

Detect, Correct, Protect: Cost Audit as a Tool against Insolvency

The paper discusses the possibility of using mandatory cost records backed by systematic cost audits as an effective early warning mechanism of corporate insolvency. Although modern-day bankruptcy prediction systems have developed to utilize machine learning algorithms and multi-stage systems, they still rely, to a large extent, on lagged financial statements, which restricts their ability to prevent. The financial ratings and aggregate accounting usually reveal the distress only when the operational inefficiency has already translated into a liquidity crisis and deterioration of the balance sheet. This research is based on a literature review in the accounting domain, insolvency prediction, early warning systems, and public financial management and will posit that the cost-level information could be cost-efficient in terms of releasing earlier and more granular disturbing information. Patterns of behaviour of costs, in the unfavourable fixed-cost absorption, persistent negative variances, erosion of contribution margins, tend to pick up the financial decline that may be observed a number of reporting periods later. This paper contributes to a preventative framework where obligatory cost records reinforce insolvency-detection, raise the degree of board oversight, and diminish systemic risk by reconstructing the concept of cost audit as a form of governance and regulation and not a strictly compliance exercise.



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INTRODUCTION

• *Corporate Insolvency Detection has its Background*

Corporate insolvency remains as one of the biggest risks to economic stability undermining creditor trust, job security, and regulatory reputation. Conventionally, mechanisms of insolvency detection have been based on the financial ratio analysis of audited financial statements consisting of liquidity, leverage, solvency measures, and profitability. These pointers have been the foundation of the accounting-based bankruptcy prediction model, regulatory oversight, and risk of creditor assessment over the decades. Such measures, although in large quantities adopted, are retrospective in nature. Financial statements encapsulate the previous year's performance and represent the results and in a lot of cases the operations were cumulative in nature. They are therefore likely to raise warning bells sometime after operational inefficiency that has risen to a level that has

a material bearing on reported earnings or cash flows. According to Correia (2025), before insolvency comes a long period of operations undermining that goes mostly unnoticed in aggregate financial records.

• *The constraints of Reactive Detection Mechanisms*

The problem with traditional detection systems is that they are highly reactive which means that the stakeholders cannot adequately intervene. Whatever corrective managerial action is possible to undertake when warning signs are estimated based on the worsening of financial ratios is frequently restricted to restructuring or liquidation. Similarly, lenders and regulators have been in the same camp to react when risks have crystallized. The structural failure in insolvency governance that is discussed in this paper is the fact that the early warning systems exclude the cost-level information. It focuses on the question of whether mandatory cost records and cost audit can provide a better quality and timeliness of finding distress by uncovering inefficiencies in their early stages of development before any financial misappropriation is allowed to develop.

FINANCIAL DISTRESS AND ACCOUNTING INFORMATION

• *Development of Bankruptcy Prediction Models*

One of the core issues in accounting research is the prediction of corporate failure. The early researches used the single ratio model to determine troubled firms, but had limitations in that the methods had high rates of misclassification and low explanatory potential. Later on, multivariate statistical models were presented which comprised a combination of several accounting pointers in which predictive accuracy was enhanced significantly. The prediction



frameworks broadened over the years to incorporate probabilistic, hazard-based, and machine-learning predictions. Correia (2025) captures the progress that has been made in terms of improving methodological sophistication and yet has a strong root in financial statement data. Although the models have become more complex, the informational base has not changed significantly.

- ***Reasonableness of Progressive Indicators***

Increasingly, recent studies acknowledge that financial distress does not happen suddenly and goes through comprehensible phases. Tanaka et al. (2025) show that multi-stage early warning systems are better than simple models due to the fact that they distinguish between early vulnerability, moderate distress, and future failure. The systems enable the intervention to be graduated according to the severity of the risk. Nonetheless, the majority of models continue giving priority to aggregate financial performance in place of operational drivers. There is little focus on the cost structure, efficiency trends, and patterns of resource utilization, yet the same is pertinent to sustainability. This loophole limits the horizons of predictive ability and supports the retroactive approach towards the prevailing insolvency detection models.

PRE-EMPTIVE LIMITATION AND WARNING SYSTEMS

- ***Data Dependency and Machine Learning***

The predictive ability of insolvency models has been significantly increased using machine-learning algorithms, which have established a degree of non-linear and non-reflective correlation in the presence of large datasets. According to Samara et al. (2025), machine learning-based solutions are superior to the conventional statistical models in classification,

especially in cases where the attributes of firms are non-homogeneous. Strategic foreknowing, however, never removes informational limitations. These systems will continue being sensitive to input measures which are of high quality, granular and on time. Models based on lagged financial disclosure just automate the late detection and not the prevention of distress. Structural deficits of accounting information are thus not addressed by technological change in prediction models.

- ***Long-term Blind Spots in Accounting Models***

The results of private-firm research show that viewing the accounting-based distress models still has blind spots. Mehmood et al. (2023) discovered that the financial ratios tend to remain steady in the firms despite the increased operational inefficiencies. The inflation of costs, deteriorating productivity and ineffective allocation of resources can continue to exist over a long period of time without any significant impact on the reported profits. These findings indicate that distress detection frameworks do not make systematic use of operational data. The cost-level information can provide an opportunity to capture the early form of deterioration which is obscured by the financial ratios and the need to broaden the informational foundation of the early warning systems is substantial.

COST RECORDS AND COST AUDIT

- ***Informational Value of Cost Records***

Cost records are valuable sources of information that show details of products, processes, and the consumption of resources. Cost records can also be used to determine ineffective relationships where the records can be used to trace back the source of inefficiency in order to be able to diagnose weaknesses

in the manner of structuring the operations within the environment. These records are also sensitive to early indicators like a drop in capacity utilization, undesirable cost allocation, and an increase in overhead absorption rate. The cost behaviour usually reflects a decline well before liquidity stress sets in. Unrelenting negative variances and compression of margins indicate the inconsistency between the market situation and the cost structures. These kinds of patterns, when regularly observed would be good early warning signals that cannot be reflected in financial statements.

Table 1. Cost-based indicators

Indicator	Early Signal Provided
Fixed-cost escalation	Reduced capacity utilization and inefficiency increase.
Unit cost increases	Inefficiencies in the process or supply chain.
Decrease in contribution margin	The pressure related to price or increased costs in inputs.
Constant unfavorable variances	The weak internal controls and operational slippage.
Under-absorption of overhead	Disagreement between production levels and capacity.

Source: Author's own work

- **Assurance Role of Cost Audit**

The credibility and reliability of the cost records are improved through cost audit as independence in verifying records, allocation principles, and efficiency are ensured. In addition to procedural compliance, cost audits analyze the way cost structures are used indicating sustainable operations. As shown by Sriram and Mukherjee (2022), audited cost information has great predictive utility in the forecasting of bankruptcy. Cost audits reveal inefficiencies that internal reporting might not be able to notice or excuse through variance investigation and trend analysis. This makes cost audit a diagnostic tool that can help in early intervention.

The insolvency governance that is discussed in this paper focuses on the question of whether mandatory cost records and cost audit can provide a better quality and timeliness of finding distress by uncovering inefficiencies in their early stages of development before any financial misappropriation is allowed to develop.

COST AUDIT AS A PREEMPTIVE MECHANISM

- **Leading Indicator Embedded in Cost Behavior**

Compared to the traditional financial ratios, cost behaviour gives a clearer and more timely indication of financial distress since it demonstrates the internal dynamics of production, pricing and operational control. Empirical research data show that the abnormal patterns of costs are often seen as financial

distress even after several accounting periods. Constant rises of fixed cost in comparison to output, diminished contribution margins, and the existence of unfavourable efficiency variances were especially suggestive of new structural frailty as opposed to short-term fluctuations. These trends indicate deeper imbalances of capacity & demand and cost structures that are normally smoothed over or obscured in financial statements by aggregation.

Samara et al. (2025) show that the predictive models, involving both operational and cost-based variables, are much more effective in detecting distress at its initial phase of development than are those models that exploit their financial ratios only. The advantage of this is due to the fact that the cost-level indicators can reflect a decline in the economic fundamentals, and this decline turns into liquidity constraints or profitability reduction, before it manifests itself in such forms. Considering the example of increasing overhead absorption rates as an indicator of diminishing capacity utilization, it is a long time before revenues decline by anything to write home about. Equally, continuing poor material and labour variance could represent process inefficiency or weakness of the supply chain that could limit the viability over the long term. Early warning systems that complement the conventional financial ratios with the cost-based indicators not only increase their depth of analysis but also provide a temporal lead time. This combination changes the process of insolvency prediction to the observation of causal relationships rather than the awareness of unfavorable results. Instead of determining failure when it has already been incurred, cost-based early warning systems will enable the identification of made paths which, when unremedied, will most likely lead to an eventual insolvency condition.

- **Related Domains Institutional Support**

The cost-based early warning mechanisms are backed up by the fact that other related disciplines, like actuarial science and the financial management of people, also support them. In the actuary business, granular data on expenses and claims is very important in identifying insolvency risk as opposed to using aggregate data on the ratios of solvency. In the article by the Society of Actuaries (2021), the need to monitor operational indicators in preventive supervision is underpinned by the assumption that the worsening of expense structures is often an early precursor to capital adequacy breaches.

On the same note, studies in the field of public financial management emphasize that transparency of costs contributes to enhancing fiscal discipline and risk management. IMF (2025) studies assert that

the finer cost information will enhance the ability of the oversight agency to determine the presence of inefficiencies, predict financial strain, and preemptive intervention when crises become reality. These results indicate not only that the informational benefits of cost-level monitoring are sector-independent, but also serve as an overall rule of governance of all institutional settings. Combined with the other similarities, such parallels contribute to the conceptual viability of cost audit as a preventative governance tool. The rationale behind the use of cost-based early warning systems is thus not some solitary hypothesis in the domain of corporate insolvency research but a larger trend towards anticipatory regulation and risk-taking that is based on granular data about operations.

IMPLICATION IN REGULATORY AND GOVERNANCE

• Preventive Regulatory Orientation

The voluntary disclosure and audit of cost data would also be a massive transition of insolvency regulation to a preventative, as opposed to a reactive, disposition. Conventional regulatory systems mainly aim at resolution systems in the event of failure, i.e., liquidation systems or restructuring regimes. Although these tools are required, they do not go far in alleviating the social and economic expenses that ensue after insolvency has taken place. Compulsory reporting of costs would enable the regulators to see the distress trends at an earlier phase and implement commensurate measures before failure becomes entrenched. According to the IMF (2025), the preventative oversight systems have the beneficial effect of mitigating systemic vulnerability by limiting weak points to full-scale crises. The indicators based on the cost might be included in the supervision dashboards, but could result in differentiated reactions in terms of escalated monitoring to specific governance interventions. An implementation model is especially significant through a proportional implementation. Standardized disclosure of baseline costs may apply across the board, but more clustering cost audit requirements may be introduced for companies that display high-risk information. This model is a compromise between regulation efficacy and compliance costs that increases feasibility and legitimacy.

• Board Supervision and Strategic Control

The audit of cost data on a corporate governance level can significantly improve the oversight of the board and its strategic control. Board level is usually based on high-level property-level financial statements that cover operational weaknesses. Cost audit reports in comparison will give early information on whether the cost structure maintained by a firm is reflective of its strategic positioning as well as the market conditions. This will allow the directors to intervene before the falling margins become solvency risks.

According to Correia (2025), early governance intervention plays a crucial role in reducing the degree of failure in corporations by maintaining discretion in the management of the organization and strategic optionality. Cost audits play a role in this goal in that they provide boards with plausible and independently checked information concerning the sustainability of operations. To regulators, audited cost reporting provides a scaling systemic insolvency risk mitigation solution without necessarily depending on ex post legal treatments.

CONCLUSION

In this paper, cost audit has been reconstructed as a proactive financial control, and not a single-purpose obligation. Through the incorporation of the compulsory cost records into the early warning systems, the organizations and regulators can know about the leading indicators that shed light on the causal processes that lead to financial distress. Cost audit therefore transforms the accounting responsibility of post hoc to predatory governance. A compulsory cost audit can significantly enhance the insolvency prevention structures. Despite the necessity to undertake additional empirical research, the conceptual argument of cost-based early warning systems is strong. By incorporating cost-level assurance into insolvency regimes, more horizons of intervention can be achieved, a better decision-making process can evolve, as well as the expense to the economy and society at large in the case of corporate insolvency can be reduced.

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