiveness of Debt Risk Assessment	0.6
Control Activities	0.3	Financial Control	0.4	Revenue Recognition Compliance Rate	0.7
				Accuracy of Cost Accounting	0.3
		Business Process Control	0.35	Contract Approval Process Defect Rate	0.5
				Pre-sale Funds Management Compliance Rate	0.5
		Related-Party Transaction Control	0.25	Related-Party Transaction Identification Accuracy Rate	0.4
				Related-Party Transaction Approval Compliance Rate	0.6
Information and Communication	0.15	Information Disclosure Transparency	0.6	Completeness Rate of Major Event Disclosure	0.8
				Timeliness of Information Disclosure	0.2
		Internal Communication Efficiency	0.4	Cross-Departmental Collaboration Response Time	0.6
				Effectiveness of Risk Information Reporting	0.4
Internal Monitoring	0.2	Internal Audit Independence	0.5	Audit Issue Rectification Rate	0.7
		Adequacy of Audit Resource Allocation	0.3		0.3
		Supervision Mechanism Coverage	0.5	High-Risk Business Monitoring Coverage Rate	0.6
		Effectiveness of Supervisory Board Oversight	0.4		0.4

The weights were determined using the expert scoring method. Ten internal control experts were invited to provide their scores—including five accounting professors, three financial directors from real estate companies, and two personnel from regulatory agencies. After conducting a consistency check, the final weights were obtained.

In the allocation of weights for the primary indicators, control activities (0.30) and the internal environment (0.20)

carry relatively high weights, reflecting the real estate industry's special requirements for financial controls and governance structures. Among the secondary indicators, the weight assigned to the compliance rate of pre-sale fund management has been increased from 0.15—typical for standard property developers—to 0.50 (under business process controls), highlighting the unique risk factors specific to the real estate sector.

Table 4. Evergrande Group Internal Control Deficiency Evaluation Indicator System and Weights

Tertiary Indicator	Weight	Data Source and Calculation Logic	Deficiency Score (Si)	Weighted Score
Revenue Recognition Compliance Rate	0.084	Inflated Revenue of 564.1 Million RMB (Total Revenue 1.2 Trillion RMB) → Compliance Rate = $1 - 5641 / 12000 = 0.53$ → $Si = 1 - 0.53 = 0.47$	0.47	0.039
Internal Audit Rectification Rate	0.07	Unrectified Audit Issue Rate = 65% (217 cumulative unrectified issues from 2019-2021) → $Si = 0.65$	0.65	0.045
Clarity of Separation of Powers	0.048	Management Overstepping Incidents = 38 (Records from 2019-2021) → $Si = 1 - (1 - 38 / 50) = 0.24$	0.24	0.012
Compliance Rate of Presale Fund Management	0.053	Misappropriation of Presale Funds Amounting to 74.2 Billion RMB (28.6% of Total) → Compliance Rate = $1 - 0.286 = 0.714$ → $Si = 1 - 0.714 = 0.286$	0.286	0.015
Related Party Transaction Identification Accuracy Rate	0.012	Undisclosed Related Party Transactions Amounting to 19.7 Billion RMB (60%) → Accuracy Rate = $1 - 0.6 = 0.4$ → $Si = 1 - 0.4 = 0.6$	0.6	0.007
Emergency Plan Execution Rate	0.03	Liquidity Crisis Emergency Plan Execution Time - Exceeded by 15 Days (Standard < 7 Days) → $Si = 1.0$	1	0.03
Effectiveness of Debt Risk Assessment	0.045	Debt Ratio Exceeding Limit Without Early Warning (Actual > 85%, Early Warning Threshold 70%) → $Si = 0.85$	0.85	0.042
Completeness Rate of Major Matter Disclosure	0.072	Concealment of Restricted Funds Amounting to 44.6 Billion RMB and Off-Balance Sheet Liabilities Amounting to 231.7 Billion RMB → Disclosure Completeness Rate = 0.25 → $Si = 1 - 0.25 = 0.75$	0.75	0.054
High-Risk Business Monitoring Coverage Rate	0.06	High-Risk Business Monitoring Coverage Rate = 35% (e.g., Insufficient Monitoring of Equity-like Debt) → $Si = 1 - 0.35 = 0.65$	0.65	0.039

Calculations show that the CDI is 0.684. Compared with the internal control deficiency grading criteria, Evergrande Group's internal control deficiencies are classified as Level E (critical risk). This indicates that Evergrande Group is experiencing systemic internal control failures, which have already had a severe negative impact on the company's operations and necessitate the initiation of comprehensive remediation and crisis management procedures.

4. Countermeasures and Recommendations for Addressing Internal Control Deficiencies in Real Estate Enterprises

At the enterprise level, optimizing the internal control system requires breaking through the limitations of traditional static evaluation models and establishing a dynamic weighting adjustment mechanism along with a technology-driven real-time monitoring system. The construction of an internal control big data platform is key to overcoming the efficiency bottlenecks of manual verification. Such a platform must integrate real-time data streams from ERP, CRM, supply chain, and IoT systems, and leverage machine learning algorithms to identify high-risk nodes.

At the audit firm level, by recording transaction data on the blockchain and deploying smart contracts, audit firms can verify the authenticity of business activities in real time. By leveraging technological tools to identify high-risk clients, audit firms can enhance their independence and reduce audit risks. At the regulatory level, there is an urgent need to issue the "Operational Guidelines for Identifying Internal Control Deficiencies in Real Estate Enterprises," clearly defining quantitative thresholds and operational procedures. By raising the costs of non-compliance, we can significantly curb opportunistic behavior. The establishment of a cross-departmental data-sharing platform is crucial for enhancing regulatory coordination. By integrating databases from institutions such as the China Securities Regulatory

Commission, the Ministry of Finance, and the People's Bank of China, we can build an enterprise risk profiling system. Combined with correlated data reflecting the sharp increase in supplier litigation cases, we can automatically generate a "High-Risk Enterprise List" and initiate targeted inspections. Finally, at the cultural level, it is recommended to integrate internal control scores into the executive performance evaluation system. The specific mechanisms include linking the rate of rectifying internal control deficiencies to equity vesting conditions; fostering compliance awareness at the employee level through systematic training and incentive programs; and initiating deeper cultural transformation by embedding compliance values throughout the organization's DNA via case studies, ethics workshops, and other similar approaches.

5. Conclusion

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