CFEBT METHOD AS A TOOL OF FRAUD RISK MANAGEMENT AND DECREASING INFORMATION ASYMMETRY IN ACCOUNTING

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Abstract

Problem/ Relevance – The contribution deals with the possibilities of using CFEBT approach to identify potential risks of manipulated financial statements beyond their true and fair view of accounting including accounting errors and frauds. The contribution aims to analyse the selected techniques and tools to identify risks of manipulated financial statements or tools for decreasing information asymmetry among the users of financial statements.

Research Objective/ Questions - What important information is between the lines? How much can you rely on financial statements? What solution can be found to get the best information about the quality of financial statements?

Methodology – The existing research has verified the hypothesis of identifying the risk of manipulation of financial statements in the case study for 5 accounting periods with a CFEBT score in the condition of Czech accounting standards and International Financial Reporting Standards in case studies of particular accounting units.

Major Findings – The CFEBT results of the study cases were subsequently verified and compared with the results of Beneish and Jones Non-discretionary Accruals models.

Implications – Our research into risk of accounting errors and frauds has progressed since software of CFEBT risk triangle was created. We believe that the suggested CFEBT approach may be used by auditors to identify risks of accounting frauds and by any users of accounting for testing the risk of accounting errors and fraud to do better decision.

Key words: risk of manipulated financial statements, CFEBT M-score, true and fair view of accounting, triangle of risk of accounting errors and frauds.

Introduction

These have been a major concern for the regulators due their importance for financial fraud detection tools and capabilities that may provide stakeholders and other involved people's red flags. These represents a significant source of information for users of financial statements, i.e. the owners, Corporate Governance, potential investors, the state, creditors, customers and the public. They are meant to inform truly and honestly about the financial state of an accounting unit, about its efficiency, structure of the property, sources of financing and equity capital structure. From the variety of interests and targets of particular groups of users of financial statements and creators of financial records represents the risk of manipulation of accounting records within the real picture limited by given national accounting legislation. On the one hand, people using accounting records as the main source of information request top quality of the records, while on the other hand it is impossible to ignore various influences and motivations of the creators which significantly affect the content of particular items of records. Regarding the information asymmetry acting among record creators and users, it is necessary to search for tools and possibilities enabling its decrease, or identification of risk of the reliability of the presented accounting records.

If an accounting unit significantly distorts data of financial statement or presents false data and thus infringes a true and fair view of accounting, it is imposed with sanctions not only according to the law of accounting, but also consequences of criminal law and action basis of discretion of data on the state of management must not be forgotten. Therefore, it is important that users of financial statement are able to assess the risk of manipulation of accounting or are given tools for assessing this risk.

In 2012, Ernst & Young (EY) published a summary of several international studies on fraudulent cases and corruption called "Drive for revenue growth ignores risk of prosecution for senior executives". (EY, 2012) The research was carried out in 43 countries including the Czech Republic with the aim of analysing how either individuals (internal auditors, top managers (Corporate Governance), lawyers or major companies manage risk of potential frauds and corruption. The research findings indicate that shadow accounting still persists as a significant problem in Europe. The highest probability of intentional unlawful modification of financial statements within the EU region was traced back to the Netherlands, Belgium and France. In addition, Czech companies often underestimate the risks of potential fraud or corruption during the acquisition process which can eventually lead to legislative problems and can even ruin the whole investment. To better illustrate the situation, only 9% of all acquisitions have undergone the process of forensic due diligence. The 14th international research by EY was done in 62 countries with 2825 participants interviewed, including the Czech Republic. This research presents procedures of minimization of risks of frauds, namely "undertake regular fraud risk assessments, including an assessment of potential data-driven indicators" (EY, 2016) According to the economic crime development study conducted by PricewaterhouseCoopers (PWC), 5128 subjects within 99 countries were included in 2014 and 6337 participants from 115 countries were present in 2016 including 79 from the Czech Republic. (PWC, 2016) Another interesting finding shows that almost 42% of all fraudulent cases are discovered outside the internal control mechanisms indicating that Czech companies still rely heavily on traditional methods of fraud detection which are mostly outdated and fail to efficiently discover the problematic issues. The most recent prevention mechanisms works with data analysis where the detection of suspected areas use transactions as a part of an internal controlling system mainly represented by an internal audit or controlling.

Results presented in the contribution of Bartov and Bodnar (1996) show that managers who want to maximize the value of their companies are interested in decreasing the level of information asymmetry by switching to newly available accounting techniques which render accounting statements more informative for investors. The two authors conclude that it is assumed that companies with a greater asymmetry of information will have an increased tendency to use methods for improving the quality of their financial statements, if available. Other research confirming the important role of information asymmetry for decision-making on companies' financial standing is provided by Frankel and Li (2003). Their study offers evidence of the relationship between the intensity of the use of analytical methods in companies and the information asymmetry between managers and investors. Previous research demonstrates that an incentive to maximize profits of dedicated transactions is motivated by excellent information of the persons who are in know about the future development of their company, e.g. Huddart and Ke (2007). In addition, the area of research and development examined the influence of the use of research and development as a source of increased information asymmetry between managers and investors on companies' profits. The study confirmed that the information asymmetry between inside and outside investors led to noteworthy losses of profits of external investors (Aboody and Lev, 2000). One of the main sources of information asymmetry is the relationship between managers and investors. Investors should not forget that senior officers find themselves under the influence of profit incentives, which arise from their information advantage and may affect the accuracy of management earnings (Kraft et al, 2014).

Reduced information asymmetry for users of accounting records may have significant impacts on their decision-making. The publication recommends a preventive detection of accounting errors, including uncovering the causes thereof (Wuerges and Borba, 2014). Specific recommendations for the management to introduce internal auditing and set up different organizational internal controls for preventing frauds of financial statements were published as a result of a case study conducted in a construction company and construction industry (Horvat and Lipicnik, 2016). A proposal for a method for determining the probability of veracity of financial statements as a tool for distinguishing between fraudulent and truthful reports was published by authors Purda a Skillicorn (Purda and Skillicorn, 2015).

The fight against creative accounting, reaching beyond the unambiguous true and fair view of accounting, has gained in importance especially after the burst of scandals of a number leading European and American companies (Enron, WorldCom, Tyco, Lehman Brothers …) as well as a host of domestic cases. For example, major frauds at Enron, WorldCom, and several other firms were the principal catalyst of a 78 percent drop in the NASDAQ Index between 2000 and 2002 (Abbasi et al. 2012). The Oxford Dictionary defines fraud as 'criminal deception; the use of false representations to gain an unjust advantage.' The main groups of manipulation methods with accounting records in relation to identification (Jones 1991) include the following: increase in income, reduction in liabilities, decrease in expenses, increase in assets and increase in operating cash flow.

Detection of frauds lies in the identification of frauds that is done as fastest as possible after any such fraud is committed. Frauds are uncovered following the failure of the prevention against frauds (Bolton and Hand 2002). Brody et al. (2012) distinguish between forensic accounting and fraud examination. Forensic accounting is a broader term that includes the use of accounting for investigating frauds concerning, for example, company acquisitions, divorce proceedings, settlement with insurance companies or other legal areas. Fraud examination may be described as an investigation related to prevention, detection, investigation and prosecution of criminal activities of accountants and managers. Chartered Institute of Management Accountants has issued a risk management guide that stresses the possible management reaction

plan to fraud discovery, fraud prevention and defines the potential areas susceptible to fraud and supports it with a fraud reporting case study (CIMA, 2009).

Fraud exposure and possible ways of prevention are mentioned in a publication by Steve Dawson, where the author relies on the fact that an effective anti-fraud system of the accounting unit include risk assessment, control activities, information, communication, anti-fraud environment and monitoring (Dawson, 2015). Models engaged in the detection of creative accounting are based on a detailed examination of corporate accounting records. By using individual tools and techniques, the objective of these models is to verify whether there exists a possibility of manipulation of the financial statements or other accounting records.

This contribution aims at extending the current knowledge and methods in this field and offer the possibility to decrease information asymmetry for users of accounting records and management (persons Corporate Governance) by means of the approach of the CFEBT score and a modified version score CFEBT as a tool of internal and external control mechanisms. This aims to assess the risk of financial statements in the context of their reliability from the viewpoint of a true and fair view of accounting. CFEBT approach aims to detect and evaluate the risk of manipulated financial statements beyond their faithful presentation.

Methodology and Data

This contribution analyses and evaluates the test results of the CFEBT score in 3 case studies as well as a modified version of the CFEBT score aimed at identifying financial statements manipulation in the form of accounting mistakes and frauds which greatly disrupt the explanatory power of financial statements and its ethical status within the environment of CAS and IFRS. The approach of CFEBT score is further compared with other methods of Beneish M score, Jones Non-discretionary Accruals and a selected model of assessment of financial health, Altman Z-Score.

Pamela S. Manton in her book "Using Analytics to Detect Possible Fraud" provides case studies of four companies. The financial statements of the selected companies were subjected to examination via the individual tools and techniques appointed to examine accounting fraud. These case studies include the following techniques: Liquidity ratios, profitability ratios, horizontal analysis, vertical analysis, cash realized form operations, analysing cash realized from operations to net income from operations, the Beneish M-Score model, Dechow-Dichev Accrual Quality, Sloan´s Accruals, Jones Non-discretionary Accruals, The Piotroski F-Score model, Lev-Thiagarajan´s 12 Signals, Benford´s Law, Z-score analysis, Correlation, Regressions analysis (Mantone, 2013).

Another approach to the detection of increased motivation to manipulate financial statements is the Beneish M score which was created for financial conditions by Professor Daniel Beneish Messod at the Indiana University in Bloomington, USA (Beneish, 2001)

The CFEBT score method was analysed on the accounting units through pre-made case studies. In addition, the case studies with intentionally deformed financial statements were created in the environment that corresponds to the Czech Accounting Standards (CAS) and International Financial Reporting Standards (IFRS). The results of the CFEBT score were compared to the results of different methods and models including the selected creditworthiness model. The analysis was engaged in certain tested periods for selected accounting units in the range of available data of six accounting periods.

Accounting statements are tested in selected case studies during certain accounting periods using the following models.

The CFEBT model is defined as follows (Drábková, 2013; 2016):

$$CFEBT = \frac{\sum_{t=1}^{5} CF_t - \sum_{t=1}^{5} EBT_t}{\sum_{t=1}^{5} EBT_t} \times 100 \tag{1}$$

Where:

ΔCF   Increase of cash flow in period t

EBT   Earnings before taxes in period t

If *CFEBT ≥ materiality*, a detailed test of links of impacts has to follow in the second and third levels of M-score (detailed analysis of relations between accounting items)

Materiality, significance ranges between 5 and 10%, taking into account the individual circumstances of the entity, as it did during the audit of financial statements by an external auditor.

$$CFEBTm = \frac{\sum_{t=1}^{n} CFm_t - \sum_{t=1}^{n} EBTm_t}{\sum_{t=1}^{n} EBTm_t} \cdot 100 \tag{2}$$

Where:

CFm … Increase in cash flow before tax in the observed period, modified by reported future cash in- and out-flows

EBTm … Earnings before tax generated during the observed period, modified by non-monetary expenses

$$CFEBTom = \frac{\sum_{t=1}^{n} CFom_t - \sum_{t=1}^{n} EBTmm_t}{\sum_{t=1}^{n} EBTm_t} \cdot 100 \tag{3}$$

Where

CFom: increase in operative cash flow before taxes in the analysed period

EBTm: earnings before taxes gained for the analysed period modified by non-monetary expenses

The Beneish Model is a mathematical model used for financial models. It contains eight variables that can detect manipulation of accounting data. These are based on statements calculating the M score. M-score was created by Professor Beneish-Messod, (Mantone, 2013).

M-score calculation:

M = -4.84 + .920 DSRI + .528 GMI + .404 AQI + .892 SGI + .115 DEPI-.172 SGAI + 4.679 Accrual to TA - .327 Leverage
    (4)

The following variables are employed:

    a. DSRI - Days' sales in receivable index in the t and t-1 period.

    b. GMI - Gross margin index as the ratio of gross margin and sales in the t and t-1.

    c. AQI - Asset quality index.

    d. SGI - Sales growth index.

    e. DEPI - Depreciation index.

    f. SGAI - Sales and general and administrative expenses index.

    g. LVGI - Leverage index of total debts to total assets in the t and t-1.

    h. TATA - Total accruals to total assets in the t-period.

M-score of less than −2.22 indicates that a company has not manipulated the financial statements in the accounting period. M-score greater than −2.22 signals that the company will likely be a manipulator.

The Beneish Model represents a different perspective on the manipulation of accounting data. When an entity reaches the M-score higher than −2.22, calculated from the above eight variables, the model assumes that it is probable that the entity has manipulated accounting data for the accounting period or is strongly motivated to manipulate accounting data, see (Beneish,2001).

Jones Non-discretionary Accruals tests the indiscrete gains compared to the value of total assets in one period being lower than in other periods. Then, on the contrary, the model shows higher discretionary expenses of further periods. Such situation can infer a possible manipulation, (Mantone, 2013).

Jones Non-discretionary Accruals:

$$\left(\frac{1}{\text{Total Assets}}\right) + \left(\frac{\text{Revenue}_{\text{current year}} - \text{Revenue}_{\text{prior year}}}{\text{Total assets}_{\text{current year}}}\right) + \left(\frac{\text{Property,plant, equipment, gross}_{\text{current year}}}{\text{Total assets}_{\text{prior year}}}\right)$$

$$(5)$$

which has the goal of differentiating companies with a high probability of default from those that do not bear such risk.

For the companies that are not publicly traded, it is possible to use this type of Altman model (Altmann, 1995):

$$\text{Z-score} = 0{,}717*x1 + 0{,}847*x2 + 3{,}107*x3 + 0{,}420*x4 + 0{,}998*x5$$

$$(6)$$

where:
x1 = net working capital / total assets
x2 = retained profit / total assets
x3 = EBIT / total assets
x4 = equity /total debts
x5 = total revenues / total assets

Retained profit = profit funds + past earnings + recent earnings (within the current accounting period)

If the Z-score is bigger than 2.90, the company displays a good financial situation. In the case that the score results within the 1.2 to 2.90 range, it falls into the grey zone category. If the Z-score is below 1.2, the company is facing possible bankruptcy in the future. The recent research has tried to verify the hypothesis whether there is a close relationship between profit and cash flow within a 5-year horizon. In other words, whether the sum of the values tend to provide more or less the same result. Then the CFEBT model was designed and tested in order to reveal the possible risk of forged financial statements on the selected creative accounting case studies within the environment of the Czech Accounting Standards, e.g. (Drábková, 2013) and (Drábková, 2015) or (Drábková, 2016).

Case study - Manipulation of Financial Statements in CAS Environment within Five Accounting Periods

In the case study of the selected accounting unit, the methods of creative accounting such as windows dressing and off-balance sheet financing were used in the second option A (with the aim to maximize both EBIT and the value of assets) and option C (with the aim to minimize both EBIT and the value of assets or maximization of costs).

Financial statements of option A and option C were tested by the CFEBT score method in 5 subsequent accounting periods. The results are then compared with the Beneish M score model. Finally, the non-discretionary accruals are tested by Jones' Non-discretionary Accruals and by the Z score creditworthiness model.

Table 1. Profit/loss and cash flow increment for the A option in 5 accounting periods

Option A	1st year	2nd year	3rd year	4th year	5th year	Sum
Σ EBT thous.CZK	30,576	31,660	-41,205	1,999	1,117	24,147
CF* thous.CZK	0	2,785	6,889	1,805	3,594	15,073
Cash	0	2,785	9,674	11,479	15,073	X

*an increase in cash flow of reviewed accounting periods in thousands

Tab 1 presents total CFEBT score = 37.6% - it significantly exceeds materiality, i.e. there is a high risk of manipulated financial statements in terms of Czech accounting regulations M-score is of -0.83, which is higher than -2.22. According to this M-score, manipulation with the financial statements is likely in the 1st year. The Beneish Model thus confirmed the CFEBT model in conditions of Czech accounting standards.

Table 2. Jones Non-discretionary Accruals for the A option in 5 accounting periods

Accounting item	1st year	2nd year	3rd year	4th year	5th year
Jones Accruals	X	0.2	-1.3	0.7	0.2
Result	X	x	high risk	high risk	high risk

In Table 2 option A shows ambivalence of Non-discretionary Accruals in the monitored accounting periods, years 2 - 5. The Non-discretionary Accruals dropped in the 3rd year which resulted in significant growth of discretionary accruals in the following year. Here the model detects possible manipulation of the profit throughout all accounting periods.

Table 3. Profit/loss and cash flow increment for the option C in 5 accounting periods

Option C	1st year	2nd year	3rd ear	4th year	5th year	Sum
Σ EBT thous.CZK	2,539	5,150	4,948	1,369	700	14,706
CF* thous.CZK	0	2,785	6,889	1,805	3,594	15,073
Cash	0	2,785	9,674	11,479	15,073	

*an increase in cash flow of reviewed accounting periods in thousands

Tab 3 shows the CFEBT score of 2.5% in the 5 monitored accounting periods. This figure is lower than stated materiality, thus the CFEBT score detects a low risk of manipulation of accounting statements beyond a true and fair view of accounting in CAS conditions.

M-score of Beneish model for option C revealed that the entity that pursues the objective of achieving a true and fair view of the financial statements amounted to the M-score of −2.26, which is lower than −2.22. The Beneish Model here confirms the CFEBT model with the fact that the entity is not a manipulator in the 1st year in conditions of Czech accounting standards.

Table 4. Jones Non-discretionary Accruals for option C in 5 accounting periods

Accounting item	1st year	2nd year	3rd year	4th year	5th year
Property, plant, equipment	10,000	11,000	11,000	11,000	11,000
Jones Accruals	X	0.71	0.57	-0.24	0.48
Result	X	x	low risk	**high risk**	low risk

Option C shows relatively stable non-discretionary accruals in the 2nd, 3rd and 5th years (accounting period) while in the 4th year non-discretionary accruals dropped. This decrease is likely to indicate earnings manipulation or the method of "income smoothing" or accounting fraud.

As the Czech accounting standards concerning cost and revenues do not strictly record the principle of the content taking precedence over the form, this information can be seen as complementary in terms of Czech accounting standards, particularly for understanding underlying accounting data and processes of management accounting by the managers of Corporate Governance in the extended concept to refine the calculation of deferred taxes based on the economic substance of financial data.

Table 5. Altman Z-Score for options A and C in 5 accounting periods

	Z score	Z score
Accounting period	**variant A**	**variant C**
1st year	1.7 Grey zone	2.9 Grey Zone
2nd year	1.4 Grey zone	3.2 good financial situation
3rd year	1.2 Grey zone	2.9 Grey Zone
4th year	1.0 at risk of bankruptcy	>2.9 good financial situation
5th year	>2.9 good financial situation	>2.9 good financial situation

The outcomes of Table 5 for option A of Altman Z-score enables us to determine the relevant financial health of the corporation from the accounting statement. A significant risk of manipulated accounting statements can be identified on the grounds of inconsistent results of particular accounting periods. Altman Z-Score for option C records a business corporation in the grey zone in the 1st and 3rd years of evaluation while for these two years the value of the Z-Score amounted to the threshold of 2.9, as a Z- score above the threshold indicates the good financial health of a business corporation. In subsequent years (the 2nd, 4th and 5th years), the Z-Score reports financial health above the threshold of 2.9. The positive outcome of the assessment of financial health is significantly affected by the proposed business corporation

that is not burdened by obligations that would threaten the business activity of the corporation. At a general level of the Altman model of assessed positive outcomes of the good financial situation, the question is whether the stability of the results of this model is to some extent caused by the manipulation of accounting items of assets, liabilities or income on which the model is based.

Case study – CFEBT score of the accounting unit before liquidation in terms of CAS and IFRS

The following case study analyses the different possibilities of detecting the manipulation of financial statements in terms of the Czech Accounting Standards and IFRS. A sample accounting item (corporation) meets the condition of a loss of more than five million CZK in the first accounting period and its financial statements are provided within the Czech accounting standards for six accounting periods between 2008 and 2013 are available. At the same time the corporation´s liquidation took place in the year after the analysed period, i.e. in 2014.

Table 6. CFEBT score in years 2008 – 2013

Years	2008	2009	2010	2011	2012	2013	Sum
Σ EBT in thous. CZK	−7,547	−8,935	−5,979	−4,752	−1,776	−8,502	−37,491
CF* Accrual in thous. CZK	136	−91	6,738	1,065	−2,251	−1,727	3,734
CF in thous. CZK	136	45	6,783	7,848	5,597	3,870	24,279

*an increase in cash flow of reviewed accounting periods in thousands

The CFEBT score figures of the monitored accounting unit detect 110%. 110% of the value is thus well above the consideration of materiality of 5-10%.

To evaluate the risk of manipulated financial statement beyond their true and fair view of accounting in compliance with IFRS and CAS, an analysis of the development of risk items and the discrepancy between the development and cash flow stated in the financial statement should be done. Experts or auditors subsequently assess the difference in figures as either the natural risk of financial system or the risk of manipulated financial statements beyond the legislative standards.

The analysis of the financial statement EBT and decrease or increase of cash flow in the accounting unit from 2008 to 2013 identifies the risk of potential manipulation which infringes the true and fair view of financial statements with possible results contributing to the underestimation of financial profit or overestimation of financial losses. Subsequently, they were modified by the EBT and cash flow differences in non-financial items. The final modified CFEBT score was lowered to 21%.

Case study – CFEBT score of the accounting unit with the profit over 7 m. CZK in terms of CAS

In this case study a risk analysis was performed using selected models; the Beneish model, the CFEBT model, the Jones Non-discretionary Accruals model and selected bankruptcy models to detect accounting frauds in specific case studies of a selected accounting unit. The given entity was processed using a case study for the period of five years. Furthermore, the entity

made a profit of more than seven million CZK and does business in the service sector in years
2009 - 2013.

Table 7- EBT and CF Accrual in years 2009- 2013

Years	2009	2010	2011	2012	2013	Sum
∑ VH (EBT) in mil. CZK	11560	10594	9160	8663	7161	47138
CF Accrual in mil.CZK+corporate income tax	3455	5925	8818	5870	3361	26799
CFEBT score (before modification)	X	x	x	x	x	**43%**

Table 7 presents the results of detecting manipulation risk in the financial statements
through the CFEBT model in the accounting periods of 2009 to 2013. The CFEBT revealed
high levels above the materiality in CF and EBT accruals in the years of 2009 to 2013. After
calculating the value of the CFEBT model, it represents 43% of the value, and thus well above
consideration materiality of 5-10%. Therefore, it is necessary to analyse the development of
risk items above the mentioned guidelines of the discrepancy between development and cash
flow items reported in the financial statements.

The value of the modified CFEBT was significantly reduced from 43% to 6%, to a
considered materiality within the true and fair view of accounting. Users of financial statements
who need to decide about the credibility of financial statements in terms of CAS and IFRS can
be advised to perform a more detailed analysis of risk items within the accounting and take into
account the specifics defined by the true and fair view of the accounts of the national accounting
systems.

Table 8. Beneish M score in years 2008 - 2014

Years	2009/ 2008	2010/ 2009	2011/ 2010	2012/ 2011	2013/ 2012	2014/ 2013
M-score (8 variable model)	-2,58	-2,35	-3,4	-2,81	-14,52	-4,08
If M > -2.22, likely is a manipulator	low risk	low risk	low risk	low risk	low risk	low risk

Table 8 reveals the entity´s results of the Beneish M-score between 2009 – 2014. In these years the M-scores
were reported at the level of less than -2.22 and the years were assessed as low risk with an improbable earnings
manipulation.

Table 9. Jones' Non discretionary Accruals for period 2009 – 2013

Accounting items/ Years	2009	2010	2011	2012	2013
Total assets	32,871	3,297	33,158	3,294	32,351
Revenue	30,417	28,820	26,549	25,533	25,140
Property, plant, equipment	11,519	12,098	11,792	11,121	10,323
Jones ´analysis	X	-0.03	-0.05	-0.29	96.44
Result		low risk	low risk	low risk	**high risk**

Table 9 tests accrual principle using Jones' Non discretionary Accruals in financial periods 2009 - 2013. Jones' Non discretionary Accruals reveals a significant fluctuation identified in 2013 which resulted from the assets growth of 29,057 m. CZK and the merger with other business corporations.

Previous research resulted in creation of a new complex tool named risk triangle of accounting errors and frauds. The triangle of risk of accounting errors and frauds was proposed on the bases of results of case studies. The triangle of risk of accounting errors and frauds has a form of an anti-fraud system, which may be used by users of financial statements in the range selected to test the risk of manipulation of financial statements for at least 5 accounting periods.

Proposition of a management model for accounting errors and frauds - an efficiency tool of the internal control system

The fraud triangle was proposed by Dr. Donald R. Cressey in order to determine the factors that bring about an opportunity for committing a fraud. If all these factors are met, a "space" for committing a fraud is created. For this reason, the triangle has been established not from the view of users of outputs or financial statements, but from that of a perpetrator. This triangle accordingly identifies a risk of committing a fraud in the line of identification of risk factors that might ultimately lead to committing a fraud.

If accounting is respected as the main information source for a group of various users (decision-makers), especially owners, Corporate Governance, managers, internal and external auditors, prospective investors, employees, suppliers, customers, banks, providers of credits, loans, subsidies, public supervision authorities, the point of view of these users must be changed. The outcome may have a form of an anti-fraud system based on the triangle of risk of accounting errors and frauds, covering aspects of committing a fraud, using the "eyes" of authors of accounting (by assessment of causes - manipulation techniques) and users of accounting (identification of consequences - impact of manipulation).

The triangle, established as delineated above, may represent a solution to the issue of reducing the information asymmetry between authors and users of financial statements. The proposed triangle of risks of accounting errors and frauds is built on results of long-term research into accounting relations, principles and links, creative accounting techniques, audits based on empirical analyses, consultations with experts from the ranks of auditors, tax advisors, specialists and tax administrators, as well as on a 20-year practice as a tax advisor and advisor in CAS and IFRS (Drabkova, 2017).

Figure 1: Triangle of risk of accounting errors and frauds (Drabkova, 2017)

Figure no 1 illustrates a triangle of risk of accounting errors and frauds affecting 3 risk factors of the risk of accounting errors and frauds from the view of accounting users. This triangle /trajengl/ is based on 3 risk factors in mutual /mjúčl/ relationships causes and impacts of accounting errors and frauds based on a detailed analysis /enelysis/ in combination with assessment of internal control system of accounting unit.

The anti-fraud CFEBT concept delineated above clearly implies the following axiom:

"An efficient management of risk of accounting errors and frauds is dependent on the awareness of the management as regards accounting aspects and relations, and it contributes to the minimization of the information asymmetry between authors and users of financial statements."

The intensity of reducing the information asymmetry is obviously subject to the fact whether the proposed anti-fraud system is availed by a user who detects and assesses risks in the position of an external user (prospective investors, banks, business partners,...), or an internal user (internal auditors, Corporate Governance, managers, owners,…), in accordance with their opportunities of access to input information from accounting. Apparently, opportunities of access to input information are determined by the opportunity to use the information provided by the proposed anti-fraud system as a tool of the internal control system.

Discussion and Conclusions

We elaborate the results impacts of accounting errors and frauds in 3 selected accounting units. Previous research carried out by comparison of the CFEBT approach with results of evaluation of selected bankruptcy models (Drábková, 2015; 2016) and models of detection of risks of manipulation of accounting records (Drábková, 2017) confirmed the efficiency of the complex CFEBT approach, which is based on interconnections between reported accounting information in the context of their economic substance. Despite the efficiency of individual detection models, it may be assumed that the focus of these models is placed on selected techniques of creative accounting and lack in complexity of the development of information reported in time and interconnections. This contribution presents results of long-term research into detection and assessment of the risk of manipulation of accounting beyond the true and fair view of accounting, or, as the case may be, the risk of accounting errors and frauds by applying techniques of creative accounting in order to manipulate significant accounting information.

In the evaluation of the risk of impacts of accounting errors and frauds, the first case study for option A detected the first CFEBT score 37,6%, highly above considered materiality. For option C was investigated 2,5% of CFEBT score which presents the low risk of discrepancy between EBT a development of cash flow in reviewed accounting periods. Altman Z-score as a model provided conflicting results from a view of financial analysis.

In the second and third case studies were confirmed that users of accounting can reduce uncertainty about submitted financial statements only if a complete analysis of financial statements was processed for several years (5 years are minimum). We processed modified version of the second CFEBT M-score. It represents modified versions of EBT and CF for a detailed analysis of discrepancy between them.

The case studies tested the CFEBT score and its modified form for different accounting units with intentionally manipulated financial statements by the methods of creative accounting within the conditions of CAS and IFRS. The risk of manipulated financial statements within the CFEBT score was compared to other models and attitudes together with the Altman Z-score model. The CFEBT model is considered to be a basic comprehensive view of the financial statements and the links between them. The model traces the development of the statements and links them to more accounting periods (optimally in five years) and analyses the links between cash flow and profit. Modified CFEBT score presents a detailed test which may become an effective part of the anti-fraud programme of internal controlling systems. The awareness of the risks of financial statements improves the efficiency of corporate internal controlling systems and lowers the information asymmetry between the owners and Corporate Governance. The asymmetry can emerge in proficiency, quality and structure of the information provided, the attitude to the information and especially by the motivation of people. The modified version of the CFEBT model respects the individuality of the accounts of a sample entity and substantially eliminates the diversity of national accounting systems such as the Czech accounting standards, IFRS and US GAAP.

The results of the research conducted as to the methods of risk detection of manipulation of accounting records confirm the need for a detailed analysis of accounting in the context of its explanatory value for users, e.g. Bartov and Bodnar (1996) or Dawson (2015). The case studies which confronted accounting statements deformed by creative accounting methods with accounting statements showing a true and fair view reveal that, in order to reduce the information asymmetry between authors and users, approaches of risk detection of manipulation of accounting statements should be used in addition to financial analysis methods. When compared with the financial analysis results, the CFEBT approach reached differing conclusions. It may be stated that the risk of making a bad decision on the basis of accounting statements may be reduced by a detailed analysis of accounting links between the cash flow creation and profit (loss) over a longer period. The interconnection of a financial analysis approach and an approach based on the mutual relationship between the cash flow creation and reported profit (loss) has proven to be positive with respect to increasing the quality of decision-making of users for situations of an intentional manipulation of accounting statements (the case study for options A and C), as well as in various situations in the life of an accounting unit (before liquidation) and, last but not least, in comparison of the different accounting systems CAS and IFRS. The restriction of the CFEBT approach, mainly for external decision-makers, is perceived in their potentially different access to the accounting information that formed the basis for our research, taking into account at least a five-year period.

Previous research resulted in the creation of a new complex tool for users of financial statements named CFEBT risk triangle of accounting errors and frauds. This triangle is based on 3 risk factors in mutual relationships causes and impacts of accounting errors and frauds based on a detailed analysis in combination with the assessment of internal control system of

accounting unit. The triangle is able to reduce an information asymmetry between creators and users of accounts. It could be used to help to manage risks of accounting errors and frauds for managers and corporate governance.

We believe that the suggested CFEBT model may be used by auditors to identify risks of accounting fraud in accordance with ISA 240 or by any user of accounts for testing financial statements. Its modified version may be used as a detailed test for auditors to identify risk, particularly in the application of an audit judgement in assessing audit risk, in audit planning and in testing different items in the financial statements as a part of an anti-fraud system for an internal control system of an accounting entity. The anti-fraud system for detecting and assessing risks of accounting errors and frauds has been designed for analyses of financial statements for 5 accounting periods in the context with the basic hypothesis of the CFEBT model, the foundation stone of the whole system. However, the more financial statements of individual successive periods are available for testing, the more quality information will be obtained with respect to accounting links related to a risk of a significant disruption of the true and fair view of accounting.

The proposed anti-fraud system, which proceeds from a triangle of risk of accounting errors and frauds, remains a subject of further research and is to be tested using data of selected accounting units, as regards the size, prevailing scope of business and risk-rate under the conditions of CAS and IFRS, such that this system may be used as a tool of risk detection of financial statements for as broad a group of users as possible.

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