Going concern assessment: a literature review

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Abstract
This paper addresses a underlying assumption of financial statements: going concern assumption. The going concern assumption constitutes a foundational premise presuming that the entity will conduct its operations in the forthcoming period (at least 12 months) without significant risk of business interruption. The primary objective of financial reporting is to provide information regarding the entity's financial position and performance to diverse users. Management is obligated to apprise users, and auditors are tasked with scrutinizing the assertion that the entity will continue its operations for a period exceeding 12 months. This paper meticulously examines the regulatory framework grounded in International Financial Reporting Standards and International Standards on Auditing. It particularly scrutinizes the role and significance of auditors in assessing the going concern assumption, encompassing an analysis of factors influencing the auditor's opinion on the going concern assumption and addressing criticisms directed at auditors. Furthermore, the paper explores past experiences in developing models for evaluating going concern assumptions, potentially aiding forensic accountants in uncovering irregularities in financial statements, given the correlation between a heightened bankruptcy risk and fraudulent activities.

Keywords: going concern, financial statements, bankruptcy, forensic accounting, bankruptcy models

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1. Introduction

Going concern represents a crucial principle underlying the preparation and presentation of financial statements, implying the assumption that an entity will not cease its operations in the upcoming period. Considering the wealth of valuable information they provide, disclosures about future operations become essential for users of financial statements.

The primary objective of financial reporting is to offer informational support to users, facilitating business decision-making, with financial statements possessing both confirmatory and predictive values. In this context, financial statements provide users with information relevant for evaluating past and future economic flows within the entity.

According to the Conceptual Framework for Financial Reporting (IASB, 2018), the fundamental assumption of financial statements is the going concern assumption. This assumption implies that the entity will operate in the foreseeable future without a significant risk of business interruption. To ensure a certain level of protection for all financial statement users and prevent inaccurate decision-making, the management's obligation is to prepare financial statements while considering the assessment of the entity's going concern assumption. Simultaneously, auditors are responsible for evaluating the appropriateness of this assumption during the financial statement audit.

In line with the international accounting framework applicable in most countries worldwide (following the standards issued by the IASB – International Accounting Standards Board), management is mandated to annually assess the going concern (at least 12 months after the financial statement date or for the next fiscal year) and disclose this assessment in financial statements, following the provisions of IAS 1 – Presentation of Financial Statements. Conversely, the auditor's responsibility is to examine the validity of this assessment, as stipulated by the specific auditing standard ISA 570 – Going Concern. The lack of precise guidance in the international accounting framework is observed in general principles that leave space for subjectivity in the assessment process.

2. Regulatory framework for going concern assessment

The concept of the going concern assumption is a fundamental general-purpose financial reporting principle accepted in the first Framework for the Preparation and Presentation of Financial Statements (1989) and retained in the revised Conceptual Framework for Financial Reporting (2010). It assumes that the "an entity is a going concern and will continue in
operation for the foreseeable future. Hence, it is assumed that the entity has neither the intention nor the need to liquidate or curtail materially the scale of its operations; if such an intention or need exists, the financial statements may have to be prepared on a different basis and, if so, the basis used is disclosed." (IASB, 2018).

Investors and creditors have experienced significant losses due to the informational gap created by financial statements. Hence, there is a need for early identification of signals that could mitigate the damages accompanying a company's failure. The first studies on this topic, chronologically, include Ramser and Foster (1931), Fitzpatrick (1932), Smith and Winakor (1935), Merwin (1942), Chudshon (1945). All previous works were based on assessing bankruptcy using financial statements, searching for early signs of the end of a company's life cycle. Analyzing bankrupt and healthy companies led to the conclusion that indicators from financial statements exhibit significant differences between these two groups. This paved the way for further research and the development of models to facilitate predicting future economic flows within companies.

The assumption of the going concern has been an integral part of financial reporting in the United States for over a century, as emphasized by Hahn (2011). However, the American Institute of Certified Public Accountants first mandated in 1961 that accountants prepare financial statements with the assumption that the entity will continue operating indefinitely (AICPA, 1961).

The obligation to assess the going concern assumption in audit practice was established in 1981. During that period, the American Institute of Certified Public Accountants directed auditors to modify their opinions if they possessed sufficient information suggesting the company's inability to continue operating (AICPA, 1981). The mass production of International Auditing Standards began in the 1990s, including a specific auditing standard dedicated to the going concern assumption (ISA 570).

The underlying assumption from the Conceptual Framework for Financial Reporting is concretized through individual International Financial Reporting Standards (IFRS) and International Accounting Standards (IAS). All IFRS/IAS include requirements for measurement in line with this assumption, but specifically, IAS 1 – Presentation of Financial Statements and IAS 10 – Events after the Reporting Period stand out as documents that clearly define the entity's obligations regarding reporting on the going concern assumption. In
particular, IAS 1, through paragraphs 25 and 26, prescribes the obligation to assess the going concern assumption.

IAS 1 identified potential indicators that can be used to assess the going concern assumption. Regarding the assessment of the appropriateness of the going concern assumption, management should consider all available future information, covering a period of at least twelve months after the end of the reporting period, although not limited to that period. The scope of consideration depends on the specific facts of each case. If the entity has been profitable in the previous period and has uninterrupted access to financial resources, then, without detailed analysis, it may conclude that the going concern assumption is appropriate. In other situations, management may need to carefully consider a range of factors, including current and projected profitability, debt repayment plans, and possible alternatives for financing, before concluding on the appropriateness of the going concern assumption (IASB, 2021).

Bankruptcy issues regularly become relevant with global disruptions, including the COVID-19 pandemic. To address the growing number of inquiries from accountants and auditors regarding the assessment of the going concern assumption, the IASB released a publication in January 2021 titled "Going Concern – A Focus on Disclosure." This document thoroughly examines the importance of the going concern statement, the dynamic assessment of it, the significance of public disclosure, and potential scenarios and procedures in such situations.

3. Auditor's assessment of going concern

The auditors serve as an efficient market mechanism for monitoring the financial health of companies (Senteney et al., 2011). For the purpose of auditing financial statements, the assessment of going concern is conducted in accordance with the requirements of ISA 570, which stipulates that auditors should consider whether there are events or conditions that may cast significant doubt on the going concern assumption.

To assess the basis for accepting the going concern assumption by the management of the entity, it is necessary to identify areas of analysis for financial and non-financial events and conditions, which, according to Szczepankiewicz (2013), include:

- Budget analysis,
- Analysis of the entity's financial position,
• Cash flow analysis,
• Analysis of the economic substance of contracts,
• Evaluation of products and markets involved in the entity's operations,
• Assessment of the entity's ability to attract additional sources,
• Financing.

According to Kumor and Poniatowska (2017), besides analyzing factors contributing to the ability to continue operations, auditors commonly use methods such as ratio analysis and discriminant analysis, and less frequently, logistic analysis and artificial neural networks, to assess the risk of the entity's ability to continue operating.

In a study on the application of methods and techniques of financial analysis to reduce errors in assessing the appropriateness of the going concern assumption, the results indicate that in the financial statement audit process, a large majority of auditors (85% of respondents) use ratio analysis to assess the entity's ability to continue unlimited operations, while, for example, 38% of them use the Altman model (Szulc, 2013). Regarding the number of methods used by auditors, 25% use one method, more than 28% use two methods, and 14% of respondents use three methods (Szulc, 2013).

Auditors have been criticized for decades for failing to alert users of financial statements to the impending bankruptcy of companies (Sternberg, 1992; Bryan-Low, 2002). Increased complaints emerged after the 2008 financial crisis, with auditors being criticized for often issuing unqualified opinions on the going concern for companies that quickly went bankrupt (Sikka, 2009; McTague, 2011; Chasan, 2012).

Additionally, some research suggests that one of the main reasons for the 2008 financial crisis was the failure of accountants and auditors to fulfill their duties, through incorrect assessments of the going concern assumption, and some even with false audit reports (Bordo and Landon-Lane, 2010; Aldamen et al., 2012; Persakis and Iatridis, 2015; Balakrishnan et al., 2016; Sanoran, 2018). Furthermore, Persakis and Iatridis (2015) highlight that the quality of audits generally decreased during the global financial crisis. In such conditions, many companies face a bankruptcy crisis, resulting in significant losses for users of financial statements.

Numerous studies have addressed the accuracy of auditors in predicting the going concern assumption (e.g., Geiger et al., 2005; Geiger and Rama, 2006; Feldmann and Read...
2010; Blay et al., 2011; Myers et al., 2014). McTague (2011) compared the efficiency of auditors during the financial crisis to guard dogs that never barked. Supporting this, research identified 28 American and European financial institutions that declared bankruptcy or required government assistance within a few months of receiving a positive audit report (Sikka, 2009).

The auditor's assessment of the going concern assumption is a complex task with comprehensive consequences for audit practices and auditors. Therefore, auditors are constantly searching for systems that could assist them in decision-making (Louwers, 1988; Martens et al., 2008; Alareeni, 2019; Pelin, 2020), while investors, regulators, and academics question the usefulness of going concern opinions (Gutierrez et al., 2020). Increased concerns about auditors' behavior when reporting on the going concern have led to heightened oversight of the auditing profession (Knechel, 2009; Pinnuck, 2012).

Carson et al. (2013), based on previous empirical research, synthesized factors influencing the assessment of the going concern assumption. They grouped them into client factors, auditor factors, auditor-client relationship factors, and environmental factors.

Table 1: Factors influencing the auditor's opinion on the going concern assumption

<table>
<thead>
<tr>
<th>Client factors</th>
<th>Auditor Factors</th>
<th>Auditor-Client Relationship</th>
<th>Environmental Factors</th>
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<tbody>
<tr>
<td>Measures of Financial Distress Obtained from the Financial Statements</td>
<td>Auditor Judgment</td>
<td>Auditor Switching and Opinion Shopping</td>
<td>Litigation</td>
</tr>
<tr>
<td>Measures of Financial Distress Obtained from Outside the Financial Statements</td>
<td>Economic Dependence</td>
<td>Auditor-Client Tenure</td>
<td>Auditing Standards</td>
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<tr>
<td>Financial Reporting Quality</td>
<td>Auditor Size</td>
<td>Personal Relationships between Auditors and Clients</td>
<td>Regulatory Oversight</td>
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<td>Corporate Governance</td>
<td>Industry Specialization</td>
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<td>Market Structure and Competition</td>
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<td>Auditors’ Compensation Arrangements</td>
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<td>Auditors’ Organizational Forms</td>
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4. Models for assessing the going concern assumption

Disturbed going concern is noticeable through the ratio analysis of financial statements. However, it may seem challenging to identify the financial statements of a company facing bankruptcy if there are no comparative data from companies that have already gone bankrupt, in order to extract common elements and draw appropriate conclusions.

Due to the importance of the assumption of going concern, models for forecasting this assumption have been developed over the past 90 years. The most significant and cited work in this field is undoubtedly Altman's work (1968), in which a model for assessing the probability of bankruptcy based on multivariate discriminant analysis was constructed. Two years before Altman's model, Beaver (1966) developed a model using individual indicators.

Some studies show that it is possible to predict bankruptcy with a relatively high level of accuracy at least five years before bankruptcy when financial indicators are used as predictors (Beaver et al., 2005). Therefore, models based on the systemic deterioration of indicator values have been developed (Beaver, 1966; Beaver et al., 2005; Maffei et al., 2020).

There is a great diversity in choosing the number and types of factors used in model development. The number of initial variables used in model development ranges from five (Hauser and Booth, 2011) to 88 (Platt and Platt, 2008), while final models contained from two (Sandin and Porporato, 2007; Li and Wang, 2014) to 12 variables (Martens et al., 2008; Kliestik et al., 2018).

An exception from previous models is the oldest reference model in which univariate discriminant analysis was used (Beaver, 1966). Despite the existence of theory, predictors of financial distress prediction models (financial indicators) are mostly chosen on an empirical basis (Balcaen and Ooghe, 2006; Alareeni, 2019).

However, with the development of information technologies, the use of other analyses (logit, probit analyses, and neural networks) has been facilitated. During the 1980s, logistic regression analysis began to be applied (Ohlson, 1980). Since then, logistic regression has become popular because it is less rigid compared to standard regression models (normality, etc.) (Zavgren, 1985).
In addition to previous models, decision trees have been popular since the 1980s (Frydman et al., 1985), as well as neural networks (Odom and Sharda, 1990). Recently, mixed logit models have been developed, which are claimed to outperform the standard binary logit model in predicting financial distress (Shumway, 2001), and hazard models are also applied (Shumway, 2001; Beaver, McNichols, and Rhie, 2005).

Shi and Li (2017) conducted research on developed models for assessing bankruptcy risk, noting a significant increase in papers in the field of researching the prediction of business continuity risk in the last decade.

Figure 1: Evolution in the number of international academic papers

Out of the total number of covered papers (496) since 2008, there has been a significant increase in the number of papers addressing this issue, accounting for 83.50% of all the covered papers. Altman's work from 1968 remains the most cited among all papers. Considering all the papers, the authors found that logistic regression is still the most prevalent among classical mathematical methods, followed by discriminant analysis. Within machine learning methods, neural networks are the most frequently used. The table below presents the most prevalent bankruptcy prediction methods.
Table 2: Ranking of classical statistical models and machine learning models

<table>
<thead>
<tr>
<th>CLASSICAL STATISTICAL MODELS</th>
<th>MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE MODELS</th>
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</thead>
<tbody>
<tr>
<td>Ranking Method and model name</td>
<td>Number of papers</td>
</tr>
<tr>
<td>1. Logistic regression (Logit)</td>
<td>123</td>
</tr>
<tr>
<td>2. Discriminant analysis</td>
<td>52</td>
</tr>
<tr>
<td>3. Multivariate Discriminant analysis &amp; Z-score</td>
<td>33</td>
</tr>
<tr>
<td>5. Logit &amp; probit</td>
<td>7</td>
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Source: according to Shi & Li (2017)

The role of a forensic accountant becomes crucial in the context of the going concern assumption, facing the challenges of preventing and detecting financial irregularities. Through the lens of financial statements relying on the going concern assumption, a forensic accountant is tasked with analyzing, interpreting, and investigating to uncover potential signs of manipulation or information concealment. The forensic accountant utilizes their expertise and skills in auditing financial statements to identify irregularities that may indicate compromised business stability.
5. Conclusion

The importance of going concern as an underlying assumption of financial statements is expressed through a wide range of research and regulations. This assumption provides a framework for depicting the stability of the entity in operations, enabling users to make informed business decisions. However, challenges in assessing going concern, especially in the context of pervasive global disruptions, underscore the need for precise and comprehensive models.

Financial statements, relying on the assumption of going concern, serve as the basis for decision-making, but simultaneously require careful audit and evaluation to ensure their validity. Auditors play a crucial role in this process, using various methods, including ratio analysis, discriminant analysis, and machine learning techniques, to assess the likelihood of the entity continuing its operations.

Contemporary models for assessing going concern reflect the evolution of research in this field. Despite this, challenges in accurately identifying companies at risk of bankruptcy persist, especially when relevant comparative data is lacking. Continuous improvement of methods and techniques is crucial to enable the early recognition of signs of disrupted going concern assumption and reduce potential losses for investors and creditors.

Regulatory and research efforts to enhance transparency and accuracy in assessing going concern testify to the importance of this assumption in a dynamic business environment. Through further research, model development, and alignment with the latest technologies, improvements in predicting future economic trends of entities and reducing risks for all stakeholders of financial statements can be expected.

Models and methods used in assessing going concern become a crucial tool for forensic accountants. Faced with ubiquitous challenges in predicting future economic trends and the risk of disrupted business stability, forensic accountants play a key role in protecting the interests of stakeholders, investors, and other relevant parties. Their contribution to detecting potential irregularities not only aids in preventing financial fraud but also ensures the integrity of financial statements that are essential for making informed business decisions. Therefore, in a dynamic environment where risks are constantly changing, the role of forensic accountants becomes indispensable for preserving transparency and trust in the financial reporting.
References:


American Institute of Certified Public Accountants. Auditing Standards Board. (1981). *The auditors’ considerations when a question arises about an entity’s continued existence; Statement on Auditing Standards.*


Sažetak

Ovaj rad se bavi ključnom pretpostavkom finansijskih izvještaja, a to je vremenska neograničenost poslovanja. Vremenska neograničenost poslovanja je temeljna pretpostavka koja podrazumijeva da će subjekt u predstojećem razdoblju (najmanje 12 mjeseci) poslovati bez značajnog rizika prekida poslovanja. Osnovni cilj finansijskih izvještavanja je pružiti informacije o položaju i uspješnosti subjekta različitim korisnicima finansijskih izvještaja, a menadžment je dužan informisati korisnike, te revizori revidirati izjavu da će subjekt nastaviti poslovati u periodu dužem od 12 mjeseci. U radu je analiziran regulutarni okvir koji počiva na Međunarodnim standardima finansijskog izvještavanja i Međunarodnim revizijskim standardima, te je posebno razmotrena uloga i važnost revizora u ispitivanju vremenske neograničenosti poslovanja, uz analizu faktora koji utiču na revizorovo mišljenje o vremenskoj neograničenosti poslovanja, kao i kritike koje se upućuju revizorima. Nadalje, istražena su dosadašnja iskustva u razvoju modela za ocjenu vremenske neograničenosti, koji bi mogli pomoći forenzičnim računovođama u otkrivanju nepravilnosti u finansijskim izvještajima, budući da visok rizik stečaja doprinosi prevarama, i obratno.

Ključne riječi: vremenska neograničenost poslovanja, stečaj, finansijski izvještaji, forenzično računovodstvo, modeli za predikciju stečaja.