

COMPARISON OF CREATIVE ACCOUNTING RISKS IN SMALL ENTERPRISES: THE DIFFERENT BRANCHES PERSPECTIVE

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Abstract: Small enterprises are exposed to new challenges in examining the impact of creative accounting on their financial statements, particularly when assessing 'going concerned' conditions and increasing the risk of fraud. The article aims to identify accounting errors and fraud risks made by accounting adjustments, thus distorting the true and fair presentation of financial statements. We aim to explore the risks of creative accounting based on the relationship between profit creation (EBT) and cash flow (CF) by applying the CFEBT risk triangle method. We analyze small enterprises operating mainly in the trade, processing, and construction industry to achieve this. The detected risks of accounting records were subsequently compared and evaluated in the selected branches of activities. Our research findings confirmed that M-score values were primarily negative for the monitored industries of small enterprises. The resulting values point to applying creative accounting methods – earning management, which pursues, in particular, tax optimization, and, on the other hand, the fulfilment of profitability criteria. A more profound analysis of selected accounting items and financial indicators confirmed more substantial differences between the trade and construction industries. Differences between the branches were found in one-half of the financial indicators and most of the 14 accounting items monitored. The accounting risks ascertained may be used as a tool for reducing the information asymmetry between authors of accounting records and users of reported accounting data and information. The detection and evaluation of risks of accounting errors and errors beyond the economic substance of reported data may considerably improve the quality of decision-making of internal and external users and is also used by persons authorized to conduct the administration and Corporate Governance for increasing the efficiency of enterprises' internal control systems.

Keywords: Creative accounting, fraud, cash flow, risk, small enterprises.

JEL Classification: G32, M40, M41.

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Introduction

Importantly, accounting is the mirror of all business activities undertaken by enterprises. Financial statements constitute an important source for decision-making by a wide range of internal and external users. The basic concept of accounting reports, which should provide reliable information for users, is the provision

of a true and fair view of the situation and structure of assets, financing sources thereof, the structure of the equity capital and the enterprise's financial state. Needless to say, accounting requires highly qualified expertise from its processors. The relevant accounting frameworks of the Czech accounting standards, Generally Accepted Accounting Principles (US

GAAP) and International Financial Reporting Standards (IAS/IFRS) allow for a selection of accounting methods, assessments and estimates of certain accounting phenomena and processes. This approach is further supported by frequent changes of and amendments to accounting standards.

However, the final form of accounting reports is affected by various motives, interests and objectives of accountants' creators, corporate governance, and company owners. Thus, opportunities and choices from many judgments in accounting may result in creative accounting and fraud (Dur-e-Shawar & Malik, 2015). There are various reasons why enterprises rig accounting numbers, especially when it comes to earning management, income smoothing, attempts to meet market expectations, tax avoidance, painting a better picture of the enterprise's financial health, and last but not least, attempts to obtain credit rating to receive additional funding sources (Akenbor & Ibanichuka, 2012; Hastuti & Gozali, 2015; Kamau et al., 2012). According to Bhasin (2015), the development and innovation of various creative practices in the forever changing market conditions can be revealed with increasing difficulty by auditors and state authorities.

Currently, the Czech Republic's accounting system finds itself on the threshold of a new challenge: a new accounting concept adjusted to modern trends relying on the International Financial Reporting Standards. However, every so often, small enterprises face a lack of integrated preventive tools of risk management (Glowka et al., 2020). The adverse impacts of fraudulent conduct are very often uncovered when it is too late, and their impacts are subsequently resolved in criminal and insolvency proceedings or upon corporation bankruptcy (Horváthová & Mokrišová, 2018). Enterprises can well be exposed to heightened external fraud risks in a rush to protect their future and potentially weakened control systems. Enterprises need to rely on accounting outputs that provide the best available true and fair view to be able to make the best decisions for their future activities. Accountants in small enterprises (like external accounting users) need simple, intelligible, available, and complex tools for identifying risks in accounting to report quality accounting outputs. Creative accounting may cause misinterpretation of financial

statements for external users (Hořda & Staszal, 2016).

Our motivation is to explore the risks of creative accounting methods, specifically the risks of accounting errors and frauds. We analyzed selected branches of small enterprises from the Czech Republic to identify potential creative accounting risks. The industry-specific accounting differences between enterprises describe many studies (Beyer & Hinke, 2018; Karas & Režňáková, 2017). We intend to identify differences between branches at the level of individual risks by application of the CFEBT method. Our objective is to uncover the significance of deviations of the reported CF and EBT values from their economic potential and to scrutinize accounting vulnerabilities through an analysis of seven selected financial indicators and 14 accounting items. The research hypotheses foresee significant differences in the level of individual risks across the selected branches. The research includes the CFEBT risk triangle, which has been tested in the case of studies and under IFRS and CAS (Czech Accounting Standards) conditions. Universality, the interconnection of links between reported accounting reports, and the availability of previous case studies' results constituted the main factors for the authors' decision to use the CFEBT method for their research.

This article is structured as follows: The introduction (Section 1) briefly places the study in a broad context concerning its importance. In the theoretical background (Section 2), we define the key terms and outline previous research results. Material and methods (Section 3) describe the research background, hypotheses, data, and methods. Section 4 focuses on the results of the article according to the main risk of impact and risk of cause accounting errors and frauds, followed by a discussion (Section 5). The conclusion summarises the main results, contributions, limitations, and future research.

1. Theoretical Background

This section discusses the literature in the field of creative accounting and accounting in small enterprises.

1.1 Creative Accounting

Bhasin (2016) defines creative accounting as a practice that may follow accounting principles, but its purpose is different from these

standards. The published studies prove that creative accounting is applied by enterprises across various accounting systems and hence represents a severe problem for auditors and other users of accounting reports. The world has learnt of notorious global-impact causes which led to companies' bankruptcy, with an adverse impact not only on creditors, owners, employees but also on the economy. Interestingly, certain authors have admitted the positive effects of creative accounting on businesses (Paseková et al., 2019).

The problems that crop up when 'playing with numbers' in accounting arise from fraudulent financial reporting. Thus, permissible limits are overstepped beyond a true and fair view of accounting (Akpanuko & Umoren, 2018; Mirdala et al., 2014; Popescu & Nişulescu, 2014; Zemánková, 2015). Popescu and Nişulescu (2014) conclude that the most common form of the fraud is the intentional destruction, omission of records or recording of false or fake numbers. Falkner and Hiebl (2015) identified various types of fraud risks in small and medium-sized enterprises and evaluated a significant impact on their business strategies.

Many researchers have examined reasons for using creative accounting, identifying various intents, motivations or pressures to use creative accounting: tax-avoidance, obtaining a personal gain, meeting internal sales targets, attracting investors, buying time for not settling debts, the pressure of competition, boosting credit ratings and, last but not least, beating financial health forecasts and management financial performance targets (Hastuti & Gozali, 2015; Kamau et al., 2012). Balaciu et al. (2012) reveal that more than half of sampled managers are inclined to refine the corporate image. Bogdan et al. (2018) argue that the risk aversion of individuals influences creative accounting expression. Amel-Zadech et al. (2016) have studied accounting regimes to find out relationship between accounting techniques and decision-making. They have concluded that mergers and acquisitions are established on creative accounting.

Several creative accounting techniques and methods of manipulating accounting records have been delineated in specialized literature. Tan and Robinson (2014) classify these methods into four groups: overvaluation of operating cash flow, overstating of the financial health, incorrect classification of profit and

loss statement, overvaluation of earnings and managing profits. The earnings management is the most abused method of creative accounting (Mindak et al., 2016). Moreover, Remenaric et al. (2018) have ascertained occasions for using creative accounting in changes of accounting policies and depreciation methods, changes in the value of money, and manipulation of accruals. The employment of creative accounting methods for modified, false, fake or unfair reporting is revealed in many case studies (Akpanuko & Umoren, 2018; Drábková, 2013; Dur-e-Shawar & Malik, 2015). Yahanpath and Joseph (2011) confirmed that creative accounting and risk shifting significantly impact shareholders' wealth maximization and financial crises. Purwanti et al. (2015), in their study, present various meanings of earning management as negative creativity to make an attractive profit to external users.

1.2 Financial Reporting in Small Enterprises

The classification of enterprises size is formulated in European Commission (2020) documents based on the number of employees and revenues. The category of small enterprises lies in at breakdown 10 to 49 employees and financial conditions (for turnover and total balance sheet). Small enterprises usually have single-manager, a limited number of products or services and markets located in only one geographic area. Small enterprises have fewer resources, especially financial and human capital (Esparza-Aguilar et al., 2016).

The main disadvantage of small enterprises is the lack of systematic reporting of accounting and financial information to help them make financial decisions (Senftlechner & Hiebl, 2015) or control mechanism to evaluate their performance. The majority of small enterprises have simpler management accounting practices, especially the planning and costing system (Najera Ruiz & Collazzo, 2020). According to Armitage et al. (2016), younger enterprises and start-ups make more use of survival-oriented measures such as cash flows analysis. Small enterprises usually publish publicly less significantly information than medium-sized enterprises (2018). As a result, they have lower access to the bank's capital and very limited growth opportunities. Because small enterprises do not have a mandatory audit requirement, additional disclosure or

verification of the financial statements remains unclear (Deno et al., 2020). Financial reporting and transparency reduce the information asymmetry and enhance the potential of supporting investments and economic activity (Brown & Martinsson, 2019).

The relevance and reliability of financial reporting are examined in the context of value allocation risk by Deaconu et al. (2016). They show that the correct applying of valuation methodology may decrease the level of subjectivity and concerns about the real value of the asset. Drábková and Pech (2019) analyze small accounting unit for financial statements risk and found differences between EBT and CF. Kouřilová and Sedláček (2014) suggest a model monitor material balances and wastes as a tool for internal users. Beyer and Hinke (2018) identified differences in financing patterns, cost and revenue structures between Czech and German firms in certain business sectors. These profitability drivers influence operational indicators such as ROE and ROA. According to Lukason and Laitinen (2019), the leverage effect could be affected by sectoral specificity, as manufacturing enterprises use more fixed assets than enterprises in trade and commercial sectors. Karas and Režňáková (2017) analyzed the stability of bankruptcy predictors via boosted trees method several industry-specific financial indicators in manufacturing and construction industries. Evaluating a company's performance needs to be monitored on a systematic basis to avoid creative accounting risks. Pur et al. (2015) state inventory valuation and derivative transactions as examples of accounting items that affecting the results of the financial analysis.

Based on the theoretical background we formulated the research question:

Are there differences in the number of creative accounting risks among different sectors of industry?

This research question leads to three views on creative accounting risks. First, we evaluate the risks of accounting errors and frauds based on the detected discrepancy between the earnings and cash flow before tax. Second, at the second level, we try to identify differences in risks of the financial indicators (ratios). Third, the risk may occur in some accounting items. The following working hypotheses were formulated to achieve the objective of the article and to answer the research question:

H1: There are significant differences in the identified risks of the impact at all levels of the CFEFT risk triangle for small enterprises operating in the trade, processing and construction industries.

H2: There are significant differences in the identified risks of the cause in seven financial indicators for small enterprises operating in the trade, processing and construction industries.

H3: There are significant differences in the identified risks of the cause in 14 accounting items for small enterprises operating in the trade, processing and construction industries.

2. Research Methodology

The objective of the article is to detect and evaluate creative accounting risks in small enterprises from different industry branches. We choose the users of accounting records as an analytical point of view. The purpose of the article is to identify the risks of accounting errors and frauds that ensue from accounting adjustments. As such, they are capable of deforming the true and fair view of accounting statements. The article focuses on identifying creative accounting risks based on relations between the cash flow and generation of profits (earnings before taxes). Our empirical research concerning quantitative and comparative analysis of accounting statements. The subject of the research is the creative accounting risks and motives of small enterprises in the Czech Republic.

2.1 Data Sample

We obtained the data from the Albertina database, in which we selected small enterprises from three different sectors for comparison. The data purification process included removing accounting units that did not meet the definition of small enterprises and contains data for less than five accounting periods. The selected sample comprises small enterprises with at least ten and no more than 50 employees, total assets less than CZK 100 million and turnover less than CZK 200 million based on the classification of enterprises by the European Commission (2020). These accounting units predominantly operate in three branches and seated in the Czech Republic. The classification of enterprises by industry is based on NACE groups (see Tab. 1). The data sample includes a total of 3,659 accounting units operating in trade (Group G),

Tab. 1: Data sample

Branch (CZ-NACE)	Description of CZ NACE groups branches	Number of enterprises
Group C	(8–33) Textile, clothing and shoes; Wood processing, paper; Chemicals, plastics production; Metal products; Electrical machinery and computers; manufacture of machinery and equipment, etc	3,940
Group F	(41–43) Construction of buildings; Civil engineering; Specialized building activities	1,983
Group G	(45–47) Wholesale, retail and repairs of road vehicles	3,659

Source: own based on the Database Albertina

3,940 accounting units active in the processing industry (Group C) and 1,983 accounting units in the construction industry (Group F). The analysis was carried out based on data from the years 2005 to 2018.

2.2 Research Methods

We selected the CFEBT risk triangle method developed by Drábková (2013) for the analysis of creative accounting risks. This method is

based on long-term research of the relationships between accounting records in the system of Czech accounting standards and IFRS. The main idea of the method is hypothesis that in the long run (over five accounting periods) the changes of cash flows net (CF) and generated profits before tax (EBT) do not differ. Importantly, the CFEBT risk triangle analysis is processed by the calculation of three CFEBT M-scores, seven financial indicators, and 14

Tab. 2: CFEBT risk triangle used variables and scores

CFEBT risk triangle		14 selected accounting items	
Variable	Acronym	Accounting item	Acronym
1 st level of M-score	CFEBT	Total assets	TA
2 nd level of M-score	CFEBT _m	Fixed assets	FA
3 rd level of M-score	CFEBT _{om}	Current assets	CA
		Accrued assets	AA
		Equity	Eq
7 financial indicators		Liabilities	Li
Indicator	Acronym	Accruals	Ac
Return of assets	ROA	Merchandise revenue	Rm
Cash flow return on assets	CFA	Merchandise and services revenue	Rms
Return of equity	ROE	Production consumption	C
Cash flow return of equity	CFE	Personnel costs	Cp
Expense personnel productivity	EPP	Carrying value of non-currents assets sold	Cva
Financial personnel productivity	FPP	Provisions in operating area and complex prepaid expenses	Po
Total accruals to total assets	TATA	Income taxes	Ti

Source: own

accounting items (see Tab. 2). We compute their frequencies, median values and standard deviations. All statistical analyses were performed using the available software solution of the CFEBT risk triangle and the detailed methodology of the CFEBT risk triangle (Drábková, 2017). The CFEBT risk triangle consists of three risk vertices. Two of them will be used in this article – risk of impact and risk of the cause of accounting errors and frauds. The third vertex (based on the qualitative analysis of the risks of quality internal control system) was not processed.

The Risk of Impact

The first vertex (impacts of accounting relations in the context of true and fair representation) is calculated by the M-score CFEBT model on its three levels. The first level of M-score analyzes differences between cash flow and earnings before taxes during observed period. According to Drábková (2015) more levels of M-score (i.e., CFEBT_m and CFEBT_{om}) should be included if CFEBT at first level is higher than materiality. The second level of the M-score represents deeper analysis of discrepancies in modified form of future cash flow values and non-monetary expenses. The last level related to relationships between the modified earnings by non-monetary expenses and the generated outputs of operative cash flow. The formulas for calculating all levels are given below (Drábková & Pech, 2019):

$$CFEBT = \frac{\sum_{t=1}^n CF_t - \sum_{t=1}^n EBT_t}{\sum_{t=1}^n EBT_t} \cdot 100, \quad (1)$$

where:

CF = Total increase or decrease in cash flow before tax during the observed period t;

EBT = Earnings before tax generated during the observed period;

$$CFEBT_m = \frac{\sum_{t=1}^n CF_{m_t} - \sum_{t=1}^n EBT_{m_t}}{\sum_{t=1}^n EBT_{m_t}} \cdot 100, \quad (2)$$

where:

CF_m = Increase in cash flow before tax in the observed period (modified by reported future cash in- and out-flows);

EBT_m = Earnings before tax generated during the observed period (modified by non-monetary expenses);

$$CFEBT_{om} = \frac{\sum_{t=1}^n CF_{om_t} - \sum_{t=1}^n EBT_{om_t}}{\sum_{t=1}^n EBT_{om_t}} \cdot 100, \quad (3)$$

where:

CF_{om} = increase in operative cash flow before taxes in the analysed period;

EBT_m = earnings before taxes gained for the analysed period (modified by non-monetary expenses).

Additionally, for all three levels of the CFEBT score, groups of risks are determined based on the character and structure of the discrepancy CF and EBT. The M-score acquires positive or negative values for risk (R-, R+) according to the individual modification levels of EBT and CF. The risk limits for accounting units with evaluated material discrepancy are: for the first level CFEBT score R- > -50% and R+ > 50%; for the second level CFEBT_m score R- > -10% and R+ > 10%; for the third level CFEBT_{om} score R- > -30% and R+ > 30%.

The Risk of Cause

The second vertex of the CFEBT risk triangle focusing on motives and reasons of manipulation. Usually manipulation reasons and pressure to manipulate financial statements concerning subsidies, obtaining loans, the opportunity to decrease taxes, greed of managers (or owners), etc. The risk of cause considered, for enterprises with risks detected on one of the M-score levels, the risk occurrence is analyzed in seven selected financial indicators and fourteen accounting items. Selected indicators and items are often used in financial analysis and help to reveal the causes of discrepancies. Risks were identified based on the set-up parameters of certainty, tolerance and narrowing within the evaluation of the given sample of accounting units. The analysis is based on the comparison of median values and standard deviation of selected significant variables (accounting items and indicators). The results of analyzed variables indicate risk if the frequency of standard deviation for accounting unit (and period) is higher than the determined multiple standard deviation (certainty). The parameter of tolerance expresses the values of the variables, and where these values differ in the range +/- of the determined percentage, the values are evaluated as equal. The narrowing parameter refers to the limit of the number of analyzed units to eliminate extremes. The risk limits for the individual financial indicators and items were determined as high risk when

certainty was 5–10%, and as very high risk when certainty reached 10% and more.

The Statistic Evaluation of Differences

The two-sided hypotheses for enterprises from different branches were statistically tested by the test of equal or given proportions (z-test) in software R 3.3.3. The results are interpreted at alpha level 0.05. We used the Holm’s method for adjustment of significance of multiple comparison. We present only significant results in the text, including the achieved level of significance (p-value). For significant differences between multiple branches, the pairwise comparison between each pair of proportions is calculated. The test criterion is computed based on the following formula (Newcombe, 1998):

$$z = \frac{p_A - p_B}{\sqrt{pq/n_A + pq/n_B}}, \tag{4}$$

where *p* and *q* are the overall proportions; *p_A* is the proportion of group A elements; *n_A* is size of the group A; *p_B* is the proportion of elements in group B; *n_B* is size of the group B.

3. Research Results and Discussion

In this section, we will begin with an analysis of the risk of the impact of accounting errors and frauds. This process include calculation of the CFEBT M-score on three levels. This is followed by an analysis of the causes of accounting errors and fraud in terms of seven financial indicators, from the perspective of financial analyses and profit-making concerning the creation of cash flow. The last part delves into an analysis of the causes of occurrences in 14 accounting items. Both vertices, the solved risk areas of the occurrence and the impact of accounting errors and frauds, as seen by users

of the accounting records in the CFEBT risk triangle will subsequently be compared and evaluated within a selected sample of small enterprises predominantly operating in the trade, processing, and construction industries.

3.1 The Risk of Impact

The risk of impact analysis draws from the calculation of the three risk factors in mutual relationships and their combination with the assessment of the accounting unit’s internal control system. Tab. 3 provides the results of the analyzed risks of the CFEBT levels.

The first level of the CFEBT score uncover a discrepancy which exceeds 50% (R- and R+) in trade (75.57%), processing industry enterprises (78.15%) and construction enterprises (75.59%). The highest overall percentage proportion of discrepancy (R- and R+) was found in small enterprises operating in trade. The second level of the CFEBT score modifies EBT and cash flow to their economic substance. More specifically, enterprises’ economic potential is based on the relation between the creation of earnings and cash flow for monitored accounting periods. For small enterprises, a score higher than 10% was investigated. The third level of the M-score establishes whether the cause of the detected discrepancy between EBT and CF incurred in the operational sphere or the financial and investment activities. Values considerably higher than 30% of the proportion of risks R+ and R- were determined on the third level of the CFEBT score, with an impact on the financial and investment spheres for all compared branches. The most risks on the third level of the M-score were found in 19.62% of construction industry enterprises. For enterprises mainly operating in the processing industry, the risk ratio is 14.54% and 8.75% for trade enterprises (see Tab. 3).

Tab. 3: CFEBT risk triangle – the risk of impact

Industry	CFEBT 1 st level		CFEBT _m 2 nd level		CFEBT _{om} 3 rd level	
	Total risks	%	Total risks	%	Total risks	%
Construction industry	1,499	75.59	1,876	94.60	389	19.62
Processing industry	3,079	78.15	3,765	95.56	573	14.54
Trade	2,875	78.57	3,461	94.59	320	8.75

Source: own

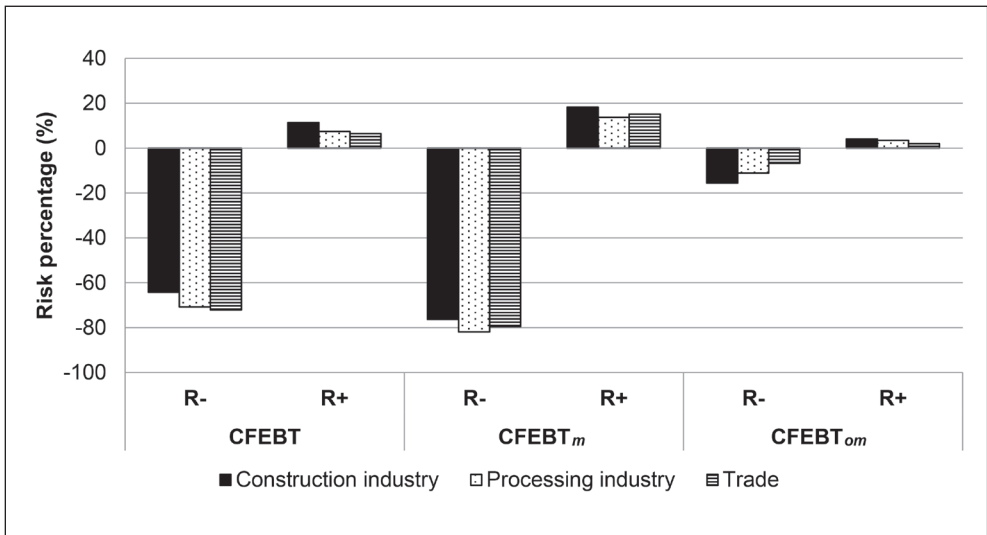
Regarding the differences in the identified risks of the impact of accounting errors and frauds for small enterprises, the working *H1* was confirmed for the first CFEFT level (p-value = 0.0283) and the third level of the CFEFT (p-value = 0.0001). Nonetheless, differences were not significant for the second level of CFEFT (p-value = 0.1036) since it was impossible to reject the statistical *H1* on frequency matching. A pairwise test further analyzed differences at the first and third levels. The largest significant difference for the first level of CFEFT was found between the construction enterprises and the others. The pairwise test revealed that differences at the third level of CFEFT were significant across all industrial branches. Besides, analyses of each R+ and R- risk show significant differences at all CFEFT levels for all industrial branches. Fig. 1 below presents the risks in percentage terms as detected for the three CFEFT score levels in more detail.

For all three levels of the CFEFT score and the determined groups of risks, the M-score acquires positive (R+) or negative (R-) values based on the character and structure of the discrepancy CF and EBT. Overall, at all levels of CFEFT, negative risks (R-) dominate over

positive risks (R+). Prevailing risks in the first and second levels' negative score are detected for the individual CFEFT levels. In addition to these negative risks (R-), the enterprises generated a substantially lower cash flow compared to the reported profit during the monitored period of five successive years. This must be understood after EBT and CF modification by non-monetary items and future influences in CFEFT_m. Furthermore, there appeared a slightly predominant percentage of negative risks at the third CFEFT level. Here, CFEFT_{om} stands for the number of enterprises in %, where the significant risk in the operating areas was detected. More specifically, the operating CF did not accomplish the profit made. Otherwise, a negative cash flow was generated with the result of a loss and adjusted according to the economic substance for the observed period.

Accordingly, our results showed that all CFEFT levels detected prevailing risks in the negative score for small enterprises. The comparison of identified risks on the individual levels of M-score did not identify any significant differences between the branches at all CFEFT levels. *H1* was confirmed only at the first and third CFEFT levels. At the first CFEFT level, the

Fig. 1: The number of risks (R+, R-) for different levels of CFEFT and industry branches (%)



Source: own

lowest proportion of discrepancy was reached by enterprises operating in the construction and the highest by enterprises operating in trade. The risk of the third level of M-score is the lowest for all enterprises, where small enterprises operating in trade present the lowest identified risks for discrepancies in the generation of operating cash flow and modified EBT. The results of the risk of impact show that in the case of the analyzed branches and the detected risks of small enterprises in the monitored period, negative CFEBT scores decidedly dominate over their positive values.

At the level of a selected branch, the CFEBT score yields information on the risk of discrepancy that can be attributed to a higher generation of EBT or CF. Two possible mechanisms may explain this: creative accounting methods were applied to increase EBT above the level of its economic substance, or EBT is reported in a negative value for the whole of the monitored period.

Creative techniques also include earnings management methods and other 'window dressing' methods to distort the reported profit (loss) in time. The enterprise's objectives may be tax-oriented, or the enterprise may pursue an agenda of obtaining additional funding in the form of loans, credits, and subsidies, or improving the enterprise's financial health or, last but not least, circumventing legislative criteria for the adjudication of insolvency. This orientation of profit optimization is confirmed also by the study of Purwanti et al. (2015). The above conduct is delineated by these authors as 'magic with numbers' to increase managers' profits and reduce earnings for others.

Importantly, the negative M-score uncovers the impact of the use of creative accounting techniques on EBT, which is overvalued or undervalued concerning the generation of CF during the monitored period. A partial analysis of selected accounting units and financial indicators expands risk-related information by comparing enterprises' comparability and deviations, revealing the frequency of deviations (risks) from the mean value of a selected branch representative.

Moreover, an individual risk analysis of a particular accounting unit enables uncovering the size and modification changes of the items CF and EBT in time and their share in EBT. On performing an individual risk analysis of a particular enterprise, the CFEBT score will

provide users with information as to the location of the largest changes in the structure of non-monetary items or the percentage proportion of changes to EBT for a monitored period. At the level of a particular enterprise, probable methods of creative accounting can be identified that were used by the respective accounting unit in the given period, and the impact of these methods on the true and fair view of accounting. Auditors and members of the enterprise's management are thus provided with a tool to show them where control mechanisms and detailed tests should be directed.

3.2 The Risk of Cause (Seven Financial Indicators)

Essentially, the analysis of the risk of occurrence determine the frequencies of risk of seven financial indicators, selected intentionally to compare important ratio indicators; these values were also based on the comparison of net cash flow (CFA, CFE, FPP), and earnings after tax (ROA, ROE, EPP) and TATA. Results were obtained for small enterprises which showed a risk at any of the CFEBT levels. Based on the determined risk items, parameters of tolerance, narrowing, and certainty were defined. Besides, the values of the indicators were compared with an ideal representative of a sample of comparable enterprises according to the scope of business and, subsequently, risks were identified based on the set-up parameters of certainty, tolerance and narrowing within the evaluation of the given sample of accounting units. This analysis may be instrumental in explaining the causes of these discrepancies.

Tab. 4 shows the risks of financial indicators (high and very high) overview for enterprises by the branches in which risk was detected for at least one of the CFEBT levels and, at the same time, high or very high risks were identified for the given financial indicator. The symbol (+/-) next to the risk indicators determines whether the indicator in question reaches positive or negative values. The results indicate that similar indicators (ROE, CFE, EPP, FPP, TATA) show high risks at the first and second CFEBT levels. At the third CFEBT level, certain risks are qualified as very high, especially for ROE and CFE. Predominant risks in negative values of the indicators were ascertained mainly for ROE and CFE (at the first and second levels) and TATA (chiefly in trade). Predominant risks in positive values of the indicators were found

Tab. 4: Overview of the financial indicators risks for different industry branches

Industry	Trade industry		Processing industry		Construction industry		R
	High	Very high	High	Very high	High	Very high	
CFEBT 1 st level	ROE+, CFE+, EPP+, FPP+		ROE+, CFE+, FPP+		ROE+, CFE+, EPP+, FPP+		R+
	ROE-, CFE-, TATA-		ROE-, CFE-		ROA-, ROE-, CFE-		R-
CFEBT _m 2 nd level	ROE+, CFE+, EPP+, FPP+		ROE+, CFE+, FPP+		ROE+, CFE+, FPP+		R+
	ROE-, CFE-, TATA-		ROE-, CFE-		ROE-		R-
CFEBT _{om} 3 rd level		ROE+, CFE+	CFE+	ROE+	ROE+, CFE+		R+
	ROA-, CFE-, TATA-	ROE-	ROA-, CFA-, TATA-	ROE-, CFE-	ROE-, CFE-		R-

Source: own

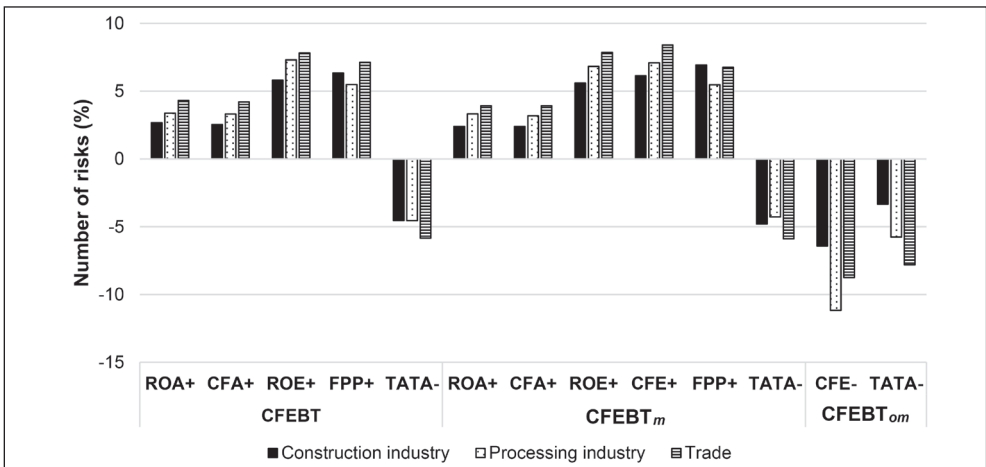
Note: High risk (5–10%), very high risk (10 and more %), R is positive (+) or (-) negative deviation (σ); Parameters of analysis: trade (certainty 3.5%, narrowing 1.5% and tolerance 5%), processing industry (certainty 3.5%, narrowing 1% and tolerance 5%), construction industry (certainty 3.5%, narrowing 0.5% and 5% tolerance).

for ROE, CFE, FPP and EPP (especially trade and construction).

Fig. 2 reports the number (in %) of significant financial indicator risks for different industry branches. Differences are the most notable in the number of risks and the number of enterprises at risk in the trade industry. In these enterprises, the discrepancy is higher than in

other branches. The differences were significant except for EPP at the first and second CFEBT levels. These differences mainly occurred in construction-industry enterprises, and mostly with the lowest frequency of risks. At the third CFEBT level, differences were identified only for indicators TATA and CFE. Most often, differences were found to exist between the

Fig. 2: The number of significant financial indicators risks for different industry branches (%)



Source: own

construction and trade industries. Contrary to the monitored financial indicators, significant statistical differences between the numbers of enterprises with risks were identified at all levels in equal measure.

H2, consisting of the difference in identified risks of the cause of accounting errors and frauds for seven financial indicators among enterprises operating in the trade, processing, and construction industries, was confirmed for indicators in Fig. 2. The difference was significant for almost all financial indicators (p -value < 0.05) on the first and second M-score levels of CFEFT. The biggest differences were identified to exist between the construction and trade industries. The differences between enterprises with risks on the third M-score level were less significant.

Essentially, the analyzed branches show significant differences at CFEFT levels for the following indicators:

- ROA: across the branches, there are significant differences for positive values of the indicator (at the first level p -value = 0.0149; at the second level p -value = 0.0122);
- CFA: the branches reveal significant differences for positive values (at the first level p -value = 0.0128; at the second level p -value = 0.0100);
- ROE: significant differences are found among the branches, especially in the case of positive values (at the first level p -value = 0.0472; and the second level p -value = 0.0075);
- CFE: significant differences are identified among the branches, the second level for positive values (p -value = 0.0065) and the third level for negative values (p -value = 0.0417);
- FPP: shows differences among the branches for positive values of the indicator (at the first level p -value = 0.0334; for the second level p -value = 0.0317);
- TATA: there are negative values at all levels, with significant differences across the branches (at the first level p -value = 0.0444; the second level p -value = 0.0063; for the third level p -value = 0.0333).

Needless to say, the risk analysis of selected accounting units and financial indicators provided us with information on 'vulnerable' accounting areas, or, as the case may be, risk items characteristic of the given branch. An

individual risk analysis of a selected accounting unit yields information on risk accounting items and financial indicators that substantially differ from the optimal representative of a group of comparable enterprises. The limited explanatory power of the financial analysis is pointed out in many studies. Antonowicz (2014) proposed 25 ratios of the financial analysis for the assets to evaluate bankruptcy forecast, but he acknowledged that these measures did not perfectly discriminate against groups of enterprises as more sophisticated methods. However, even the use of more demanding methods such as solvency and bankruptcy models (Pech et al., 2020) is fraught with significant disadvantages. Klietnik et al. (2020) pointed out that models usually assume a linear relationship between variables based on a normal distribution. According to Barth et al. (2017), the narrative and explanatory value of performance measures vary across different types of enterprises. Subsequently, this information may be taken into account by the user of financial statements. Accordingly, these authors support the application of financial indicators only as an auxiliary tool for a detailed analysis of a selected accounting unit and the monitored accounting period.

3.3 The Risk of Cause (14 Accounting Items)

The processing of the sample of comparable accounting units includes the detection of risks for 14 accounting items at the level of the individual accounting periods and accounting units. Results are obtained for small enterprises which showed a risk on one of the CFEFT levels. The risks were examined based on the extent to which the proportion of a deviation to a standard deviation of the set is exceeded, by the application of the same method as with the analysis of the seven financial indicators.

Tab. 5 presents an overview of the evaluated risks of the selected compared scopes of business, i.e., the trade, processing, and construction industries. Similarly, significant risks of accounting units are scrutinized here for those enterprises where a significant risk was detected at least on one of the CFEFT levels. The plus and minus symbols indicate whether the given risk accounting item acquires positive or negative values. According to the findings, in the first and second CFEFT levels, similar items are characterized by high risks (TA, FA, CA, Eq,

Li, C, Cp, Ti, and Rm) and very high risks (AA, Ac, Cva, Po). At the third CFEBT level, risks are mostly qualified as very high (especially in the case of TA, FA, CA, AA, Li, Ac, Cva, and Po). The prevailing risks for negative values were determined chiefly for items Po and Rms. Positive values of risks were found in the other accounting items under observation.

Needless to say, the differences among the individual branches imply that AA, Ac, Cva and Po constitute the main risk items for trade enterprises. A negative value in Po is present at all levels in the case of these enterprises. At the third level, there are very high risks for trade enterprises also in TA, FA, CA, Eq, Li and C. Considering the processing industry, except for the third level, risks were identified especially in AA, Ac, Cva and Po, similar to the trade industry. In contrast to trade, very high risks in Eq a C are not present in processing- and construction-industry enterprises. Likewise, the riskiest items are AA, Ac, Cva and Po in the construction industry. In the construction industry, a positive value of Ti means a high risk at the second level in this industry.

Fig. 3 shows the number (in %) of significant accounting items risks for the different industry branches.

H3, according to which there should be significant differences in the identified risks of the cause of accounting errors and frauds for 14 accounting items among enterprises operating in trade, processing, and construction industries, was partly confirmed. In the case of the number of risks, or the number of enterprises with risks of the cause of accounting errors and frauds, the differences were significant for about one-half of selected accounting items ($p\text{-value} < 0.05$). Most often, differences were found to exist between the construction and trade industries. Nevertheless, compared with the seven financial indicators' results, significant statistical differences in 14 analyzed items for enterprises with risks were identified at all levels in equal shares.

The results of significant differences among the branches for detected risks in accounting items are:

- Ti: there are significant differences across the branches for positive values of the indicator at all levels (at the first level $p\text{-value} = 0.0381$; at the second level $p\text{-value} = 0.0002$; and at the third level $p\text{-value} = 0.0001$);
- Po: branches show significant differences in the case of positive values (at the first level $p\text{-value} = 0.0001$; and at the second level $p\text{-value} = 0.0002$);

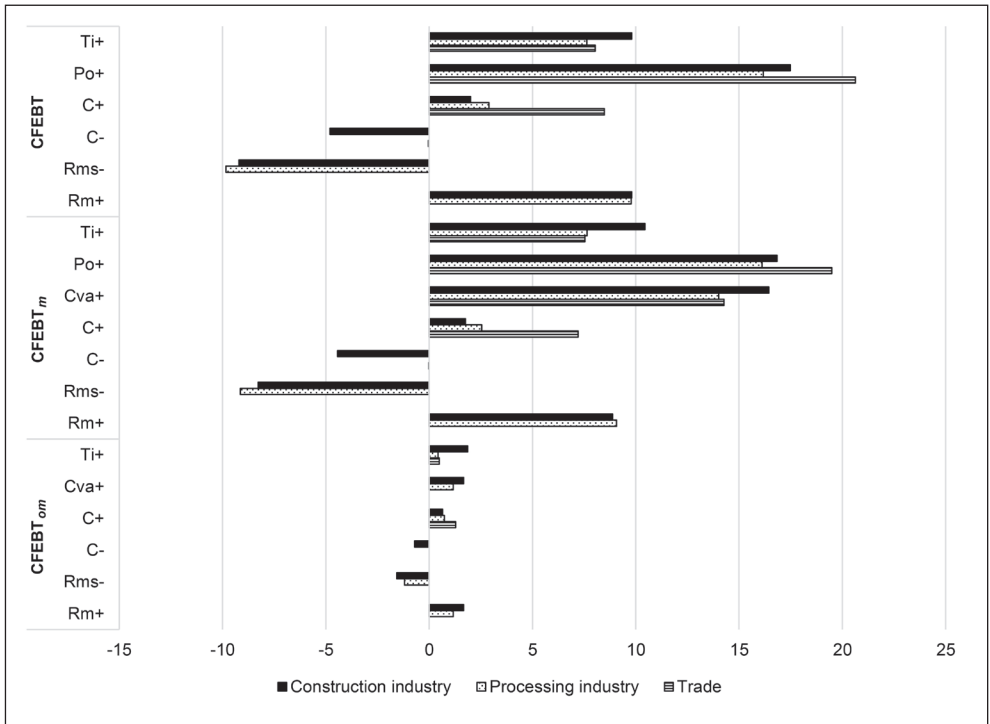
Tab. 5: Overview of the accounting items risks for different industry branches

Industry	Trade industry		Processing industry		Construction industry		R
	High	Very high	High	Very high	High	Very high	
CFEBT 1 st level	TA+, FA+, CA+, Eq+, Li+, C+, Cp+, Ti+	AA+, Ac+, Cva+, Po+	TA+, FA+, CA+, Eq+, Li+, Rm+, Cp+, Ti+	AA+, Ac+, Cva+, Po+	Ta+, FA+, CA+, Eq+, Li+, Rm+, Cp+, Ti+	AA+, Ac+, Cva+, Po+	R+
		Po-	Rms-	Po-	Rms-	Po-	R-
CFEBT _m 2 nd level	TA+, FA+, CA+, Eq+, Li+, C+, Cp+, Ti+	AA+, Ac+, Cva+, Po+	TA+, FA+, CA+, Eq+, Li+, Rm+, Cp+, Ti+	AA+, Ac+, Cva+, Po+	TA+, FA+, CA+, Eq+, Li+, Rm+	AA+, Ac+, Cva+, Po+, Ti+	R+
		Po-	Rms-	Po-			R-
CFEBT _{om} 3 rd level		TA+, FA+, CA+, AA+, Eq+, Li+, Ac+, C+, Cva+, Po+	Eq+, Rm+, C+, Cp+	TA+, FA+, CA+, AA+, Li+, Ac+, Cva+, Po+	Eq+, Rm+, Cp+, Ti+	TA+, FA+, CA+, AA+, Li+, Ac+, Cva+, Po+	R+
		Po-	Rms-	Po-		Po-	R-

Source: own

Note: High risk (5–10%), very high risk (10 and more %), R is positive (+) or (-) negative deviation (σ); Parameters of analysis: trade (certainty 3.5%, narrowing 0% and tolerance 0%), processing industry (certainty 3.5%, narrowing 3% and tolerance 5%), construction industry (certainty 3.5%, narrowing 3% and 5% tolerance).

Fig. 3: The number of significant accounting items risks for different industry branches (%)



Source: own

- C: significant differences exist among the branches, especially regarding the positive and negative values at all levels (p-value < 0.05);
- Cva: significant differences were found among the branches in the case of positive values (at the second level p-value = 0.0238; and at the third level p-value = 0.0044);
- Rms: significant differences are shown among the branches for negative values at all levels (for the first level p-value = 0.0000; for the second level p-value = 0.0000; and for the third level p-value = 0.0001);
- Rm: there are differences among the branches for positive values of the indicator (for the first level p-value = 0.0000; for the second level p-value = 0.0000; and for the third level p-value = 0.0001).

Interestingly, the analysis is evidence of tendencies of the most significant risks for the

trade, processing, and processing industries when it comes to accruals, including reserves, the reported amortized cost of sold material, and fixed assets. However, the results of the branch-based analysis of small enterprises will not detect any tendencies or techniques that might deform the explanatory power of financial statements in the context of the manipulation of the same concerning their authors' desired results.

Conclusions

There are various methods for detecting creative accounting; these methods center around the area of earnings management and accrual-based models, in particular. Most models were created under the US accounting system's circumstances under Generally Accepted Accounting Principles, and for listed enterprises, this is a fact for consideration. Importantly, the application of these models in the situation of the Czech and European

accounting standards may reduce the efficacy of these models to a considerable extent or might be even unusable. On the other hand, the literature researched shows that creative accounting is indeed a huge phenomenon, with a non-declining tendency and an international magnitude.

The major research findings indicate that shadow accounting persists as a significant problem in small enterprises. The highest probability of intentional unlawful modification of financial statements within the financial books was traced back to the domain of creative accounting. Besides, Czech enterprises often underestimate the risks of potential frauds or corruption during the reporting process, which can eventually lead to legislative problems and can even ruin the whole investment.

The present article delineates an analysis of the manipulation of accounting records risk. In this article, an analysis of the risks of the manipulation of accounting records was carried out based on two out of the three vertices of the CFEBT risk triangle. The article's objective was to detect and evaluate creative accounting risks in small enterprises from the trade, construction, and processing industries. The analysis of risks in these different branches shows that the evaluation of risks only based on reported accounting data and financial analyses will not provide their users with quality information that might be used for their decision-making.

The most significant differences between the trade and construction industries were confirmed. In addition, the analyses determined the existence of the most significant risks for the trade, processing, and construction industries in the area of accruals, including reserves, the reported amortized cost of sold material, and fixed assets. Furthermore, the detected risks at the level of accounting items and financial indicators make the analysis more accurate and hint at partial risk areas of the given branch's accounting and performance. Through the analysis, differences among risk accounting items and financial indicators were revealed. The identified risks point to weaknesses of accounting, and, as such, enable the accounting user to make better decisions, by directing anti-fraud checks in risk areas and selecting suitable models for evaluating the enterprise's financial health.

The article's main contribution is that the findings consist of analyses of common or

different risks regarding small enterprises. The results of the article offer an insight into a different methodology for evaluating creative accounting risks in various branches. For analyzing the risks of accounting errors and frauds in a set of comparable enterprises, we, therefore, recommend that primarily, for the calculation of the CFEBT score three levels should be used, based on at least five accounting periods (risk of impact). The calculation of the risks of seven financial indicators and 14 accounting units provides more accurate results for accounting areas with the most frequently found risks (risk of occurrence). In its modified versions, the CFEBT score examines accounting risks based on links between the economic substance of profits and cash flow in time.

Our results can be used by corporate management, auditors, or other users of financial statements to improve their decision-making based on such statements. At the level of industry branches, risk-related results may be used for evaluating tendencies and methods of creative accounting. Managers and auditors, in particular, will benefit from a risk analysis of individual enterprises for implementing internal control mechanisms and evaluating the quality of a true and fair presentation in accounting. Where a discrepancy between the generation of profit and cash flow, determined over a longer period, undergoes a detailed analysis of modification items of EBT and CF, strategic areas in accounting can be identified where anti-fraud control mechanisms should be directed.

The study's implications might help users of accounting records take into consideration the economic substance of reported accounting data and mutual relations over a longer period, especially for small enterprises. In the case of enterprises operating in the processing and construction industries, the highest decision-making skepticism should be directed at the financial and investment spheres and the positions of accruals. The paper contributes to the decision usefulness theory of accounting (Staubus, 2000) with a focus on providing financial information regarding an enterprise for use in making decisions. This approach is highlighted with using of cash flow (together with EBT) as a risk parameter to employ business sustainability objectives to control financial management.

The results and analysis have some limitations. First, the research results are

limited chiefly for the use of a selected method for inferring general conclusions for small enterprises and business branches. Second, identifying the application areas of particular creative accounting practices is still rather complicated, since many variables enter this procedure. Third, for an analysis using the CFEFT method to be successful, a time series of at least five years is necessary, though it may be unavailable in the case of small enterprises. Fourth, from the perspective of the research sample's composition, the research focused on small enterprises. Findings, whether there are any differences between medium-sized and large enterprises, would bring much inspiration. Given this, we intend to aim our future research at extending the analyses by other business branches and sizes of enterprises. Risk results will be compared not only across various branches but also based on an analysis of detected risks, and the identification of motives and methods of creative accounting at the level of individual enterprises.

We introduce possibilities to advance the field further. Our next research project will be centered on a detailed analysis of the development of relations between CF and EBT. The objective will be to delve into the relations between modification items and identify the most frequently used creative accounting techniques in financial statements for selected groups of enterprises. used techniques of creative accounting in financial statements for selected groups of enterprises. A comparison with the data that will be available after the end of the COVID-19 pandemic can also provide interesting results.

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