

“Detecting tax evasion in the hospitality and tourism sector”

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DETECTING TAX EVASION IN THE HOSPITALITY AND TOURISM SECTOR

Abstract

One of the industries with the fastest development is the hospitality and tourism (HoReCa) sector. However, there is also a growing trend in this sector to evade some state taxes. Despite promises that digitalization will reduce tax evasion, this practice nevertheless is a serious threat to the economy and the state.

This study aims to process a comprehensive model for screening and risk assessment of tax fraud in the HoReCa sector in Romania. In this sense, an empirical study was conducted using an econometric model to detect tax evasion in the HoReCa sector in Romania, based on a sample of 50 firms for each sub-sector (hotels, restaurants, cafes), analyzing the period 2018–2022. The dependent variable of the model was the tax evasion risk indicator, calculated as the difference between the average financial ratios of each firm and the average for the entire sector.

The results show that the leverage ratio has the strongest positive impact on the tax evasion risk indicator. The fixed asset turnover ratio and the accounts receivable turnover ratio also have a significant impact, indicating false sales reports or collection irregularities. The solvency ratio and the immediate liquidity ratio show positive effects on the risk of tax fraud, while the net rate of return is the only one with a negative effect, suggesting that profitable entities are less prone to tax evasion.

The proposed model provides a solid basis for identifying high-risk companies directing tax authorities to improve supervision in the HoReCa industry. The findings also highlight the importance of further automating tax reporting systems to reduce the risks of evasion.

Keywords

tax evasion, fraud, HoReCa, risk indicator, econometric model, financial rates

JEL Classification

C10, M41, H26

INTRODUCTION

The HoReCa sector is recognized as one of the most rapidly evolving industries, consistently offering opportunities for growth and innovation. However, it also presents notable challenges, particularly regarding tax compliance. In recent years, there has been a growing trend in this sector toward tax avoidance, as businesses seek to reduce their fiscal obligations to the state. This issue has been highlighted in various studies, including García-Madurga et al. (2021) who observe a significant rise in such practices despite efforts to modernize and streamline tax collection processes.

One of the key advancements aimed at combating tax evasion is the digitalization of financial reporting systems, which theoretically should help mitigate such practices by increasing transparency and accountability. However, as noted by Pițu et al. (2021) and Grosu et al. (2023), despite the push towards digital solutions, tax evasion remains a persistent issue, with a profound impact on the state budget and overall economic stability. This not only deprives governments of necessary revenue but also distorts market competition, as businesses that comply with tax regulations find themselves at a disadvantage compared to those that operate illegally or exploit legal loopholes.

Romania, as an EU member, faces significant challenges in this regard. It has consistently ranked among the European countries most affected by tax evasion, a phenomenon exacerbated by both illegal actions and the ambiguous interpretation of existing tax laws. This issue has major implications not only for the Romanian economy but also for the broader European Union, as it undermines collective efforts to process a fair and competitive internal market.

1. LITERATURE REVIEW

Fraud remains a serious issue in the context of corporate governance and financial reporting as it can seriously damage the reliability and integrity of financial statements, which can have dire consequences for stakeholders and the economy as a whole.

Non-compliance is a worrying phenomenon that is becoming increasingly relevant for researchers. Together with policy decisions, this phenomenon generates unfair competition and opportunistic actions by firms in their attempt to reduce the cost of labor (Koumarianos et al., 2019). During an economic downturn, competition becomes even fiercer, leading to an increase in fraud, undermining financial sustainability, veracity of reporting and compliance with decent working conditions. Williams (2014) has previously addressed these concerns as well, emphasizing that tackling these problems is complex as it requires addressing direct and interrelated factors along with their effects. Wicked problems are difficult to define and have no final or definitive solutions. Moreover, they are interconnected and involve various third parties. Tightening up the right measures, combined with other policy changes, is, therefore, a delicate challenge that needs to be managed separately for each labor market. The implementation of a rigorous legislative framework, taking into account the particularities of each market, is essential to prevent unfair competition and opportunistic actions by companies.

Furthermore, when discussing about undeclared work, some authors (Alogogianni & Virvou, 2023; Macovei et al., 2024) emphasize that is a major social and economic problem, affecting all stakeholders and generating unfair competition in the labor market. This phenomenon causes considerable losses to the state budget through tax evasion. Although labor inspectorates exist to prevent such practices, they often face a lack of resour-

es. However, they do have untapped “gold” in the form of extensive past inspection databases. If these data were properly processed using modern techniques, valuable insights could be gained into the impact and common patterns of undeclared work, providing effective ways of tackling the problem.

By reducing agency costs and opportunities for managerial rent diversion associated with corporate tax evasion, the level of institutional ownership may negatively affect the cost of debt if, on the one hand, it leads to a favorable tax evasion outcome and, on the other hand, it is negatively related to the cost of debt. Desai and Dharmapala (2009), for instance, talk about how companies with a lot of power might be more inclined to use sophisticated company structures meant to minimize taxes, manipulate transfer pricing, or use offshore countries to participate in tax evasion.

It has also emphasized how tax avoidance activities affect finance providers’ risk exposure, including that of loan holders and shareholders. The reason for this may be that the tax evasion risk indicator is most positively influenced by the leverage ratio. It implies that companies with a high debt financing ratio would be more inclined to use tax evasion strategies as a means of handling their debts. In this regard, Sánchez-Ballesta and Yagüe (2023) provided compelling evidence that tax evasion has a detrimental impact on the cost of loans for small and medium-sized enterprises (SMEs). According to their findings, tax evasion can provide SMEs with an alternate financing source to external borrowing, enabling them to improve their credit quality and get bank financing at a reduced cost of debt.

Two conflicting impacts have been identified in some of the research findings examining the relationship between tax avoidance and the cost of debt (Lim, 2011; Hasan et al., 2014). A means that businesses can minimize their cost of debt is by

lowering their income tax expenditures is by increasing their after-tax cash flows. This can then encourage them to take on less debt, which will improve their credit quality and lower their default risk. This fact is also addressed by Sánchez-Ballesta and Yagüe (2023) who claim that while tax evasion can boost company's cash flows, it can also raise agency costs, information risk, and control risk from tax authorities, all of which have an adverse effect on the cost of financing.

In contrast, Guedrib and Hamdi (2024) discovered that tax evasion has a negative impact on debt costs. However, when tax evasion is associated with high risk, it positively influences the cost of debt. This fact is also supported by Minh Ha et al. (2022) who also do not provide solid empirical support for a relationship between institutional ownership, tax evasion, and the cost of corporate debt for businesses.

The possible repercussions of tax avoidance activity, such as the occurrence of non-taxable expenses like reputational losses or the degree to which a firm's tax avoidance activities can be recognized and evaluated by the market, are the subject of much research. There is currently conflicting information regarding how tax evasion affects company value. While some research indicates that investors may somewhat discount a company's stock price if they believe it to be tax aggressive, other studies show the data that suggest reputational costs should not be a concern for tax planning firms, or should at most be subordinate to them. Hanlon and Slemrod (2009), for instance, demonstrate that substantial reputational costs deter large, profitable companies from engaging in tax evasion. Exposure to tax evasion tactics can result in harsh repercussions, such as losing the trust of clients and business partners, particularly in industrialized nations (Johannesen et al., 2020). The claim that profitable companies stand to lose more financially and in terms of reputation if they engage in tax evasion could help to explain this. A bad reputation brought on by allegations of tax fraud may affect a company's worth, partnerships and investor connections, and customer confidence.

Other studies also discuss the relationship between profitability and tax avoidance, arguing that high-performing firms with more financial resources and access to expert advice are more

likely to legally minimize tax liabilities (Hanlon & Slemrod, 2009). At the same time, profitable firms are often more targeted by tax authorities, which may incentivize both tax compliance and the use of aggressive tax planning strategies (Lanis & Richardson, 2012). These firms benefit from the ability to implement complex legal structures that reduce the tax paid staying within the law. High levels of profitability and tax compliance are correlated, according to Klassen and Laplante (2012), who also found that profitable businesses are more inclined to invest in legal tax optimization mechanisms such legal tax deductibility while avoiding unlawful avoidance. Also in this regard, Mocanu et al. (2021) discover that businesses that do better financially typically have larger taxable profits, which translates to higher corporate income taxes. These factors lead the authors to believe that they are more likely to engage in tax evasion because they will have a stronger motivation to reduce their tax liability. According to this, there is a positive correlation between a company's financial performance and its tax evasion practices. Furthermore, Eichfelder and Hechtner (2018) contend that profitable businesses possess greater resources, allowing them to engage competent tax consultants who help them reduce their tax liabilities.

The purpose to act to acquire illegal or immoral benefits distinguishes fraud from error, which is a subtle but important distinction (Voinea, 2018). Fraud is described as a deliberate act carried out by an individual or group of individuals, including members of the company's management, other associated individuals or staff, or those in charge of management (Oprea, 2010). Others (Stancu et al., 2020; Hauptman & Hlastec, 2023; Hauptman et al., 2024) have stressed the necessity for sophisticated instruments and novel approaches to assess the possibility of tax avoidance.

According to Vâlsan (2020), Romania could not collect 39% of its VAT revenues, as reported by the specialist press and continues to be the EU member state with the largest VAT collection gap, ahead of Slovakia (29%) and Greece (28%). Even while the numbers are concerning, they concluded that other nations also experience comparable collecting deficiencies, so the issue is not unique. Perpelea and Beldiman (2016) have noted that there is a growing number of tax evasion cases and that the repercus-

sions of these cases are getting worse. Because of the detrimental impacts on society and the economy, many nations have made the battle against tax evasion a top priority (Socoliuc et al., 2018; Garfatta et al., 2022; Mazurenko et al., 2023).

The most prone to tax evasion are small and medium-sized enterprises for which any evasion of an extra expense, coupled with relatively low incomes, is an additional reason to resort to illicit methods. The literature reinforces this idea, with authors opining that SMEs are more likely to enter the tax evasion circle (Sikayu, 2022).

In this regard, Dănescu et al. (2021) believe that there is a high probability of financial reporting fraud, especially after the 2008 financial crisis. Thus, people who use financial information should be aware that there is a chance that financial statements will be purposefully changed through fraudulent misrepresentation. A significant risk of deliberate falsification in financial reporting is indicated by certain red flags, which may be signs of abnormalities in company management. Even though these indicators do not provide hard proof of fraud, they are frequently seen in businesses with lax corporate governance.

Professional judgment and auditor skepticism are crucial for finding abnormalities; these tactics include comprehending the causes of fraud and accurately identifying significant regions (Cosmulese & Socoliuc, 2019; Usman & Sundari, 2024; Badlaoui et al., 2024). It is, therefore, critical to pay close attention to multiple financial ratios and use various methods to identify potential fraud during the financial reporting process. In this regard, the creation of algorithms that can recognize financial manipulation is receiving more attention in the literature (Holda, 2020; Suryandari et al., 2023; Kuzior et al., 2023; Silalahi et al., 2023; Shonhadji & Irwandi, 2024). Numerous studies in the field of accounting highlight the significant impact of fraud on financial reporting in the HoReCa sector and highlight the increased research interest in this area (Dănescu et al., 2021). Over the past two decades, several high-profile corporations have been implicated in accounting scandals and multi-billion dollar frauds, making forensic accounting a central focus in combating economic crime and detecting financial fraud (Halibegovic, 2020).

In conclusion, it is obvious that effective financial indicators are needed to detect and prevent tax evasion. By carefully analyzing existing data and implementing modern processing techniques, the authorities can develop more accurate tools to identify irregularities and combat undeclared work. Financial indicators tailored to the HoReCa sector and other industries can provide a clear insight into areas at risk, helping to prevent tax evasion and ensure a level playing field. Thus, in light of these previous findings there stated the research hypotheses:

H1: Entities with a high leverage ratio are at higher risk of tax evasion.

H2: Profitable firms (with a high net rate of return) are less prone to tax evasion.

2. METHODOLOGY

Due to its user-friendliness and reliable information about companies in the HoReCa industry, topfirme.com was selected as the preferred platform for collecting financial accounting data at the initial stage. The work sample consists of 50 firms for each sector, ordered by turnover, as follows: hotels (NACE code: 5510), restaurants (NACE code: 5610) and cafes (NACE code: 5630).

The financial information for these entities was then entered into Microsoft Excel, where a series of financial ratios were calculated for each sector (net rate of return, solvency ratio, immediate liquidity ratio, financial rate of return, leverage ratio, asset turnover ratio, receivables turnover ratio). Since this corresponds with their economic impact, there are opted to rank the entities by turnover in order to concentrate on those with a high level of activity. The study's five-year time-frame runs from 2018 to 2022.

During the study's second phase, there were described a distinctive indicator for tax fraud. To design this model, three were taken as a reference to the methodology used by Dascălu et al. (2024), which aims to construct an indicator of the risk of tax evasion by calculating average financial ratios. Also in this case, the absolute value of the difference between the sector average of the same finan-

cial ratios and the average of all financial ratios computed for each firm was used to generate this indicator (equation 1):

$$\text{Tax evasion risk indicator} = \text{Absolute} \left(\begin{array}{l} \text{Average of the entity's} \\ \text{significant financial ratios} \\ - \text{Average of the significant} \\ \text{ratios by sector} \end{array} \right), \quad (1)$$

where *Tax evasion risk indicator* is a metric or set of criteria used to assess the likelihood that an individual or organization is engaging in tax evasion; *Average of the entity's significant financial ratio* refers to the mean value calculated from a selection of key financial ratios that are considered important for evaluating the financial health and performance of the entity. *Average of the significant ratios by sector* refers to the mean values of key financial ratios calculated across different companies within a specific industry sector.

This measure, which can also be interpreted as a deviation from the sector average, suggests possible irregularities that may require further investigation. Therefore, this indicator serves as a valid tool to reflect the risk of tax evasion by indicating when an entity's financial performance deviates significantly from industry norms. This deviation may signal unorthodox accounting practices or attempts to minimize tax liabilities, thus warranting increased interest from regulators.

Subsequently, an econometric model was developed using Ordinary Least Squares (OLS), and multiple linear regression was processed to explore the study hypotheses and demonstrate the relationships between variables through various statistical methods. In this matter, the SPSS program was used for processing the collected data.

Therefore, using this methodology, it was aimed to provide a clear approach to identify and understand the factors contributing to the risk of tax evasion in the HoReCa sector.

3. RESULTS

To construct the tax evasion risk indicator, the average financial ratios among HoReCa enterprises for the period 2018–2022 were calculated. Table 1 presents the results.

Looking first at the hotel sector, there are some interesting values. The profit margin is 0.1008 or 10.08%, which means that for every leu invested, a profit of 10 bani is made. From an economic point of view, this sector can be considered profitable, offering an acceptable ROI, although low compared to other sectors. The solvency ratio of 3.42 indicates that entities in the hotel sector have more assets than debts. The immediate liquidity ratio, at 2.11, is above 1, indicating that entities have sufficient cash to cover their short-term obligations. The financial return margin, although the lowest of the three sectors analyzed, still indicates that investments offer some degree of return. The leverage ratio is 29.21%, which suggests a moderate level, signaling that equity financing is higher than debt. Debt turnover, at 9%, indicates that entities are not losing from this perspective. The average fixed asset turnover rate indicates the efficient use of assets to generate income.

The focus is still on the restaurant sector. Profit margin is 8.7%, lower than in the hotel sector. The solvency ratio is 1.75, indicating a less stable financial situation, but still outside the zone of vulnerability. The immediate liquidity ratio is 1.88, above the threshold of 1, indicating sufficient liquidity to cover short-term obligations. Financial profitabil-

Table 1. Average financial ratios by sector, %

Source: Author's own processing.

| Indicators | Hotels | Restaurant | Cafes |
|---|--------|------------|-------|
| Average net margin by sector | 10.08 | 8.75 | 15.79 |
| Average solvency ratio by sector | 3.42 | 1.75 | 2.87 |
| Average immediate liquidity rate by sector | 2.11 | 1.87 | 4.23 |
| Average financial rate of return by sector | 7.33 | 61.68 | 55.10 |
| Average debt ratio by sector | 29.21 | 56.92 | 34.70 |
| Average turnover rate of fixed assets by sector | 0.43 | 4.66 | 4.54 |
| Average receivables turnover rate by sector | 9.08 | 18.16 | 8.61 |

ity in the restaurant sector is significantly higher, indicating that owners are realizing considerable returns on their investments. The leverage ratio is, however, quite high, exceeding the 50% threshold, suggesting significant debt levels. Asset turnover is also higher and the average debt turnover is double that of the hotel sector.

Finally, the analysis focuses on the cafes sector, which has the highest profit margin, which is to be expected given the rapid growth of this sector in recent years. The solvency ratio is intermediate between the other two sectors. On the other hand, the immediate liquidity ratio is the highest of all three sectors, suggesting superior financial strength. The financial profitability is the second highest and the leverage ratio is also in second place, below the 50% threshold, indicating a relatively healthy level of leverage, more promising than in the restaurant sector. However, the average debt turnover is the lowest in this sector at 8.61.

Based on these calculations, together with the average for each sector, the tax fraud risk indicator was calculated. The formula used in Microsoft Excel to calculate this indicator is equation 1.

This measure, which can also be interpreted as a deviation from the sector average, suggests possible irregularities that may require further investigation. Therefore, this indicator serves as a valid tool to reflect the risk of tax evasion by indicating when an entity's financial performance deviates significantly from sector norms. In other words, the higher the value of the indicator, the higher the risk of fraud. Thus, indicator attempts to highlight unusual behavior of an entity compared to its competitors. This indicator is useful for tax authorities, investors, creditors and even the general public who can use this indicator to identify possible cases of tax fraud and to target investigation efforts. For example, if someone is planning to invest in a company that appears to be a good performer with high promise but high risk according

to the indicator, that investment should be reconsidered. In conclusion, it should be noted that this indicator can contribute to strengthening the economic integrity of the state and ensuring compliance with tax legislation by the subjects.

The econometric model uses the SPSS statistical program to process a multiple linear regression model, which provides insight into the impact of financial ratios on the tax fraud risk indicator. Table 2 shows the model results.

Table 2 shows, first of all, that the regression coefficient (R) of the model is 0.881 (88.1%), which indicates the existence of a very strong relationship between the independent variables (predictors) and the dependent variable of the model (tax fraud risk indicator). The coefficient of determination (R²) represents the percentage of the variation of the dependent variable explained by the model. Thus, 72.7% of the variation in the tax fraud risk indicator can be explained by independent variables. The adjusted R², which takes into account the number of independent variables, is slightly lower, penalizing the high number of variables added in the model. Therefore, after adjusting for the number of independent variables, the model can explain 65.9% of the variance of the tax fraud risk indicator. In terms of testing for autocorrelation, the value of the Durbin-Watson test is 2.153, indicating the absence of autocorrelation in the model.

Next, the value of the coefficients of the developed econometric model was analyzed. The results can be observed in Table 3.

According to Table 3, the following equation was made up:

$$\begin{aligned}
 & \text{Tax evasion risk indicator} \\
 & = \alpha + 0.143 \cdot \text{Debt}_{ratio} + 0.142 \cdot \text{FixedAssets}_{turnover\ rate} \\
 & + 0.139 \cdot \text{Turnover}_{rate} + 0.137 \cdot \text{Solvency}_{ratio} \quad (2) \\
 & + 0.152 \cdot \text{Liquidity}_{rate} + 0.95 \cdot \text{Financial return}_{rate} \\
 & - 0.277 \cdot \text{Net rate}_{return} + \varepsilon.
 \end{aligned}$$

Table 2. Summary of the econometric model

Source: Own processing in SPSS.

| Model | R | R ² | Adjusted R ² | Std. error of the estimate | Durbin-Watson |
|-------|--------------------|----------------|-------------------------|----------------------------|---------------|
| 1 | 0.881 ^a | .727 | .659 | 15.85 | 2.153 |

Note: ^aPredictors: (Constant), Debt turnover ratio, Indebtedness ratio, Immediate liquidity ratio, Net rate of return, Financial rate of return, Fixed asset turnover ratio, Solvency ratio; ^bDependent variable: Tax evasion risk indicator.

Table 3. Coefficients

| Model | Unstandardized coefficients | | Standardized coefficients | t | Mr. |
|---------------------------|-----------------------------|------------|---------------------------|---------|------|
| | B | Std. error | Beta | | |
| (Constant) | -.312 | 1.948 | - | -.160 | .873 |
| Net rate of return | -.277 | 2.325 | .002 | -.119 | .905 |
| Solvency ratio | .137 | .022 | .055 | 6.216 | .002 |
| Immediate liquidity rate | .152 | .131 | .010 | 1.163 | .249 |
| Financial rate of return | .095 | .199 | .001 | .477 | .635 |
| Debt ratio | .143 | .000 | .953 | 341.405 | .000 |
| Fixed asset turnover rate | .142 | .002 | .329 | 86.072 | .001 |
| Turnover rate | .139 | .007 | .058 | 19.048 | .002 |

Note: ^a Dependent variable: tax evasion risk indicator.

Based on equation 2, the order and type of influence of the variables can be determined (see Table 4).

Table 4. Type and order of influence of independent variables

| Order of influence (large to small) | Type of influence |
|-------------------------------------|-------------------|
| Debt ratio | Positive |
| Fixed asset turnover rate | Positive |
| Turnover rate | Positive |
| Solvency ratio | Positive |
| Immediate liquidity rate | Positive |
| Financial rate of return | Positive |
| Net rate of return | Negative |

The first rate with the strongest impact on the tax fraud risk indicator is the debt ratio. Various economic phenomena can influence this. For example, a high leverage ratio may indicate financial stress, which may cause entities facing the inability to pay their debts to postpone or avoid paying taxes to manage cash flow and reduce financial pressure (Dirman, 2020). Thus, the debt ratio significantly influences the risk indicator of tax evasion, and outliers should raise questions for the authorities, suggesting a potential risk of evasion. Borrowing can also be used as a form of tax planning, but this is risky, as an abusive attempt at tax optimization may ultimately result in tax fraud. It is important to emphasize that a high level of indebtedness may motivate the entity to engage in tax fraud activities to mask the true situation from creditors or investors. Hence, *Hypothesis 1* is verified.

The second rate with a strong influence on the tax evasion risk indicator is the rate of turnover of fixed assets. Theoretically, a high rate indicates an efficient use of fixed assets for revenue generation. However, a rate that is too high may raise suspicions of tax evasion. For example, entities may re-

port false or inflated sales to process an image of prosperity to stakeholders (Banerjee, 2024). At the same time, they may hide suspicious fund transfers or revenues without a sound economic basis. Entities may also understate the net asset value to present a more attractive image.

The next rate with a significant effect on the tax fraud risk indicator is the receivables turnover rate. The impact is positive in nature as a high receivables turnover rate may indicate fictitious sales, creating a more prosperous picture of the entity's performance. Besides, if an entity collects receivables too quickly from some customers but allows others to become uncollectible, this may suggest the presence of tax evasion. Significant discounts given for prompt payment can also affect this rate, often mask uncollectible costs, and can be used to manipulate the financial situation.

The solvency ratio is the fourth rate with a notable impact on the tax fraud risk indicator. Some entities may distort the balance sheet by subtracting or omitting certain liabilities. This can be accomplished through various methods, such as delaying the recognition of debts or using complex tax methods that mask real debts, thereby increasing the risk of tax evasion. Besides, since a high level of this indicator is essential for the entity's image and access to credit, companies may try to present the rate in a more favorable light by increasing the value of assets or using inappropriate depreciation methods.

The fifth ratio in the model that positively impacts the tax fraud risk indicator is the immediate liquidity ratio. The relationship between the immediate liquidity ratio and tax fraud risk may seem counterintuitive, given that a high ratio indi-

cates that the organization has sufficient resources to meet its liabilities in the short term. However, there are economic and contextual reasons for this relationship. An entity that deliberately chooses to hold too much cash or cash equivalents may be suspected of underinvesting in its operations or of disguising income to avoid taxation. In both cases, there are suspicions of tax evasion. Besides, an entity may access short-term loans despite having sufficient cash. This scenario may seek to mask unusual financial transactions or arrangements that may be associated with tax evasion.

The financial rate of return has the weakest positive impact on the tax fraud risk indicator. However, the effect is statistically significant. Organizations may be tempted to artificially inflate their earnings to process a more attractive image to creditors or investors. These actions may increase the financial rate of return, leading to an increase in the tax fraud risk indicator.

The final financial rate in the model is the net rate of return, which negatively affects the tax evasion risk indicator. Various arguments can explain this type of relationship. Entities with high net rates of return tend to have more transparent and efficient operations, making it more difficult to manipulate figures to hide tax evasion. They also have less need to resort to tax evasion because their numbers are already good.

Thus, profitable entities do not feel the need to evade taxes because they have sufficient revenue. Besides, a higher net margin may indicate sound management, where compliance with the law is a priority. Therefore, the negative relation-

ship between the net rate of return and the risk of tax fraud suggests that entities with good performance and transparent operations are less prone to tax fraud. Hence, *Hypothesis 2* is verified.

The work results align with previous research, which also suggests that financial ratios can serve as powerful indicators of tax risks. In particular, research by Mkadmi and Ali (2024) confirmed the importance of indicators such as return on equity, the effect of leverage of noncurrent liability, ratio liquid asset, current asset, and growth of ROE. In their work, Shubita et al. (2024) indicate that tax evasion is positively correlated with ROA and ROE. These works emphasized the importance of financial ratios in identifying such trends, but their focus was often limited to the study of individual indicators.

At the same time, this study makes an important contribution to this literature, as it offers a more holistic model for analyzing financial indicators, which combines several critical ratios within the framework of a single integrated risk indicator. This allows taking into account the individual indicators, such as asset turnover or profitability, and the analysis of them in interaction, which makes risk assessment more accurate and comprehensive.

Thus, the current study is a step forward in understanding how financial indicators can be used to assess companies' economic sustainability and identify tax evasion risks. The multifactorial approach significantly increases the accuracy of forecasting such risks and opens up new opportunities for further research in taxation and financial analysis.

CONCLUSIONS

The main objective of this study was to describe an econometric model to detect tax evasion in the HoReCa sector, based on the analysis of a series of financial rates and the design of a specific risk indicator for this phenomenon. High values of debt ratio, fixed asset turnover rate, turnover rate, solvency ratio, immediate liquidity rate, financial rate of return may indicate an increased risk of tax evasion. In particular, the leverage ratio had the strongest positive impact on the tax fraud risk indicator. Highly leveraged entities are more likely to resort to illicit practices to mask their true financial situation and avoid paying taxes. At the same time, the rate of turnover of fixed assets and the rate of turnover of receivables also had a significant impact on the risk of tax fraud. The unusually high values of these rates may suggest the reporting of false sales or irregularities in debt collection, indicating the need to investigate these cases carefully. Solvency ratios can also be manipulated to present an improved balance sheet

by omitting debts or increasing the value of assets, thereby increasing the risk of tax evasion. Another interesting aspect of the study was the influence of the immediate liquidity ratio on the risk of tax fraud. Entities that deliberately hold a high level of cash or cash equivalents may be suspected of avoiding investment or masking income to avoid taxation. However, the net rate of return was the only financial rate that had a negative impact on the risk of tax fraud. Profitable entities, with transparent operations and sound management, are less prone to tax evasion due to their solid performance.

In conclusion, the risk indicator provides a quick and concrete method for assessing the risk of fraud and targeting investigative efforts. Therefore, it is recommended that tax authorities, investors, and other stakeholders use it to identify possible cases of tax evasion in the HoReCa sector. Besides, the implementation of stricter tax and corporate governance policies, as well as increased transparency in financial reporting, can significantly contribute to reducing tax evasion in this sector.

AUTHOR CONTRIBUTIONS

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