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Scientific monograph

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Obsah

1 Introduction

There are many sources of information which point to increasing losses and damage from incorrect reporting of financial data and information. Accounting fraud does not always indicate the numbers improving the image of an enterprise (e.g.: http://www.batescarter.com/accounting-fraud), but also vice versa.

Among other findings, the various surveys highlight that: organisations may be losing as much as 7% of their annual turnover as a result of fraud; corruption is estimated to cost the global economy about $1.5 trillion each year; only a small percentage of losses from fraud are recovered by organisations; a high percentage of frauds are committed by senior management and executives (Fraud risk management: a guide to good practice, 2009).

Furthermore, we can cite: http://www.accounting-degree.org/scandals/10 worst scandals, the annual reports of PricewaterhouseCoopers, ACFE Occupational Fraud & Abuse Reports and other institutions. According to the PwC White Paper with data up to 2014, companies spend considerable effort on tackling fraud at the expense of their fundamental issues and so raising costs. It says that 77% of managers stated that they are losing valuable time due to dealing with consequences of fraud (http://www.pwc.com/cz/cs/fraud-forum/bila-kniha.pdf). It is obvious that accounting frauds do not disappear with time.

The most common reasons for accounting fraud are: the effort to misrepresent tax obligations; the "gray" economy; the channelling of an enterprise´s funds; and higher rewards for management. Efforts to promote personal and group interests in enterprises are reflected in the different areas that are mingled, and which complicate the situation, including the information published. Incorrectness and fraud in their complex forms intervene in legal, tax, accounting, and ethical issues; this makes the problem more serious. The search for at least partial solutions should be as fast as finding ways to circumvent those rules.

The aim of this study is a comprehensive review of the issue of misstatement and fraud in accounting, a presentation of Q-DMFCA and CFEBT methods as possible tools for the quick identification of probable error or fraud in accounts in terms of sales, inventory and receivables, and damages from the audit´s point of view.

The basic circumstances of incorrectness and fraud in accounting
Based on a preliminary analysis of the problems of improper accounting and fraud, it is possible to include the following reasons for which it is necessary to constantly search for other methods and means. The following circumstances are considered:

- This is a *current problem,* and in addition is related to changing circumstances of the environment.
- Continuous *distortion of information* by different entities; leading to unfinished processes of measures to find it out.
- *Boundaries between the concepts of creative accounting and fraud are not sufficiently defined.* Therefore, there are different aspects of evaluation. See the concept of creative accounting, its interpretation and the question of degree of creativity crossing into the realm of fraud (definition of the offense).
- *Fraud, its increase and increasing complexity.*
- *There is no clear line between creativity and fraud; there are different assessment measures.*
- **Risk Management**; Creativity and fraud are usually not risk-neutral. On the contrary, participants´ desire for risk has been increasing (certain trade risks, which are relatively low in society); on the other hand, the users of financial statements require objective information and they are exposed to the risk that such information is not shared. Conversely, pressure to adjust statements by users to a relatively undersized risk, increases the risk to creators of the statements.
- Biased accounting; *the impact on financial analysis, corporate management*.
- Enterprises are evaluated on the basis of their financial statements. Based on the data in the financial statements, various ratios are calculated and bankruptcy and credibility models are applied. *Misrepresenting of accounting* and reported data affects the profit/loss, ranging from financial analysis results more or less multiplied by the methods used. This leads to incorrect data for business management.
- *The impact on the reporting of tax obligations*, generally reducing the tax base due to distortion of accounting.
- *Lack of ethics*, taught in schools as a subject, but not coming into practice (missing a code of ethics, appropriate working order).
- *The need to reduce audit risk* as the internal audit can be loyal to its interest group and external auditors carry higher audit risk i.e. the risk that they will

not issue a corresponding statement about the true and fair view of the financial statements. It influences the assessment of risk of accounting fraud that they are required to be assessed according to ISA 240, the International Standard on Auditing. In particular, it is a detection risk.

These considerations are followed by finding measures that take different forms. It seems advisable to look for the simplest methods of identification of signs of misstatements and possible fraud in accounting, see also (Stárová, 2014).

In this context, a general overview of frequent methods of detection of potential incorrectness of accounting based on available information sources was prepared.

2 Review of literature

Due to the extremely wide context of the topic, it is not really possible to introduce an exhaustive literature review. Therefore, based on a preliminary analysis, we present two main directions, which are assigned representative publications.

2.1 The main directions of the development of accounting

Two main parallel orientations are possible to be employed:

A. The development of accounting, including directions with respect to the achievement of the objectives (including directions with respect to achieving that objective): behaviour, multifunction and especially for us environmental and creative accounting.

B. Development of methods to verify its accuracy, incorrectly processed accounting.

Ad A) to development and directions of accounting

For our purposes, we should mention, especially environmental and creative accounting. Environmental costs, considered on the basis of MFCA's material balance, are usually placed in relation to the monitoring of the costs associated with the purity of the environment and the costs of waste. Among other things, these issues were discussed at the conference in Dresden in 2013 (16th EMAN Conference on Material Flow Cost Accounting, Dresden, Germany, 20–22 March 2013). There are many authors dealing with environmental accounting in relation to management; e.g. Schaltegger Hahn, Burritt, (2000), discussing environmental management accounting (EMA). The framework integrates the two major components of environmental management accounting – monetary environmental management accounting (MEMA) and physical environmental management accounting. (PEMA in a systematic way; a way of monitoring the environmental aspects in physical units. The method itself is not new; however, its application in accounting is new, see the draft of the ISO 14051, integrated into the ISO 14000.)

Use of evidence and information about corporate environmental costs can be used for different purposes than originally intended, i.e. economic consequences of environmental protection.

The creative accounting method is a process of keeping financial accounts. This accounting is examined from many perspectives. It is often considered as aggressive accounting. The accountants use their knowledge to modify accounting. The reasons and ethics are discussed. An accountant must be able to treat finances as produced on behalf of a client in a completely objective manner.

Creative accounting methods are some or all of the steps used in the manipulation of numbers, including the aggressive selection and application of accounting principles, fraudulent financial reporting and any steps that lead to the use of earnings management and income smoothing.

See for example: *http://www.articlesbase.com/accounting-articles/wahids-attitude-creative-accounting-and-proficient-ethics-3955682.html*.; Accounting is a creative process in which accountants use their knowledge of accounting rules of manipulation with numbers reported in financial statements of an enterprise. It is vitally important to deal with questions of ethics. The following methods are included: accruals, valuation of shares, creating or reduction of provisions, activation or recognition of expenses and off-balance.

The possibility to choose between accounting methods can be reduced by decreasing the number of allowed accounting methods or by defining different situations on which different methods are allowed. Quite often, the profit/loss is an accounting sleight more than real economic growth. Accounting standards leave a lot to be improved as there are always some gaps and loopholes found by accountants as fast as standards and regulations are created.

Ad B) Ways of identification of creative accounting and fraud

Based on methods used for analysis, the ways of identification can be divided into the following groups:

(a) Identification of creative accounting and fraud by legal activities, standards, benchmarks.

- For example these methods are based on the application of the requirements of the Sarbanes-Oxley Act (2005) that helps to increase the efficiency of business ethics. Management directly depends on the outcomes of the information systems, incl. protection of employees against punishment for reporting of suspicious activities. However, the stress level between auditors and their clients has been over-reaching its greatest limits ever.

– Analysing fraud as a mere historical event can provide an inadequate basis to detect (or prevent) fraud, given its multidimensional, cyclical and dynamic nature (Reinstein, Bayou 1999).

To argument SAS No. 82's practical guidance to consider potential fraud in financial statement audits, this paper constructs a comprehensive view of fraud with its principal components.

At first, a definition of fraud broader than SAS No. 82's is presented and compared with the latter. Second, an anatomy of fraud constituting its main dimensions, as a concept, event, intent, action and object, provides the basis for introducing fraud as a cyclical phenomenon. Fraud's dynamic nature raises the question as to whether it is cyclical or repetitive. Since the auditing literature has not fully addressed this issue, despite its primacy to distinguish intentional and non-intentional acts, the paper explains and illustrates these concepts.

To some extent, technical standards and technological procedures can be included too.

(b) Identification and actions through the application of computer models and software
ba) use of dates, data-mining;
bb) use of some specific SW.

Ad ba) Use of dates, data-mining

Based on acquired and processed data and information, it is possible to design models; and monitor the context; e.g. How SAS® Enterprise Financial Crimes Are Different (http://www.hotfrog.co.nz/Companies/SAS_592366/Enterprise-Fraud-Financial-Crimes-Fraud-Detection-33129).
The use of SAS is appropriate to:

- Build and use holistic customer behavioural patterns in the fraud detection process.
- Gain a true enterprise view of fraud by aggregating alerts from multiple systems into a single environment.
- Fully leverage external data sources, such as fraud consortium databases.
- Improve investigator efficiency with unique network visualization, data drilldown and other investigation tools.
- Customize the solution as needed (e.g., develop fraud models unique to your institution).

- Increase ROI per investigator tenfold through fewer false positives, the prioritization of higher-value networks and more accurate investigations.
- Seamlessly integrate in real time with authorization systems all over the world.

Ad bb) Use of some specific SW

The software types such as the IDEA, OWiz Soft, Fraud breaker and the cognitive approach can be mentioned (Grazioli, Jamal and Johnson, 2006). Such models are referred to as software-intensive, and can be used simultaneously with monetising. Their weakness is their creativity and approach. A computer model was constructed which was intended to diagnose cases of fraud (they report an 85% success rate). In contrast, auditors also proved a great number of errors and omissions that have been identified as fraudulent cases (45% success). Auditors may hesitate to fully accept the identification of fraud because of the negative emotional and financial consequences of wrong diagnoses of cases identified as fraudulent.

(c) Models
ca) of strategic fraud detection.

Models focused on the formulation of the model and a description of strategic fraud detection show how using information systems and technology provide effective ways to detect fraud. Suspicions of fraud detection processes automatic relations are discussed as well.

Two case studies are said to be implemented, one of which is known as a hoax, and the other not (Conan, Albrecht, Albrecht)[1]. The computer model also does not consider the potential consequences (Beneish, Benfort Nigrini 2012), and its application in Wen-Hsi Chang/TamKang (http://soscholar.com/detail?paper_id=67052802-e463-4778-9b22-2663fa699fe3).

An algorithm of applying Benford's law to detect credit fraud in e-commerce is proposed in this paper and its feasibility is studied. The weakness of the algorithm for detecting financial fraud via Benford's correlation coefficients is analyzed and a new detection method for e-commerce fraud, defined as a credit algorithm based on Bedford's law, is established, providing better performance in reliability and precision.

Other possibilities of models and techniques: Liquidity ratios, profitability ratios, horizontal analysis, vertical analysis, cash received from operations, and analysis of cash received from operations compared to net income from operations. Apart

[1] Available from: http://www.business.umt.edu/Libraries/Seminar_Series/F04Strategic_Fraud_Detection.sflb.ashx

from the Beneish M-Score model is the 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, and Correlation, Regressions analysis (Mantone, 2013).

cb) Special methods, such as the use of technology or SW to analyse the voice of someone from management to identify possible lies.

cc) Identification and measures through mathematical statistically oriented models.

These are more or less, the approximate methods, such as: statistical fraud detection (e.g. the Baesyan methods using models focused on the behaviour of accounting, financial and other entities; Bolton, Hand 2002), as well as related mathematically oriented models aimed at testing different variables. Other models based on forecasting, financial statements using the technique of Data Mining (e.g. Kotsiantis, Koumanakos, Tzelepis, Tampakas 2007) or calculating the frequency of possible occurrences and the possibility of calculating undiscovered cases (e.g. Wuerges, Borba, 2010). The Beneish model is a mathematical model used for the purposes of financial modelling. It contains eight variables that can detect manipulation of accounting data by calculating the M-score based on the final accounts of an enterprise.

Using analytics to detect possible fraud in several areas, such as Cash Flow, Beneish model, The Accruals, Benford´s law, Analysis Techniques using Historical Financial Statements (Mantone 2013).

cd) Creating models related to the choice of approach to accounting and its utilization.

Accounting based on a benchmark can be used with the best, or something similar. We suppose that it can be compared with other lines in the enterprise and that it is well grasped and demonstrable. It can be used for material and energy flows in particular. This is very similar to environmental accounting used for the purpose of identifying the volume of raw materials actually used, calculations and recording of waste. This approach is based on Data Mining (e.g. International Journal of Computer Applications, 2012), focusing on the use of the enterprise database. Of course, in such cases it is necessary to consider the limitations of data predictability as well.

(d) Identification and actions according to the application of ethics and responsibility.

The model 231 (2001, 2011, 2012) is the most important one. An enterprise may be called upon to respond to some criminal offenses committed in its interest or for the benefit of its managers and employees. The purpose is to prevent and manage

the risk associated with the onset of crimes. Luxottica Group (It) mapped out the organization, management and control model. This model was accepted in October 2005, as amended. It has been updated recently by the Resolution Board (February 14, 2012) in order to include new criminal offenses within the modified regulations. Arminger, Clogg, Sobel (2007) combined the statistical models with a preview of the behaviour of individuals. Ethical Accounting concerns decision making perspectives where the decision model is introduced. The following features are presented: an emphasis on the individual accountant's decision making on both technical and ethical matters; the focus on technical competencies and the ability to apply knowledge, aided exercises and cases. (Stuart I., Stuart, B., Pedersen, 2013). Other studies also reported on Wahid's attitude highlighting the importance of proper records and ethics (see http://www.articlesbase.com/accounting-articles/wahids-attitude-creative-accounting-and-proficient-ethics-3955682.html).

(e) Management – Incorrect identification, creative and fraud accounting, behaviour and creative accounting.

Ad ea) Management or audits should monitor the trends of the values of individual indicators, ratios, risks, and the resistance of workplaces in an enterprise against financial fraud.

National research studies around the world (Amat, Blake, 2006), (Brennan, McGrath, 2007), (Jones, 2011), show that there is a growing pressure to enforce transparency and business ethics, which is true not only for publicly traded companies, but also for example, concerning the misuse of subsidies by prominent entities, and substantiation in accounting. Particularly, demands are imposed on administrative bodies whose responsibility is to guarantee the development of the corporate culture and to promote shared values inside a company.

Ad eb) Risk

A close monitoring of the areas of management activities in relation to the above mentioned risk and a possibility to influence accounting distortion is vitally important. It is important to monitor both the theory, practice and knowledge of possible risk. The following study could be used as the basis for the purpose of our work – see Fraud Risk Management: A Guide to Good Practice, Chartered Institute of Management Accountants (2009, discussing: anti-fraud strategy: prevention, detection, deterrence, response.

Although external auditors did not detect many cases of fraud, internal auditors on the other hand were found to be the most successful in identifying serious fraud (http://www.cimaglobal.com/documents/importeddocuments/cid_techguide_fraud_risk_management_feb09.pdf.pdf).

Ad ec) conditions in the enterprise, resistance, internal control

- Lack of financial management expertise and professionalism in key accounting principles, review of judgements made in management reports and the review of significant cost estimates.
- A history of legal or regulatory violations within the organisation and/or claims alleging such violations.
- Strained relationships within the organisation between management and internal or external auditors.
- Lack of management supervision of staff.
- Lack of clear management control of responsibility, authorities, delegation, etc.
- Bonus schemes linked to ambitious targets or directly to financial results.

The COSO approach includes the following ideas:

- Internal control is a process. It is the way not the aim.
- Internal control is performed by people. It is not only handbooks with the most important rules and form. It is people at all levels of an organization.
- Internal control should provide reasonable, but not absolute assurance to the managers of an organization.
- Internal control is aimed at achieving the objectives in one or more of the total of three separate but overlapping categories (see above).

Wells (2013) offers a series of schemes of individual business operations, activities, detection and prevention (inventory, cash, assets, etc.), corruption, bribery, conflicts of interest and financial statement fraud.

Resistance to fraud and corruption, and graphical representations of the profile of resistance against dishonesty is an important part. According to the evaluation: communication on abuses in an enterprise, evaluation, management and reviews of risk, implementation of control mechanisms, training and awareness, internal audits, monitoring of the Management Board and testing tools, incident management, lessons from events, results and review measures.

(f) The Behaviour, Psychology and Sociology of Fraud

The influence of behavioural science is an important influence on risk; although it has been underrated in practice. The issue of the relation of behaviour and fraud is

discussed in Ramamoorti (2008), in Integrating the Behavioral Sciences Component into Fraud and Forensic Accounting Curricula Issues in Accounting.

Ricciardi (2004) provides a review of literature on the issue of influences on decision making and risk. He states the following six psychological risk indicators:

- the role of affective reactions or feelings,
- the influence of worries,
- the notion of perceived control,
- the significance of expert knowledge,
- the issues of overconfidence, and
- concern or potential losses in monetary terms.

2.2 Statements as a result of technology, equipment, management quality, lack of ethics and the behaviour of accepting possibilities (see the above mentioned parts)

2.2.1 Methods of manipulation of statements in stocks of goods (the baseline for the Q-DMFC model)

Methods of manipulation with statements in stocks and trade

Expression of the development of values in statements:

1. Methods of manipulation with financial statements in relation to identification (Jones 2011):
   - Increase income:

   premature sales recognition, increase interest on receivables, include non-operating profits, treat loans as sales, swaps.

   - Decrease expenses:

   use provision accounting, reduce tax, Big bath, one-year write-offs, decrease expenses and increase assets, increase closing inventory, capitalise expenses, lengthen depreciation lives, be generous with bad debts.

   - Increase assets:

   enhance goodwill, enhance brands and other intangibles, real value of fixed assets, mark-to-market.

– Decrease liabilities:

off-balance sheet financing, reclassifying debt as equity.

– Increase operating cash flow:

maximise operating cash inflows, minimise operating cash outflows.

2. According to Dave Tate, CPA, Esq: Fraud Prevention & Detection (2011):

   Financial statement fraud. Financial statements are often fraudulently enhanced by one or a combination of the following means: (1) reduce liabilities, (2) increase assets, (3) increase revenues, (4) reduce expenses, or (5) reclassify assets or liabilities as being long-term or short-term. (See 3.4).

3. A different point of view of the management of fraud in accounting is presented by Fraud risk management: a guide to good practice in 2008 (Chartered Institute of Management Accountants), see 3.4.

4. Jones (2013) in Creative accounting, Fraud and International accounting scandals or Mathone (2013). Using Analytics to Detect Possible Fraud: Tools and Techniques describes tendencies that should be accounted by the management, such as

   – An abnormal increase in turnover (revenue) compared with other operators in the sector or increase in comparison with the entity in one financial year;

   – Reporting substandard margins (value added tax) compared with other operators in the sector or increase in comparison with the entity in one financial year;

   – Recurring mismatch between the increase in cash flow and the profit/loss. For example, reporting negative operating cash flow and positive profit at the same time.

The above mentioned events are based on manipulation with financial statements. Although that, it would be a separate topic.

2.2.2 Methods of manipulation in CF area (the baseline for the CF model)

Tools for manipulating financial statements

In relation to changes in cost, revenues, assets, liabilities and cash flow with a focus on the goal of maximizing the accounting profit and maximizing the value of assets such as:

– Tools to increase revenues:

Early recognition of revenue, unrecognized revenues, an increase in interest on receivables often in the form of contractual penalties, increased revenues representing non-operating profit, reporting loans and advances as income, circular trade stocks, carousel fraud, underreporting or delayed reporting of discounts.

– Tools to reduce costs, changes in the structure:

Reduction or absence of adjustments in accounting called Big Bath, which occurs in one accounting period to maximize the reported costs, for example by increasing depreciation or the timing of costs and in a subsequent period, the amount and cost reduction (increased profit), leaving irrecoverable receivables in accounting.

– Tools to report inaccuracies and structure, changes in the structure:

Reporting a higher proportion of rejects, and unfinished products.

– Tools to reduce/decrease the business margin:

Improper allocation of costs to the cost of goods sold mainly in the framework of calculations.

– Tools to reduce costs:

The increase in the carrying value of goodwill; increase in the value of trademarks and other intangible assets, i.e. circular transactions with assets, particularly stocks; increased asset value by corrections and removing the technical appreciation of assets, the non-declaration of unsalable stock, options of valuation methods in time.

– Tools to decrease liabilities:

Financing of activities outside balancing through other subjects and not recognizing such liabilities in the balance sheet; unacknowledged barter operations; reclassification of debt into equity (capitalization of liabilities).

– Increase of operational cash-flow:

Reporting increases in operating cash increments on non-operating cash and minimizing operating cash outflow by moving it out of the operating cash flow.

See also Jones´ Creative accounting, Fraud and International accounting scandals and Mathone´s. Using Analytics to Detect Possible Fraud: Tools and Techniques published in 2013.

- There are abnormal increases in turnover (revenue) compared with other comparable operators in the sector or increases in comparison with the entities between different reporting periods.

- Reporting substandard margins (value added) compared to similar entities in the sector or in the sequence of fluctuations in margins of the subject between different reporting periods.

- The recurring mismatch between cash flow and profit/loss. For example, repeated reporting of negative operating cash flow and some profit at the same time.

Understatement of assets in relation to an accounting entity:

In accordance with the precautionary principle, an entity shall recognize uncertain losses at the reporting date. The losses are reflected in the balance sheet as an impairment charge to reduce earnings. The practical problem is whether an entity recognizes a provision at all, and what would be the estimated amount. The international accounting legislation addresses this issue through IAS 36 – Impairment of Assets, where the amount of loss is defined in relation to the definition of recoverable amount. This solution better shows the fair value of the asset.

As an example, an enterprise operating in the area of trade stocks some large inventories of a hardly marketable commodity, with a market price that declined during storage by 50% (a shelf-warmer). If an enterprise intentionally does not classify this product as a high-risk group and does not record an allowance of 50% of those stocks or estimate their value well below 50%, it upwardly misrepresents the value of assets in this way and simultaneously improves the view of the enterprise in evaluating its financial health.

2.2.3 Creative accounting

For example: Milesi-Ferretti (2004) shows that the probability of detecting creative accounting depends on its size and the transparency of the budget. The model studies the effects on fiscal policy of a budget rule, separating structural from cyclical effects, and examines how these effects depend on the underlying fiscal distortion and on the degree of transparency of the budget.

This paper contributes to the literature by exploring how the desirability and effectiveness of fiscal rules depend on the scope for 'creative accounting' in the government budget, a subject on which there is much policy discussion, but no formal modelling. Inevitably, budgetary rules are imposed on 'measured' fiscal aggregates (deficit, public debt, or government spending), which can differ from the economically meaningful ones (which matter for government solvency) because of window dressing.

2.2.4 Material misstatements resulting from fraudulent financial reporting

Examples of responses to the auditor's assessment of the risks of material misstatements due to fraudulent financial reporting:
Material misstatements of the financial statements are often a result of the overstatement of income (e.g. by premature revenue recognition or recording fictitious revenues) or the understatement of income (e.g.by improperly shifting revenues to a later period).

Therefore, an auditor usually assumes that revenue recognition is associated with risks of fraud and they consider what types of revenue, revenue transactions or assertions could be the cause of such risk. Examples of responses to the auditor's assessment of risks of material misstatement due to fraudulent financial statements in connection with revenue recognition are discussed below.
Revenue recognition:

- Performing substantive analytical procedures relating to revenue using non-summarized data, such as comparing revenue reported by months and by departments or business segments during the current reporting period with comparable prior periods. When identifying unusual or unexpected revenue relations or transactions, assisted audit tools using computers are helpful.

- Verification of the conditions of some important contracts with customers and the absence of side agreements, because the appropriate accounting is often influenced by such terms or agreements and the basis for rebates or the period to which discounts relate are often poorly documented. In these cases, acceptance criteria, delivery and payment terms, the absence of future vendor obligations, the right to return the product, the guaranteed quantity of products sold, and the cancellation of supplies or refunds are vitally important.

- The presence at several locations at the end of the year and monitoring of goods being shipped or being readied for shipment (or returns waiting for processing) and implementing appropriate procedures assigning sales and inventory cut-off.

Condition and movements of stock:

- Examining the entity's inventory records to identify locations or items that require increased attention during physical inventory.

- Tracking inventory at certain locations without previous announcement or conducting inventory counts at all locations on the same day.

- Conducting inventory counts at the end of the reporting period, to alleviate the risk of tampering in the period between the count and the end of the reporting period.
- Performing additional procedures during the observation of the count such as more comprehensive examinations of the items stored in boxes; checking the way the goods are stored or labelled.
- Comparing the quantities for the current period with prior periods by class or category of inventory, location or other criteria, or comparison of quantities of the records.
- The use of audit techniques using computers to further test the compilation of the physical inventory counts. Sorting by tag number to test controls relating to the sign or the serial number to test the possibility of item omission or duplication.

Management estimates:

- Using an expert to develop an independent estimate for comparison to management's estimate,
- Inquiries to individuals outside of management and the accounting department to verify the ability and intent to carry out plans that are relevant to developing the estimate.

Examples of facts that indicate the possible presence of fraud.
Examples of facts that indicate the possibility that the financial records include a material misstatement caused by fraud, such as the following:
Discrepancies in the accounting records, including:

- Transactions that are not recorded on time and in full, or are recorded in an incorrect amount, incorrect reporting period, are not classified correctly, or do not match their accounting rules units.
- Balances or transactions, lacking any supporting documentation or approval.
- Last-minute adjustments that significantly affect financial results.
- Evidence of employees' access to systems and records that are necessary to perform their official duties.
- Information or complaints regarding allegations of fraud told to the auditor.

Conflicting or missing evidence, including:

- Missing documents.

- Documents that have been altered.
- Existence of photocopied or electronic documents that should physically exist in their original form.
- Significant unexplained items on reconciliations.
- Unusual balance sheet changes or changes in trends or important financial statement ratios or relationships, for example, receivables growing faster than revenues.
- Inconsistent, vague, or implausible responses from management or employees arising from inquiries or analytical procedures.
- Unusual discrepancies between the entity's records and confirmation replies.
- Large numbers of credit entries in accounts of receivables and other receivables adjustments.
- Unexplained or inadequately explained differences between the receivables ledger and the control account or between the customer and receivables ledger.

Missing or non-existent cancelled checks in circumstances where cancelled checks are ordinarily returned to the entity together with the bank statement.
Missing inventory or physical assets of significant magnitude.

2.3 Compliance of increase in cash flow and accrual in time

Detected errors that may change and influence the decisions of individual users of financial statements are considered as significant accounting errors (accounting misstatements). Such matters are related to prior accounting periods with findings in the current period.

These issues are important for users of financial statements, such as: the omission of a lien on the property, signing documents or a significant amount of unrecognized revenues and costs.

It is the use of the models detecting possible accounting fraud and material error or their combination that could help to reduce the risk of manipulation for users of financial statements (especially current or potential owners and auditors) or increasing the reliability of statements in terms of such subjects as offices, banks, customers and suppliers.

Pamela S. Mantone (2013) in her book provides case studies of four companies. The financial statements of the selected companies are subjected to examination via the individual tools and techniques intended to examine the accounting fraud.

These case studies include the following techniques:

Liquidity ratios, profitability ratios, horizontal analysis, vertical analysis, cash received from operations, analyzing cash received from operations compared 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, and Regressions analysis.

The principle of accrual accounting is one of the main generally accepted accounting principles. The principle requires recording only those costs and benefits related to a current accounting period while the actual receipts or disbursements of funds are disregarded. The application of this principle uses accrual accounts. Some of these accounts, however, are built on the concepts of management and its own estimates. They therefore constitute a potential risk of misstatement of the financial statements. According to some authors they allow accruals to manage earnings between accounting periods. It is an attempt to exterminate income and thus prevent their undesirable fluctuations.

For detection of "creativity" in terms of accruals, there are three models of creative accounting: the Dechow-Dichev model of accrual quality, the Sloan model of accrual basis, and the Jones non-discretionary accruals. Each of these models helps determine whether accruals listed in the accounts of a company exhibit any unusual trend that could testify the possibility of fraud or intentional gain control. The characteristics of each model are explained in the text.

The Dechow-Dichev model of accrual quality:

The model was published by Professor Patricia Dechow and Professor Ilja Dichev in their paper “The quality of accruals and earnings: The role of accrual estimation errors” in 2011. The model measures the quality of accruals depending on the extent of realized cash flow. The authors concluded in their research that the entity with a low accrual quality uses more accruals that are unrelated to the current flow of funds than the entity with a higher quality. A low quality accrual principle also shows the possibility of fraudulent transactions that may affect the financial statements of the company. The model can be applied to all types of businesses, through private companies to governments, NGOs and various financial institutions.

Calculation of the Dechow-Dichev model allows for the expression of anomalies that require further investigation. On that basis, however, we find out whether the manipulation of accounts accruals was made by the entity deliberately or whether

it was simply a result of some errors. According to the authors, this allows the production of accurate estimates of future cash flows. Poorly defined estimates conversely create instability in quality and any future cash flow will probably not bring quality stability either. From their research, the authors then came to the following conclusions regarding the quality of accruals:

- A longer operating cycle reduces the quality, unlike a shorter operating cycle,
- Quality affects the size of the business, while small enterprises are characterized by lower quality,
- The reduction in the quality may be caused by instability of sales or "maintenance" of losses.

Calculation of the Dechow-Dichev model combines the changes in working capital and the cash flow from operating activities in the current period, compared to the value of the average total assets for the two reporting periods. The formula of the model is as follows:

$$\frac{\text{operating cash flow}_{\text{current acc.period}} + \Delta \text{ working capital}_{\text{CAP}}}{\text{total assets}_{\text{CAP}} + \text{total assets}_{\text{previous period}}}$$

According to the literature, the simplest and most effective method is to compare the quality of the results with the net income of the enterprise.

Sloan's model of the accrual basis:

The model was developed by Professor Richard G. Sloan in 1996. As part of his research, he tried to develop two hypotheses that would allow testing accruals and earnings. His first hypothesis is based on the "performance" of earnings; the second part focuses on the rebound in share prices on the basis of accruals and cash flow components of earnings. If the investor fails to distinguish between temporal resolution and monetary income, then an entity can abuse such a situation.

Sloan bases the model on calculating the implicit cash component. However, the calculation of the model is rather complex and requires more steps in comparison to other accrual models:

"estimated cash = net profit +/– Δ net current assets"

"net current assets = current assets – current operating liabilities"

"current assets = total current assets – cash and cash equivalents"

"current operating liabilities = current liabilities – short-term liabilities – income tax payable"

The positive value of the expected cash component indicates that the net profit of the company has increased. If it starts with the resulting value in the negative, then the net profit has decreased. Sloan's theory further suggests that if the profit is higher than the default cash component, then the entity expects a stronger financial outlook. High levels of the accrual component compared with the net income and the projected cash component are certain "signals" that it demands further investigation.

Jones Nondiscretionary Accruals:

This model was published by Dr. Jennifer Jones in 1991. The research is based on the measurement of discretionary spending of consecutive periods. Dr. Jones is convinced that discretionary accruals provide more space for manipulation compared to non-discretionary accruals as they are equal to zero within the period. Discretionary accruals can be classified as expenditure which, although recorded in books, is not mandatory, such as the resulting costs to the remuneration of management, warranty reserves and asset provisions for bad assets. As a part of her research, Jones studied the influence of management on reduction of income. The model is calculated as follows:

$$\frac{1}{\mathrm{TA}_{\text{prior year}}} + \frac{\text{Revenue} - \text{Reveune}_{\text{prior year}}}{\mathrm{TA}_{\text{current year}}} + \frac{\text{Property, plant, equipmen}_{\text{Current year}}}{\mathrm{TA}_{\text{prior year}}}$$

Jones' analysis provides information about the use of accrual discretion of the entity. Based on this model, users can determine whether financial information that is presented in the financial statements may have been manipulated. If the non-discretionary accrual in comparison with the value of total assets in one period is lower than in other periods, the model shows that discretionary accruals are conversely higher. This situation may indicate possible manipulation.

2.4 Auditing as an essentials supervision factor

In the paper named "The Role of the Auditor in Verified of the Unethical Practices in Accounting", Nahed Habis, and Hamed Al Rawashdeh (2013) present several aspects of the concept of creative accounting with a focus on the role of the auditor in the verification of practices and the results of creative accounting.

This paper reviews the most important of these methods. They are as follows:

1. Sometimes, accounting rules allow for the company to choose between a number of different methods of accounting.

2. Using some input in the accounts that are related to assessment or prediction.

3. It can enter either synthetic trade to manipulate the amount of the budget or to move profits between accounting periods.

Manipulating the timing of transactions in order to identify a certain age to upload gains or losses for any accountant`s purpose aimed to achieve the market value or real value, especially if there are clear differences between the carrying amount.

Starting from the perspective of professional scepticism in relation to the assessment of creative accounting, we assume that the accounts of each entity use creative accounting practices to some extent at the level of the statement "a lot of accounting is correct". Concepts such as good, flawless, or clear accounting, etc., stemming from this background, are advisable to be treated as relative. Similarly, for creative accounting the intention of the enterprise is important.

The situation is discussed by various International Standards on Auditing (for example, the ISA 240 Standard on Auditing, which addresses the risk of fraud and the auditor's response to it). This means approved financial statements, audited frequently and thus indicating the auditor's statement in their report on the faithful and honest picture of the financial statements. The potential impact of the criminal liability of directors, owners, businesses and corporations is discussed too.

Audit risk is based on the fact that an auditor may issue an inadequate statement of checked financial statements which include significant inaccuracy or financial statements that are materially misstated in accordance with the ISA 200 Auditing Standard.

Significant errors may be that an entity does not cite any relevant information or that the amount indicated is incorrect or that there is distorted information or a significant amount which may influence the decisions of the users of the financial statements. Audit procedures include screening signals of misstatements.

Material misstatements resulting from fraudulent financial reporting:

Examples of responses to the auditor's assessment of the risks of material misstatements due to fraudulent financial reporting:

Material misstatements are often a result of an overstatement of income (e.g. by premature revenue recognition or recording fictitious revenues) or an understatement of income (e.g.by improperly shifting revenues to a later period).

Therefore, an auditor usually assumes that revenue recognition is associated with risks of fraud and they consider what types of revenue, revenue transactions or assertions could be the cause of such risk. Examples of responses to the auditor's assessment of risks of material misstatement due to fraudulent financial statements in connection with revenue recognition are discussed below.

Missing or non-existent cancelled checks in circumstances where cancelled checks are ordinarily returned to the entity together with the bank statement.

Missing inventory or physical assets of significant magnitude.

Missing electronic evidence, or evidence that is not available through the requirements and rules of the unit's record retention.

Material misstatements in financial statements due to fraud often involve the manipulation of the financial reporting process, either during the year or at the end of the reporting period, by recording inappropriate or unauthorized journal entries or adjustments to the amounts reported in the financial statements, which are not reflected in the official accounting records, such as consolidating adjustments and reclassifications.

Material misstatements due to misappropriation of assets:

- Examples of responses to the auditor's assessment of the risks of material misstatements due to misappropriation of assets:
- Counting cash or securities at or near year-end.
- Verification of an account directly with customers (including credit memos and sales returns along with the dates payments were made) for the period under audit.
- Analysing recoveries of written-off accounts.
- Analysing inventory shortages by location or product type.
- Comparing key inventory ratios to the industry norm.
- Reviewing supporting documentation to perpetual inventory records.
- Computer comparison of vendor lists with a list of employees to identify matches of addresses or phone numbers.
- Computerized search of payroll records to find addresses, employee identification, numbers used for contact with the tax authorities or bank account numbers listed multiple times.
- Reviewing personnel files for insufficient evidence of activity such as folders with no assessment of work.
- Analysing sales discounts and returns for unusual patterns or trends.
- Confirming specific terms of contracts with third parties.
- Obtaining evidence that contracts are being carried out in accordance with their terms.
- Reviewing the propriety of large and unusual expenses.

- Reviewing the authorization and value of loans granted to senior management and related parties.
- Reviewing the level and adequacy of the amounts shown in the statements of expenditure submitted by senior management.

For the purpose of selecting journal entries and other adjustments for testing and determining the appropriate method of examining the underlying support for the items selected, the following matters:

- Assessment of the risks of material misstatement due to fraud – the presence of fraud risk factors and other information obtained during the evaluation of the risks of material misstatement due to fraud may assist the auditor to identify specific classes of journal entries and other adjustments for testing.
- Checking of journal entries and other adjustments – effective controls over the preparation and posting of journal entries and other adjustments may reduce the extent of substantive testing necessary, provided that the auditor has tested the operating effectiveness of the controls.
- The entity's financial reporting process and the nature of evidence that can be obtained – for many entities, routine processing of transactions involves a combination of manual and automated steps and procedures. Processing of journal entries and other adjustments may be similarly composed of manual and automated procedures and controls. If the process of financial reporting uses information technology the accounting entries and other adjustments may exist only in electronic form.
- Characteristics of fraudulent journal entries or other adjustments – inappropriate journal entries and other adjustments are often characterized by distinctive features such as: a) entries to unrelated, or seldomly-used accounts, b) entries made by individuals who do not usually do accounting of records, c) accounting done for the end of the period or at the end, without explanation or description, d) entries made before or during the preparation of financial statements that do not have account numbers, or e) entries containing round numbers or consistent ending numbers.
- The nature and complexity of the accounts – inappropriate journal entries or adjustments may be made to accounts that a) include complex or unusual transactions, b) contain significant estimates and adjustments made at the end of the year, c) have been prone to misstatements in the past, d) are not timely reconciliations or contain unreconciled differences, e) contain inter-company transactions, or f) are otherwise associated with an identified risk of material misstatement due to fraud. In audits of entities that have several locations or components, consideration is needed to select journal entries from multiple locations.

- Journal entries or other adjustments processed outside the normal course of business – non-standard journal entries may not be subject to internal controls of the same level as those journal entries used on a regular basis to record transactions such as monthly sales, purchases and cash disbursements.

In preparing financial statements, management is responsible for a number of judgments and assumptions that affect significant accounting estimates and for on-going monitoring of the adequacy of these estimates. Fraudulent financial reporting is often accomplished through intentional misstatement of accounting estimates.

False accounting is fraudulent and usually occurs when a business or employee:

- deliberately records false financial information – e.g. to hide losses or appear more successful,
- changes, defaces or destroys records,
- exaggerates the business' assets or understates its liabilities.

Material fraud often is exposed by analytical analysis of changes in financial information, account balances, and significant financial ratios between different accounting periods. Significant changes should be investigated in detail on a company comparison basis; that is, by comparing current company financial information with similar prior financial information of that same company, and by comparing the company to industry averages and trends and other similarly situated companies. Although cost benefit should be kept in mind, such an analysis can also be done at the department level on small accounts. The following are some of the key ratios that may be considered for fraud analysis. Most of the ratios are also useful for general financial analysis and budgeting.

2.4.1 Analysis of methods of measurement in accounting

If an enterprise acquires a long-term asset in the form of loans and interest included in the acquisition cost of assets, it will increase the reported profit of the period. Higher values of fixed assets are recognized in the balance sheet. This positively affects the credit rating and the financial health of that accounting period. Otherwise, it will increase costs and reduce the tax liability. Czech accounting legislation defines costs which are included in the cost of fixed assets. In the case of interest, especially from the date of the loan assets, it leaves the decision to the entity to put the assets into use. Interest can affect the original cost of the asset and thus also different levels of costs at the time of purchase or otherwise over its lifetime. To illustrate (as evidence of the seriousness of the problem), we consider the average interest rate of various foreign sources of 10% pa.

Determining the entry price for tangible and intangible assets, i.e. the determination of costs, once again there is a certain amount of "creativity". The Czech GAAP defines these costs in the levels of direct costs and indirect costs directly related to the creation of fixed assets - i.e. direct costs plus the overhead costs associated with their creation. Another part of the indirect costs is of an administrative nature, if it exceeds the production time of one accounting period, and is left to the discretion of the entity. Now the value of administrative expenses can significantly affect the manufacturing and fixed assets over more than one accounting period in both directions. Would it not be preferable to uniformly define the share of the total amount of overhead costs as an integral part of the costs on tangible assets and always without exception?

Creativity in making accounting depreciation schedules is at a wide scope in Czech and international accounting standards. The Czech GAAP defines depreciation as entry fees for the use of assets in relation to time or performance.

The method of preparation of the accounting depreciation plan is done by the entity and its choice and an estimate of the useful life of the asset. It can significantly affect the reported amounts of assets in the balance sheet and the amount of profit gained, as well as deferred taxes.

Consider a prosperous business that invests extensive resources into the acquisition of fixed assets; the possession of which is subject to tax depreciation and accelerated depreciation in the second group, i.e. five years. Accounting depreciation entity provides an estimated useful life of 10 years. This difference is reflected in deferred tax, i.e. an enterprise saves tax as the deferred tax is returned to the state. An enterprise prospers, and so after the end of the period of tax depreciation, it purchases a new machine. Why does a situation occur when an enterprise will be obliged to pay "more" to the state and to return what has been saved in the past? This situation occurs when a company suddenly gets into a loss – and lags behind in a recession and is in danger of bankruptcy. In this situation, the question is (with an already predetermined response) if at that moment it will be able to return the saved funds.

A consequence of some creative solutions is either a reduction in the current time period or increasing the price of the asset for depreciation. The selected depreciation method and the timing of technical improvements with the increased costs, to some extent affects the reported amounts of assets and income.

An entity buys expensive property assets with a hidden intent to use the property for the personal purposes of the managers and owners. Such assets may be, for example, a yacht formally bought in order to operate leases at sea. The yacht is purchased for a considerable amount; a considerable amount of value added tax is reclaimed and simultaneously accelerated depreciation is applied. At the same time, the entry price of the asset is recognized along with its depreciation. The yacht

is taken to sea, of course, all at the expense of the enterprise. It is a cooperation agreement that is concluded with a company that has to ensure there are customers on the spot. Meanwhile, the yacht is used by the owners and managers. Before it is possible to assess the profitability of such an asset, the users of the yacht are bored with it, so they decide to sell it. In order to sell it for a minimum value and follow statutory rules, the yacht is “damaged”, for example, by sinking. Because there is no problem to prove the repair of the vessel in accounting, the situation is not assessed as damage, which was a result of the asset removal. In fact the damage is tax deductible only up to the amount of the payment, particularly by an insurance company or the person who caused the damage.

Creatively, this situation is considered as a sale for a minimum price due to damage to assets, which were subsequently repaired. There is no reason for removing such "events" from records. In fact, the buyer pays the company a higher amount than contracted, and both parts are satisfied. The owners are happy that they can buy another yacht while at the same time they apply for deducting the value of added tax and get money that is not recorded in the accounts. The new owner of the yacht is very pleased with their favourable purchase.

If the priority of a sample entity was not to report the most favourable economic results for a situation where the managers and the owners want to use the property for the purposes of the above mentioned personal benefits, they would probably buy the asset and depreciate the tax in five years. An accounting depreciation schedule would be created with the estimated lifetime of the yacht, e.g. 10-15 years.

When assessing the additional costs, these can be classified as a technical evaluation of the yacht, which can include the modernization in its evaluation. Technical improvement increases the asset's accounting value amount and the value of tax depreciation. The result of this solution would be a tax benefit in the sense that it’s an entitlement to deduct the value of added tax and the application of tax depreciation and accounting for favourable income due to lower depreciation in the accounting. However, the net carrying amount of the fixed asset will be apparent in the balance sheet under assets. It is also obvious that the same situation may have different solutions according to the required priority. Proving the principle of primacy of 'substance over form' (a formal adjustment of the transaction) in context the principle of 'fair and true view' for such a transaction to tax administrators is hardly a reason not to mention this proof of intentional fraud in criminal proceedings.

2.4.2 Warning signals in accounting for inventories: risk factors related to misstatements arising from fraudulent financial reporting

Below are examples of risk factors relating to misstatements due to fraudulent financial reporting.

Incentives / Pressures:

1. Financial stability or profitability is threatened by economic conditions prevailing in the sector or operating conditions in the unit, such as:
   - Strong competition or market saturation, accompanied by declining margins.
   - High vulnerability to rapid changes, e.g. technology obsolescence.
   - The sharp decline in demand and increasing business failures in either the industry or the overall economy.
   - Operating losses causing the threat of bankruptcy or the takeover of the unit from competing firms. New accounting, statutory, or regulatory requirements.
2. The management is exposed to undue pressure to meet the requirements or expectations of third parties in relation to:
   - Profitability or trend level expectations of investment analysts, institutional investors, significant creditors, or other external parties (particularly expectations that are unduly aggressive or unrealistic), including expectations created by management, e.g. too optimistic press releases or annual reports.
   - Need to obtain additional debt or equity financing to stay competitive.
   - Limited ability to meet exchange listing or debt repayment or to comply with other requirements in contracts for the provision of loans.
   - Actual or potential negative impact of reporting poor financial results on significant pending transactions, such as tenders.
3. Available information indicates that the personal financial situation of management or those charged with governance is threatened by the financial performance of the unit, because:
   - The people have a significant financial interest in the entity.
   - A considerable part of their compensation (such as bonuses, stock options and bonuses paid depending on the results of the unit) depends

upon achieving aggressive targets for stock price, operating results, financial position or cash flows.

- These people provide personal guarantees for debts of the entity.

4. The management or operating personnel are exposed to undue pressure to meet financial targets established by those charged with governance, including incentive goals in sales or profitability.

Possibilities

1. The nature of the industry or operating unit provides opportunities to engage in fraudulent financial reporting that can arise from the following:
   - Significant transactions with related parties that are outside the ordinary course of business or with related entities not audited or audited by another firm.
   - Strong financial position within the industry or the ability to dominate a sector that allows the entity to dictate terms or conditions to suppliers or customers that may lead to the conclusion of transactions at prices that are reasonable and customary prices.
   - Assets, liabilities, revenues or expenses based on estimates, which are based on subjective assessment or uncertainties that are difficult to substantiate.
   - Significant, unusual or highly complex transactions, especially those close to the period's end.
   - Significant operations located or conducted in jurisdictions where there are differing business environments and cultures.
   - The use of intermediaries, which are not commercially justified.
   - Significant bank accounts or operations in tax havens that have no business justification.
2. Management is not effectively controlled due to the fact that:
   - The management is dominated by a single person or a small group of people (in units that do not control their owner) without compensating checks.
   - Oversight by those charged with governance over the financial reporting process and where internal control is not effective.
3. There is a complex or unstable organizational structure, as evidenced by the following:

- Difficulty in determining the organization or individuals that have interest in the entity.
- Overly complex organizational structure, which includes a non-standard legal entity or an unusual managerial hierarchy.
- High turnover of senior management, legal counsel, or those charged with management.

4. Internal control components are deficient as a result of the following:
   - Inadequate monitoring of checks, including automated checks and checks over interim financial reporting (if issued reports and statements for external entities).
   - High turnover of staff in accounting, internal auditing, or information technology or employment of persons with insufficient qualifications.
   - Accounting and information systems, including material weaknesses in internal controlling.

Attitudes / rationalizations

- The ineffective implementation and support of the ethical standards unit or ineffective information about this and monitoring of compliance by management or of the communication of inappropriate values or ethical standards.
- Excessive participation of the non-financial management areas of functioning units in the selection of accounting policies or the determination of significant estimates.
- Violations of security laws or other laws and regulations of senior management or claims against the entity members of senior management or those charged with governance alleging fraud or violations of laws and regulations put forward by those persons.
- Considerable interest by management in the development of earnings per share and maintaining or increasing profits.
- The procedure under management of achieving aggressive or unrealistic forecasts by analysts, creditors and other third parties.
- Management failing to correct known deficiencies in a timely manner in the internal control system.
- Interest by management in employing inappropriate means to minimize reported earnings for tax purposes.

- Low morale of senior management.
- The owner-manager makes no distinction between personal and business transactions.
- Disputes between shareholders in the unit.
- Repeated attempts by management to justify inappropriate accounting on the basis of materiality.
- The relationship between management and the current or predecessor auditor is strained.

2.4.3 Risk factors resulting from misstatements arising from misappropriation of assets

Risk factors resulting from misstatements arising from misappropriation of assets are further divided by three conditions of the fraud:

(a) incentives / pressures,

(b) opportunities,

(c) attitudes / rationalizations.

Some of the risk factors related to misstatements arising from fraudulent financial reporting may also occur in situations when misstatements arise from the misappropriation of assets, e.g., ineffective monitoring of management and weaknesses in internal control may cause misstatements due to fraudulent financial reporting or misappropriation of assets. Below are examples of risk factors related to misstatements arising from the misappropriation of assets.

Incentives / pressures

1. Personal financial obligations may create pressure on management or employees with access to cash or other assets that can be stolen, and tempt them to misappropriate those assets.
2. The negative relationship between the entity and employees who have access to cash or other assets that may be stolen may motivate those employees to misappropriate those assets. Negative relationships may be due to:

- Known or anticipated future employee layoffs.
- Recent or anticipated changes in employee compensation.
- Promotion or reward inconsistent with expectations.

Opportunities

1. Certain facts or circumstances may increase the susceptibility of assets to misappropriation.

Opportunities to misappropriate assets increase in the following situations:

- Large amounts of cash on hand or cash that is processed.
- Inventory items that are small in size, of high value or high demand.
- Easily convertible assets, for example, bearer bonds, diamonds or computer chips.
- Fixed assets that are small in size, marketable, or lacking a clear indication of ownership.

2. Inadequate internal control over assets may increase the susceptibility of assets to misappropriation. For example, misappropriation of assets may occur for the following reasons:

- Inadequate segregation of duties and responsibilities or independent checks.
- Inadequate oversight of senior management expenditures, such as travel expenses or other reimbursements.
- Inadequate oversight of employees responsible for assets, for example, inadequate supervision or monitoring of remote locations.
- Inadequate screening of employees who have access to property.
- Inadequate record keeping of property.
- Inadequate system of approval of transactions (e.g., purchases).
- Inadequate physical safeguards over cash, investments, inventory or fixed assets.
- Lack of complete and timely control of property.
- Lack of timely and appropriate documentation of transactions, e.g., credits for returned goods.
- Lack of mandatory vacations for employees performing key control functions.
- Lack of understanding of information technology management by allowing employees to perpetrate a misappropriation.

- Inadequate access controls over automated records, including controls over and review of records relating to the operation of computer systems.

Attitudes / rationalizations

- Ignoring the need for monitoring or reducing risks related to misappropriation of assets.
- Insufficient attention to internal control over misappropriation of assets by overriding existing controls or by failing to correct known deficiencies in internal controls.
- Behaviour indicating dissatisfaction with the entity or its treatment of employees.
- Changes in behaviour or lifestyle that may indicate assets that have been misappropriated.
- Tolerance of petty theft.

In assessing the relevant fraud risk factors, the size, complexity and ownership structure of the unit play an important role. For a large company, the auditor considers usual factors that prevent improper conduct. Fraud risk factors considered for a particular business segment may lead to different insights than examining the same factors at the level of the entire unit. In the case of a small business, some or all of these considerations can be less important or even unusable. In a small business, there may be e.g., a code of conduct in writing, but there may instead be a culture that emphasizes the importance of integrity and ethical behaviour through oral communication and by the management. If a management unit is dominated by a single person, it will generally not publicize a failure by management to display an appropriate attitude regarding internal control and financial reporting process. Some units may be offset by weak controls requiring the obligation to ask permission from the management unit. This procedure helps to reduce the risk of employee fraud. The fact that the leadership is dominated by a single individual can be a potential weakness since there could be an override of controls by management.

When identifying and assessing the risks of material misstatement of the financial statement, the auditor identifies and evaluates the risks of material misstatements due to fraud. Assessed risks that could result in a material misstatement due to fraud are significant risks; the auditor should evaluate the design of control-related units, including relevant control activities.

3 Q-DMFCA

3.1 DMFCA metodology

The design of the Q-DMFCA model is based on both directions of the research – the development of accounting guidelines in terms of its use, particularly environmental accounting and creative accounting. Behaviour accounting is also important. Furthermore, we discussed the development trends of methods which contribute to the identification of error and fraud in accounting. A quick and approximate form of surveys was sought. An important option is the enterprise's internal control to capture the risk moment.

A design of the Q-DMFCA (Quick-Detection of Material Flow Cost Accounting; perhaps more appropriately as the Detection of Material Fraud Creative (Conspirational) Accounting;

The focus of the proposed model and its structure

Possible error detection, the creative approach and fraud through the proposed model is focused on:

1. by-products of the grey economy, which result in tax evasion and tax avoidance;

2. identifying the possible theft of products and materials.

The model is based on the simple premise that the material energy is not extinguished; that financial expression of appreciation is a control element or a parallel and that the relevant legislation always applies.

The MCFA (Material Flow Cost Accounting) was selected as the basic method of approach within the accounting systems. Its application in the present is important for monitoring the efficiency of the production process, including taking into account the element of waste. The reason is to capture the entire production process as well as relatively simple detection and evaluation. The Balance detection model called the Q-DMFC Detection Model Flow Cost Accounting (also the Model of Fraud Creative (conspiracy) Accounting) is based on the above mentioned.

The basic balance based on environmental accounting

On the basis of these forms of environmental accounting, it is possible to identify four basic balances based on "the material, energy and financial metabolism of an enterprise," within the legal framework. They are the following:

- line for the turnover of the material stock, (the timing is important), turnover of stock, provisions, shelf-warmers, standard losses; registration of discounts, equipment failures, theft; working in a foreign enterprise, off-balance sheet storage and processing of foreign material;
- line for energy and its consumption;
- the financial line such as financial balances the purchase, sale, including discounts;
- the legal line, strict compliance with all standards and regulations, inspection records on waste handling.

3.1.1 Material balance

Material balance focuses on the monitoring of the stock in natural units. Each centre produces a desirable product and a negative one (waste, emissions). The most important relations can be defined as:

Total material balance = stock (material and goods, work in process, rejects)

Purchase – sale = stock

Stock = stocks of: material + unfinished products + products + substandard products for a discount + rejects

Purchase – (stock of material + unfinished products + products + products for a discount + rejects) – sales = waste

Balance in specified units (kg in this publication), measured against the cost unit

Total consumption = unfinished products + products including substandard + + waste

The accommodation of a similar product or standards can be expressed as the consumption rate and the rate of waste and losses:

aQ = real consumption / consumption standard, similar product

bQ = waste + real rejects / waste + reject standard, similar products
where
aQ = the consumption rate
bQ = the rate of waste and losses

For calculation of the calculation standards (weighing, measuring), mean value and the weighted average are sufficient for many types of production. Classic comparison with standard norms of consumption should be done with a comparable product from the best competitor.

3.1.2 Energy Balance

Energy balance is focused on monitoring the consumption of energy and resources spent. Energy consumption proceeds in time, so when it operates with the reported monitoring clock and standard man-hours. The aim of the energy balance is to identify and evaluate the level of energy consumption.

aE = energy consumption per volume production / standard, the average of previous years
where
aE= energy consumption rate.

Important links when compiling the energy balance are the following:

- machinery, power changes, mechanical clocks, hours worked-wages, reported energy consumption waste disposal provisions, machine repair, off balance sheet, leased machines, changing tools and technologies,
- energy consumption centres: production, sale, use or disposal,
- differentiation of energy production (Eprod) and energy waste processing (Ewpr).

3.1.3 Financial Balance

Financial balance monitors the inputs and waste production is subsiding, including financially. Financial balance is based on the equality of costs and revenues without sales margins. The cost of purchase and storage + processing costs + cost of sales – discount (including discount payment terms) = sales – margin (+ other costs achieved as a result from business)

FN + FZ + FO + FP − FS = Sales − OM
where:
FN = purchase costs
FZ = processing costs

FP = cost of sales
FO = costs associated with waste disposal
FE = energy costs, provisions
FS = discounts
OM = trade margin

3.1.4 Legal Balance

Legal balances are used to control for consistent adherence to related laws, incl. all §s of the Waste Act (WA) under the obligation to report waste disposal methods. Legal balances contribute to a confrontation and the reported fair values. It aims to provisions such as the zoo. § 12 General duties and § 16 Obligations of waste generators.

Possible methods used for the comparison of the development in time, between enterprises
The following traditional approaches are useful and not complicated:

(a) using regression lines in the material balance, energy balance, revenues,

(b) the ratio between the components of the material balance, tracking trends over time + time taking into account the inventory turnover,

(c) treatment of waste in time, in compliance with legislation.

3.2 Illustration of the issues discussed

A enterprise with a low volume of production and business activities is considered.

Assignment:

A purchase of 300 kg of the most important (the most expensive or the highest proportion monitored) material for 400 CU (currency unit); material consumption per 1 piece is 0.5 kg.
The entire amount of raw material is our case consumed. But it is not necessary.

It is necessary to monitor the status of raw materials on these accounts. We use a dual view; both the standard method (A), and through the method of environmental costs monitoring the total stock and goods, unfinished products, rejects and waste. These are the data of the Q-DMFCA model (B).

3.2.1 Material Balance

A. Standard Approach

Table 3.1 A Monitoring of material balances

	Material (kg)	Hypothetical (piece)
Purchase	300	600
Stock	200	400
Sales	100	200

Source: authors´calculation

At the moment, we are only interested in the costs of negative product (waste) considering the control of the accounting records of material turnover.

B. Method MFCA: monitoring material balance using the analytical records, evidence in the case of stores.

Table 3.2 MFCA: material balances monitored using analytical evidence, stock B

	Material (kg)	Hypothetical (piece)
Purchase	300	600
Stock: products	100	200
WIP	60	120
Rejects	10	20
Waste	30	60
Total	200	400
Sale	100	200

Source: authors´calculation

Table 3.3 Calculation of the consumption of raw materials at the unit cost in stock B

Products	0,25 kg
WIP	0,15 kg
Waste	0,025 kg
Rejects	0,075 kg
Total raw material consumption calculation	0.5 kg

Source: authors´calculation

Note:

The calculation can be also used for monitoring the state of the stock incuding sales revenue, or the initial state including the stock and including sales revenue. Our monitoring focuses just on the stock.

Accounting control is done through the evidence of items in stock primarily in the physical dimension; their sum, including waste and balance.

3.2.2 Projecting the statements in the prices of selected material

Table 3.4 Profit and Los statement, standard approach A

	Kg	CU	DEB	CRED
Sale, revenue	100	60 000	311	601
Material consumption	300	120 000	501	112
Change in WIP	60	24 000	121	611 (581 in 2016)
Change in products	100	40 000	123	613 (583 in 2016)

Source: authors´calculation

Projecting the statements in the prices of selected material.

Table 3.5 Profit and Loss Statement (CU) A

Sales, Revenue	60 000
Material consumption	120 000
Change in products and WIP	64 000
Operational added value	4 000
EBT	4 000

Source: authors´calculation

Table 3.6 Profit and Loss Statement (CU) Using MFCA B

	CU	DEB	CRED
Sales, revenue	60 000	311	601
Change in wip	24 000	121	611 (581 in 2016)
Change in products	40 000	123	613 (583 in 2016)
Material consumption	120 000	501	112
Rejects, waste over the limit	4 000x	549, 548	501
Waste to the limit	12 000	501 AÚ	501

Source: authors´calculation

Table 3.7 Profit and Loss Statement (CU) B

Sales, revenue	60 000
Change in products and wip	64 000
Material consumption	116 000 (120 000–4000)
Operational added value	8 000
Operating profit/loss from this operation	–4 000 x
EBT	4 000

Source: authors´calculation

3.2.3 Projecting in the statements in the prices of selected material

At this moment, a general amount of sales and sales relating to the material balance is discussed. In this sense, the findings of items not included into the balance or lost material can be considered, supplemented by other considerations, such as:

- Gross margin GM and Revenue; If revenue (price) is higher than the usual price (and goods are not of exceptional quality and trendiness); difference depends on the volume of sales, i.e. it is possible to estimate higher commission; it can be divided between the supplier and the customer.
- GM and Revenue: If revenue (price) is lower (without evidenced discounts and claims), the GM calculated per reported volume of sales of goods is below the average may be a sign of mutually compensated transactions; tunnelling the enterprise. Inner buffer deals are also possible to be assumed.

3.3 Q-DMFCA as an example of misreporting

Common problems:

(a) concealment of sales outside an invoice, reported sales are lower: 8 000 CU and products can be written off as rejects, waste or work in progress (unfinished products); 1 piece of product is sold for 300 CU;

(b) concealment of prices: sales = 10 000 CU; 5 kg (10 pcs) products are left in stock; price could actually be higher, the margin involves both retailer (merchant) and the customer, often supplying institutions. Then the margin is unchanged, corresponding to competition and standards;

(c) a significant reduction in the quality of the purchased material, the number of rejects and waste increase. If not, this may be unacknowledged discounts between trading partners. (It is essential to check allowances, adjustments).

An example of sales in the possible use of balances

Table 3.8 An example, variants of sales

	Sales in pieces	Price/pc	Revenue	VAT 20%	Comment
A plan, reality	200	300	60 000	12 000	
Underselling	200	198	39 600	7 920	discounts, claims, theft, barter
Underselling	200	330	66 000	12 000	60,000 to the enterprise; 6,000 divided between traders, suppliers and customers
Sale of part of the goods	150 50	300 250	45 000 12 500	9 000 2 500	Discounts, barter, distribution of profits from trade
Sale of part of the goods *Store*	70 130	300	21 000	4 200	

A case of concealment of sales of products

Table 3.9 Standard evidence A

	Material (kg)	Hypothetically (pc)
Purchase	300	600
Store	200	400
Sales	100	200

Purchase 300 kg, (600 pieces) 1 kg of material, purchase price of 400 CU
Store 200 kg
Sales: 100 kg

- sale price of 300 (which is: 200 for material, 31 for other cost, 69 for business margin. It means: a mark-up of 30%; 23% of business margin – TM plan (or fact-calculated from the sale of 40 units or the findings of earlier transactions),
- material consumption of 0.5 kg, i.e. 200 CUs,
- record of inventories based on the environmental costs,
- total reserves in kg and recalculated cost units.

Situation A
All products sold for planned price

- it means sales T_A 200 pieces for 300 = 60 000 CU Proper recognition of revenues.

Situation B

- Improper recognition of data into records.

Ad situation A. All products sold for planned price

Table 3.10 Total material balance

Total store	**Material**	**Products**	**WIP**	**Rejects**	**Waste**	**Number of pc**	**Revenue**	**VAT 20% MU**
(kg) 200	100	100	60	10	30		60,000	12,000
(pc)	200	200	120	20	60	200		

Ad situation B. Starting situation

Table 3.11 Total material balance-starting situation

Total store	**Material**	**Products**	**WIP**	**Rejects**	**Waste**	**Number of pc**	**Revenue**	**VAT 20% MU**
(kg) 200	100	100	60	10	30		60,000	12,000
(pc)	200	200	120	20	60	200		

B1. Revenues are not allocated, 1/3 of products sold outside of the invoice

Table 3.12 Total material balance

Total store	**Material**	**Products**	**WIP**	**Rejects**	**Waste**	**Number of pc**	**Revenue**	**VAT 20% MU**
(kg) 200	100	0	60	10	30		39,600	7,920
(pc)	200	0	120	20	60	200		

Material (natural) balance

Inventory check:
Balance: purchase + turnover of raw materials in stock in various stages of processing in kg; suitably, the conversion to pieces and standardized (planned) consumption of raw materials; i.e. other simultaneous checks, especially on sale; statement of waste handling and disposal. If products are not in stock; monitored material contained in the products would have to be at a higher volume of WIP, waste, rejects; All that can be checked.

Financial balance

1. Checking discounts: record of the discounts and the reasons; reasons for the possible underselling.

2. Checking the creation and release of provisions.
3. Checking deductions on VAT.
4. Checking the TM. decrease from 30% in total - cost 231+ TM' 19 = 250 selling price; 8% TM.
5. Calculation of the TM to material costs.
6. Calculations comparing planned and actual consumption.

3.4 Q-DMFCA as a possible tool for more effective audit

Our research shows that the detection model can be successfully applied both in an internal and external audit.

3.4.1 The basic theses

- Balance in natural flow must be aligned.
- Balance in cash flows must be aligned.
- Comparing both balances is used to check.

If any of these balances is not an aligned offset, or is impaired, it should be compared with the second balance.

3.4.2 Fracturing balances, differences in balance

Differences in financial balance Tate (2011)

Financial statement fraud. Financial statements are often fraudulently enhanced by one or a combination of the following means: (1) reduce liabilities, (2) increase assets, (3) increase revenues, (4) reduce expenses, or (5) reclassify assets or liabilities as being long-term or short-term.

Important: Warning signs, business risk, cultural issues.

On the issue of warning signs concerning goods, the following can be discussed: Inventory

(a) Overvaluing existing inventory.

(b) Counting non-existent inventory or sold merchandise that is being warehoused for customers.

(c) Not reducing the value of obsolete, damaged, or slow-moving inventory.

(d) Improperly changing or disclosing a change in inventory accounting methods.

(e) Failing to disclose pledged inventory when required.

(f) Reclassifying old and new inventory to alter valuation under the inventory accounting conventions.

(g) Counting inventory sold and warehoused under a repurchase agreement.

Analytical analyses should be performed both in comparison with budgets and other firms; and similarly by using financial data:

(a) Sales or revenues compared to cost of goods sold.

(b) Sales or revenues compared to assets or investments.

(c) Gross sales or revenues compared to returns and credits.

(d) Sales or revenues compared to average inventory.

(e) Sales or revenues compared to average receivables.

(f) Average receivables compared to sales per day.

(g) Current assets compared to current liabilities.

(h) Reserve for uncollectible receivables compared to receivables.

(i) Cash plus cash equivalent current assets compared to current liabilities.

(j) Total debt compared to total assets.

(k) Profit or income compared to net worth, assets, sales, or revenues.

Earnings compared to interest expense

A different point of view of the management of fraud in accounting is presented by Fraud risk management: a guide to good practice in 2008 (Chartered Institute of Management Accountants).

The following is seen as fraud in the selling process practice:

- Overcharging from an approved list or standard profit mark-up.
- Short-changing by not delivering the contracted quantity or quality.
- Diversion of orders to a competitor or associate.
- Bribery of a customer by one of the organisation's own sales representatives.

- Bribery of a customer by a competitor – no proper explanation of why the contract went elsewhere.
- Insider information by knowing competitor's prices.
- False warranty claims that are made or paid.
- Over selling of goods or services that are not necessary.
- Giving of free issues/samples when not necessary.
- Links with cartels or 'rings'.
- Bribery to obtain contracts which would not otherwise be awarded.
- Issuing invoices or credit notes which do not reflect reality and of which the ultimate payer is unaware.
- Issuing credit notes to hide additional discounts or issuing invoices or credit notes which do not reflect reality and of which the ultimate payer is unaware.
- Issuing credit notes to hide additional discounts or rebates.
- The use of sales intermediaries (fixers).
- Sales commission gates, which can often cause misreporting of orders.

Differences in the balance of natural and energy flows contain far fewer risk areas

Inventory of natural balance shall be carried out from the most risky items to the least risky. The difference in electricity consumption and similar values in labour time sheets may contribute to determining the place where the material balances were violated; production phase; under the assumption of constant operating conditions.

3.4.3 Intentional and unintentional violation of balance, activity of auditors

In cases of a suspected unintentional act, obvious errors or intentional misrepresentation, but also in case of continuous monitoring, the balance is monitored. Usually, it is a sign of financial failure. It may be approached to monitor the natural balance; and to monitor deviations from the standard, planned, variations or values of the competition.

There are two types of differences identified by the DMFCA model:

- Intentional,
- unintentional.

If it is a difference that is the result of unintentional operation, it is referred to as an error, while in the opposite case it is a fraud.

If differences lead to a distortion of the financial statements of a business corporation, the auditor is supposed to apply tests of reliability and veracity in order to reduce the risk to the desired level. In more complex cases, you can use the services of companies that deal with detecting accounting fraud or embezzlement of property.

If differences identified by the model do not represent intentional misstatements resulting from fraudulent financial reporting or misappropriation of assets, then it is an error resulting from an ineffective control system or failure of management or employees of a corporation or business establishment. A unreliable control system is not able to prevent improper accounting or valuation of individual transactions within the production process.

The proposed model is able to detect differences both in the costs (direct and indirect) in achieved yield.
In terms of costs, different parts are monitored, such as:

- unit cost material;
- direct wages;
- technological media;
- manufacturing and administrative overhead.

The concept of the model enables a comprehensive view of the production not only in the production phase (WIP, finished products, semi-finished products), but especially inefficient consumption (waste and rejects). It needs to be addressed on an ongoing basis, including impacts on complaints discounts. As in the case of necessity of registration records of the operating conditions, the handling of waste and dealing with rejects should be a part of internal rules.

For the analysis of detected differences, it is important to compare the standard (predetermined) level of the value of a variable (profit or loss) and the actually expended value. The analysis confirms or contradicts the assumption that it really is a deviation from the optimum course of technological development process of performance. Required time, material, energy, hours of work done etc. were not spent to perform different operations carried out in the prescribed sequence. To specify the causes of imbalances and their calculation, unit standards, standards of

variable costs, fixed costs and standards of the standard range of performances are used.

As an example, if the detected differences in consumption unit cost material is the result of changes in the technological process of production, it should be evaluated the impact of changes in the standard according to the following equation:

Change of the standard = basic calculation – operating calculation

And the influence of the deviation based on the following relation:

deviation from the standard = operating calculation – resulting calculation

Such a difference is not identified as a breach of obligations and it is reflected in the accounts as a representation of reality, which in turn affects the profit of an enterprise. The economy in the consumption of material is determined by unit cost deviation (Q) in the consumed amount (quantitative deviation) and (P) included in Purchase price (qualitative variation). Similarly, differences in other components constituting realized performances are analysed and causes of deviations and responsibility are detected.

The category of fixed costs analyses absolute variations as the difference between standard and actually incurred fixed costs (in applying the variable costs) or volume as the difference between a fixed budget, which is linearly converted to the actual utilization of capacity and a variant budget for the actual capacity utilization (in the application of full cost method).

Differences in income are assessed for changes in sale activity. They are caused by a change in the volume of sale (quantitative deviation) and changes in sale prices (qualitative deviation of). The are calculated by the following equations:

$O_q = (Q_{re} - Q_{st}) * M_{st}$ Quantitative deviation

$O_p = (P_{re} - P_{st}) * Qre$ Qualitative deviation

where

M_{st} applies for standard unit margin (when applying the method of variable costs) or the standard average product profit (when applying the full cost). The analysis reveals what are the causes of deviations and who is responsible for them. This difference in revenues is caused by objective changes in sale activity and it is not considered as a breach of obligations.

Monitoring the impact of sales volumes and prices obtained in total sales may be additional supportive information.

A check of revenues and sale prices can be done through the calculation of deviations, e.g. in the structure:

- Qualitative variation – the difference between the budgeted and achieved prices, wages, etc.;
- Quantitative deviation – the difference in of kind indicators, e.g. volume of sale in pieces;
- Product deviation;
- Deviations from savings, market share, the share of overdue receivables;

Using quantified deviations and their structure enables us to assess the impact of individual factors such as the influence of the volume of goods sold and price achieved. The effect of the volume of goods sold can be decomposed to influence of market share and market growth, or follow the development of variable and fixed costs, etc.

$O_q = (Q_{pl} - Q_{re}) * P_{pt}$ Quantitative deviation

$P_p = (P_{pl} - P_{re}) * Q_{re}$ Qualitative deviation

Quantitative deviation: Qnumber = (Qplan.sale – QrealSale) x Ppl

Qualitative deviation: Pprice = (Ppl. – Pre.) x Qreal Sale

Analysing the structure of sales can reveal discounts TM, calculate a mark up

Monitoring the TM 604-504 / 604 TM 601-501/501

A. Differences in stock (kg) can be due to the purchase of products or other material outside of the records, unproven damage (e.g. quality complaints material, machinery, equipment, theft etc.).

B. Differences in revenues expected and actual may be caused by previous reasons, changing the calculation method, change of price, payment method. Thus, there are more risk areas.

C. Possible checks of

   (a) inventory state according to stock cards, continuous; inventory records;

   (b) inventory control, stock cards; delivery notes;

   (c) billing and sales orders, delivery notes;

   (d) material consumption per standard norms or previous experience;

   (e) purchased materials (the possibility of a string of fraud with sales incl. VAT);

(f) risk of overpricing and distribution of margins, profit between merchant and representative of an enterprise: check of buyers and suppliers, cash payments, comparison of the TM and mark-ups;

(g) electricity consumption;

(h) labour time-sheet s;

(i) evidence on dealing with waste.

D. Part of the sales is overpriced; a supplier can divide the difference between the usual and invoiced price and; that usually is assumed by an institution. It means that the fraud may not be revealed by the cash register.
Stocks match, revenues also.

(a) check and billing of sales; sales themselves may not reveal that they are overpriced; prices per piece are arranged by both business partners; a part is sold without an invoice (usually for less, a part is overpriced and planned sales are balanced, so the damage to the company applies not only to goods but also to income tax, VAT is deducted by the whole (part of sales, and business margin is moved to the merchant) to orders.

Analysis by variations

A. Quantitative and qualitative variations

$O_q = (Q_{pl} - Q_{sk}) * P_{pl}$ quantitative variation

$P_p = (P_{pl} - P_{sk}) * Q_{sk}$ qualitative variation

Quantitative variation: $Q_{numbers.} = (Q_{plan.sales} - Q_{real\ sales}) * P_{pl}$

Qualitative variation: $P_{price} = (P_{pl.} - P_{sk.}) * Q_{sk.\ Sales}$

B. Checking the causes of deviations in planned and realised sales and prices

$O_{množ.} = (Q_{plan.sales} - Q_{real\ sales}) * C_{plan.}$

$O_c = (C_{pl.} - C_{real.}) * Q_{real\ sales}$

Q_{pl} … Planned volume of sales

Gross Margin (Trade Margin) and Mark-ups

Trade margin (TM): difference of the sales and purchase price / sale price
A mark-up (MU): difference of the sales and purchase price / purchase price
X modified TM: 601 – 501; 604 – 504 (revenues – costs) and: the proportion of the selected monitored materials according to the quantity or price)

All goods sold revenues of 57,500. In theory, it means:

(a) The difference in a number of sold pieces for planned price of 300 CU is 83 pieces.

(b) Inventory check revealed that the goods were removed from storage both in fact and in accounting, material items in a different stage of treatment did not show any increase; i.e. material balances/balance converted to pieces complies. Waste rate was not recognized higher than standardized.

(c) Entry of discounts provided incl. discounts were checked.

(d) Original TM of 23% a original MU of 30% decreased to 57,500:200´=287.5 287.5 – 231 = 56.5 MU of 24.5% and TM of 19.7%. (56.5:287.5).

(e) Risk for the management: calculation based on reached TM.

Check 100 + – common TM vs. calculated in comparison to the invoiced amount and number of pieces.

Common problems:

(a) Concealment of sales outside an invoice, all goods are sold, but a part of it is sold outside an invoice. This part “stays at store”. If there are no products, material used should be recorded in different parts of production. These products can be written off to rejects, waste or work in progress (unfinished products). A significant reduction in the quality of the purchased material occurs, the number of rejects and waste or both increases. The question why there was even a discrepancy is very suitable. Among these are the unacknowledged discounts between trading partners. Granted in this case, sales tend to be lower, this fact may be reflected in trade margin (TM) TM modified (only 504 for the reference material).

(b) Revenues may also be the same if agreed to by both sides under "special conditions"; such as overpricing sale prices and sharing the difference. However, this falls within the competence of contractor´s management, and the company for which the trader purchases. Here, the TM is more or less unchanged, corresponding to competition and standards.

It is essential to check allowances.

A. Differences in stock (kg) can be due to the purchase of products or other material out of records, unproven damage (e.g. quality complaints material, machinery, equipment, theft etc.)

B. Differences in revenues expected and actual may be caused by previous reasons, changing the calculation method, change of price, payment method. Thus, there are more risk areas.

C. Possible checks of

(a) inventory state according to stock cards, continuous; inventory records;

(b) inventory control, stock cards; delivery notes;

(c) billing and sales orders, delivery notes;

(d) material consumption per standard norms or previous experience;

(e) purchased materials (the possibility of a string of fraud with sales incl. VAT);

(f) risk of overpricing and distribution of margins, profit between merchant and representative of an enterprise: check of buyers and suppliers, cash payments, comparison of the TM and mark-ups;

(g) electricity consumption;

(h) labour time-sheets;

(i) evidence on dealing with waste.

Differences identified by the DMFCA model, which are not due to changes in the production process or approved changes in sale activity is to be seen as an error, therefore, as an unintentional misstatement in the recognition of the relevant transaction (human error), or as an intentional act is committed by one or more people from the management, employees, those charged with governance or third parties, involving the use of deception to obtain an unjust or illegal advantage.

In the second case, it is a fraud committed by the business management of the corporations (enterprise) or by employees (in addition there is a connection with other people within the company or third parties).

The role of the auditor is not to make any legal assessment of whether fraud has actually occurred, but they assess the fraud that causes a material misstatement in the financial statements due to misstatements arising from fraudulent reporting and misstatements arising from misappropriation of assets of corporations.

The auditor obtains audit evidence about the detected errors that can be caused by incorrect valuation of assets, liabilities, costs or revenues, recognizing an incorrect amount to the wrong account, the wrong period or incorrect recognition. If the auditor should obtain evidence that a fraud exists or could exist, they notify the management members as soon as possible. They shall also inform those charged with governance with the appropriate degree of accountability about significant

deficiencies in the design or implementation of internal controls that are intended to detect and prevent fraud. They assess whether there are other matters related to fraud that should be discussed with those in charge. These issues are particularly in the following:

- Concerns about the nature, extent and frequency of the checks in place to prevent and detect fraud committed by the management and the risk of misstatement of the financial statements.
- Failure of the management to address identified material weaknesses in internal control.
- Insufficient attention to identified fraud.
- The auditor's evaluation of the control environment of corporations, including questions regarding the competence and integrity of the management.
- The steps taken by the management that might indicate fraudulent financial reporting such as selection and application of accounting policies and procedures which could indicate an attempt by the management to manage earnings and so deceive the financial statement users by influencing the results and profitability of the corporation.
- Concerns about the adequacy and completeness of the authorization of transactions that appear to be outside of the ordinary activities.
- The detection model allows an auditor to decrease estimated of natural and control risk within planning substantive tests of account balances and reliability of the control system and brings the overall effectiveness of audit activities. Participation in inventory should be highlighted.

3.4.4 Main themes and indicators of fraudulent reporting

Fraudulent behaviour generally tends to bubble up to the surface during recessions rather than in boom times. According to a survey conducted by the KPMG in the Czech Republic called "Fighting Fraud During and after the Financial Crisis" nearly half of respondents in Central and Eastern Europe (48 percent) said that the economic crisis has very much motivated them to invest large sums in strengthening internal controls to manage the risk of fraudulent activity. A little less of the companies surveyed (43 percent) is then convinced that they will strengthen fraud risk management within the following two years.

The nature of investments from respondents vary, the most commonly reported areas, however, include:

- streamline the effectiveness of existing controls (60 percent);
- stronger focus on the prevention of fraudulent activities (58 percent);
- continuous improvement of corporate culture (48 percent);
- detailed analysis of the risk of fraudulent activity (46 percent);
- processing of internal guidelines and procedures to respond quickly and effectively to fraudulent activity (46 percent).

In the Czech Republic, only 44 percent invested in improving the efficiency of existing control mechanisms for managing the risk of fraudulent activity, which is less than the average for the whole of Central and Eastern Europe.

The increase in detection of fraud cases was mostly recorded in sales (64 percent), purchase (41 percent), inventory management (32 percent) and asset management (27 percent). The specific findings for respondents from the Czech Republic revealed a greater increase in the detected fraud of purchase (67 percent) compared to sales (50 percent). The increase of detected fraud is mostly related to the "standard" type of fraudulent activity with which people may encounter in a commercial environment. These include side agreements with trading partners, fraudulent disbursement and abuse of incentive schemes in sale. Theft or leakage of sensitive information were reported as the most commonly detected cases of fraudulent activity by 45 percent of those surveyed. In the Czech Republic, three-quarters of respondents experienced this form of fraud caused by increasing the value of corporate information for other players in the market during difficult economic conditions. In addition, a number of disgruntled employees work in many business corporations due to restructuring, and who would like to seize the opportunity to help the competition. The most common types of fraudulent activities in respect with increased number of revelations during crisis have been a conflict of interest and lateral agreements with business partners, theft or leakage of sensitive information (both 45%), fraudulent disbursement (41 percent) and misuse of incentive schemes in sale (41%). The increase of detected fraud was always responded in particular – all corporations conducted an internal investigation, while many also take steps to manage the risk of fraudulent activity (86%), take appropriate disciplinary action against employees (77%), or assess the losses incurred (77%). Business corporations mostly tackled fraud by formal legal action (59%), a number of them (41%) also used the services of external consultants. Steps, however, differed in each country; in the Czech Republic a reaction to the increase of detected fraud was relatively weak – only half of

business corporations, which met with an increase in fraudulent activity, took any action beyond the examination of the case.

Methods for falsifying financial statements:

- overstatement of income and assets;
- under-reporting expenses and liabilities;
- denial of liabilities;
- incorrect or unlisted accruals transactions;
- mispriced assets.

Falsification of financial statements does not result in direct damage or direct financial benefit to the offender. Its consequence is an indirect benefit, whether in the form of, for example, better credit conditions, higher pay and improved financial position of the corporations. These indirect effects, however, in its consequences, cause heavy losses to companies harmed. Falsification of financial statements are frauds perpetrated by medium and senior management, as only they have access to accounting data, IT. They manage the assets of a business corporations and approve each transaction. It is therefore more difficult to identify and detect such falsification.

The reasons that motivate offenders to falsify financial statements include, in particular an effort:

- to obtain and maintain a favourable credit conditions to meet the criteria set by financial institutions to obtain / extend loans;
- meet the expectations of owners, banks, lenders and financial analysts;
- meet the performance criteria set by the parent company;
- meet the performance criteria for a personal financial reward;
- artificially increase the price of an enterprise in anticipation of its sale, merge and acquisitions;
- create "surplus" profits and move it to the next accounting period;
- to maintain a semblance of continuous economic growth of an enterprise;
- pressure of the management to achieve expected / unreachable goals;
- weak internal control system, absence / low effectiveness of internal controls;

- the inherent limitations of an audit;
- the risk that some material misstatements in the financial statements remain undetected as even the best internal control system may fail;
- fraud as a result of mutual collusion employees, management, third party;
- character of the management and influence to the control environment;
  - the management is motivated to participate in intentional misstatement of the financial statements (a substantial part of the income of the management board includes premium options to choose a reward in the form of shares and other incentives. Their volume is conditioned by achieving unrealistic goals in terms of operating results, financial situation, or cash flows);
  - the management has too much interest in maintaining or increasing share prices, corporations or continued growth trends, which uses unusual accounting practices;
  - the management is committed to analysts, creditors, and other parties that will achieve the forecasted indicators that appear to be clearly unrealistic;
  - the management is interested in the application of inappropriate means to minimize reported earnings for tax purposes;
  - the management does not have, or does not promote proper access to internal control and financial reporting process;
  - the effective management does not promote or support the ethical values of society, or promotes inappropriate ethical values;
  - the management is dominated by one strong personality or a small group of people, which substitutes control activities;
  - the management does not perform proper monitoring controls;
  - the management did not fix serious weaknesses in internal controls in time;
  - the management determines unrealistic financial goals and operations for the staff to apply unrealistic expectations;
  - the management seriously ignores regulatory authorities;
  - the management continues to employ incompetent workers in accounting, information technology and internal audit.

Although the ultimate goal of the audit is not detecting fraud in accounts of personal corporations, by the study of forensic services of the KPMG, an audit belongs to the most commonly implemented measures against fraud, see Table 3.13.

Table 3.13 Percentage distribution of implemented measures against fraud

Measure	**%**
external audit of financial statements	76.1
ethical code	69.9
separate internal audit department	66.4
external audit of reporting	59.3
supervision and management audit	53.3
independent internal audit council	53.2
line for reporting fraud	48.0
incentive program for employees	44.4
training relating to fraud management	41.5
training relating to fraudulent conduct for employees	39.0
comprehensive policy detection, assessment and prevention of fraud	39.0
random audits	28.9
rotation of positions (job rotation)	14.6
Reward for informers	7.4

Source: https://home.kpmg.com/cz/cs/home/pro-media/tiskove-zpravy/2016/06/ty-picky-cesky-podvodnik-forenzni-audit.html

It is always more efficient to prevent fraud than to expect its detection, try to investigate it and claim for damages.

3.5 Risks of the Q DMFCA method

It is obvious that the suggested method is not and is not meant to be as universal. We are aware of weaknesses, things you should know and some of which can be largely eliminated.

Described detailed monitoring of the production and sale hides other administrative requirements, e.g. a stock transfer of residues, rejects and waste at special stores from which are then contracted out according to purpose (sale, disposal, damage). This knowledge, however, belongs to the responsible management activities. Usually, you just know the status of the inventory in physical units and storage cards. A risk factor is the method bookkeeping in selling prices and periodic evidence of inventories and goods.

It cannot be generally stated that the use of the Q DMFC method ensures a quality control mechanism for the use of resources of an enterprise. Difficulties of this method lie in its setting. The main point of quantifying the production of waste is

setting standards and natural technological withdrawals. The deliberate overstatement of these formulas leads to quantify the minimum normative deviations and thus creating waste. It should, however, be recognized, including disposal methods. The balance should be maintained. Another type of fraud that may result from the application of the Q MFCA method is intentional "accounting" production of rejects, which are then sold at a significant discount. This aspect, however, stems from the moral atmosphere in an enterprise and not as a systematic error, as is the case of badly adjusted consumption standards, the frequency of such sales, and the identification of customers which should not bring difficulties.

Accounting in the MFCA results in financial statements and ratios. Even, in cases of producing rejects and material consumption caused by complaints (it could also be pretended).

4 CFEBT, Modified CFEBT

4.1 CFEBT methodology, auditor´s test for detecting manipulation risk (ISA 240, Internal Control System)

The CFEBT model is based on the nature of the warning signals that result from accounting. If an identification of risk and warning signs is restricted to the level of the financial statements of the entity during each accounting period, the area can be divided into several types of risk situation (see also Jones ´book called Creative accounting, Fraud and International accounting scandals or Mathone´s book called Using Analytics to Detect Possible Fraud: Tools and Techniques published in 2013): There is an abnormal increase in turnover (revenue) compared to other operators of a sector or an increase in comparison with the entity between accounting periods.

Also, reporting substandard margins (value added tax) may occur compared with similar entities of a sector or in the sequence of fluctuations in margins in the subject across accounting periods.

There is also a mismatch between cash flow (cash flow) and the profit/loss. For example, there are repeated reporting of negative operating cash flow, while having positive financial results.

These risk areas can be illustrated by examples of the main techniques of manipulation of financial statements to reflect changes in costs, revenues, assets, liabilities and cash flow with a focus on the goal of maximizing the accounting profit and maximizing the value of assets.

- **Techniques to increase revenues:**

Early recognition of revenue, an increase in interest receivables often in the form of contractual penalties, increase revenues representing non-operating profit, reporting loans and advances as income, known as circular trade in the stock.

- **Techniques to decrease revenues:**

Reduction or absence allowances in accounting, known as Big bath, which occur in one accounting period to maximize the reported costs, for example by increasing depreciation or timing of cost and in a subsequent period the cost reduction (increase profit), leaving irrecoverable receivables in the accounts.

– **Techniques to increase assets:**

The increase in accounting value of goodwill. Increase the value of trademarks and other intangible assets, such as circular transactions with assets, particularly in the stock, increase asset value by correction by recognizing technical evaluation of assets.

– **Reduction in liabilities:**

Financing activities outside balancing through other subjects and to recognize such liabilities in the balance sheet; reclassification of debt into equity (capitalization liabilities).

– **Increase in operating cash flow:**

Financial reporting of operating cash increments increased by non-operating cash and minimizing operating cash outflows shifting out of operating cash flow. Considering the perspective of professional scepticism in relation to the assessment of creative accounting, we assume that the accounts of each entity use creative accounting practices to some extent at the level of the statement "many accountings are correct"; concepts such as good, flawless, clear etc. accounting, thereby stemming from its background, it is advisable to treat them as relative. It is not true that creative accounting solutions are always bad; at least most opinions and knowledge practices consider that. Accounting is “full of” qualified estimates of the values of individual accounting items that are in accordance with the timing and the interests of the entity shown in the accounts. In these cases, it is more about the entity's intention and scope of creative methods of accounting adequately to the complex and diverse nature of business transactions.

The CFEBT Model is the model of identification of manipulated financial statements.

This comprehensive study of the problem related to different views and opinions on creative accounting techniques.

The aim is to evaluate and design appropriate models for identifying risk of manipulation of financial statements. The hypothesis, whether there is a significant relation between the loss (VH, i.e. EBT) and the increase in cash flow in five years, was verified, based on the proposed CFEBT model. This hypothesis was verified on the financial statements of entities and case studies respecting a true and fair view of the Czech accounting standards as defined in 5-year accounting periods, compared with intentionally manipulated financial statements of the entity, also in the five-year accounting period.

For the purpose of manipulated financial statement identification beyond the true and fair view of accounting, as defined in general accounting legislation, the following hypothesis was defined: "There is a relation between a profit/loss and an increase in cash flow in five-year period, while maintaining a true and fair view of

the accounts, there is not a significant difference between them in their sum (the CFEBT model)."
After verification of the hypothesis users of financial statements could evaluate the risk of manipulated financial statements in the period of five years.

A suggested test of the risk of manipulated financial statements should help external auditors in auditing the financial statements in particular. External auditors carry audit risk i.e. the risk that they will not issue a corresponding statement about the true and fair view of financial statements. Thus, the test should reduce their audit risk; the auditor can reduce the materiality (significance) when testing, increase range of tests and adjust the timing of tests in case of a high risk of manipulated financial statements. It would also help auditors when assessing the risk of accounting fraud, which are required to be assessed according to the ISA 240 – International Standard on Auditing.

The CFEBT model is based on the hypothesis that there is a significant relation between the loss and the increase in cash flow in five years that the loss and increase cash flow the sum of its value in 5 years with minor variations lead to a similar result. The model has been validated so far on case studies of entities for different variations pursuant of the objectives i.e. profit maximization and maximization of the value of assets, minimize accounting profit and minimizing and maximizing asset value within true and fair view of accounting. Furthermore, the sensitivity has been evaluated to identify the main areas of creative accounting, excessing the current principle. In our opinion, this approach can be applied as one of the tests performed by external auditors in verifying the true and fair view of the entity, also in relation to the application of the ISA 240, which deals with the auditor's responsibilities when detecting fraud in the entity within the verification of the financial statements, significant reduction of audit risk.

For the purpose of verifying the identification model CFEBT, a case study was designed for the business entity (wholesale) in the variants "A" and "C". The entity model "A" at the same conditions applied the techniques of creative accounting (windows dressing) to monitor turnover and maximize asset value. The entity model "C" monitors in compliance with the goal of true and fair view as much as possible.

The CFEBT model is defined as follows:

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

Where:

ΔCF Increase of cash flow in period t

EBT Earnings before taxes in period t

If *CFEBT ≥ materiality*, there is recommended to continue with 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.

In this case, it is necessary to analyse the significant variations between cash flow and accounting loss to evaluate their character. They are evaluated on the level of materiality of individual accounting items, which at the time caused a significant deviations increase or decrease in operating cash flow and accounting profit.

As an example, it is good to know whether those fluctuations are caused by large-scale investments. At the time there was a mismatch between amortization and gains (yields x increase in cash flow). Furthermore, it analyses development risk areas based on accruals: provisioned reserves, transitional assets, accruals in the reference periods.

It is an analysis of areas in order to assess whether the entity has violated a true and fair view of manipulation of financial statements.

The model was created as part of a successful PhD thesis. The results of case studies of accounting entities using this model in terms of identification of the risks of fraudulent reporting were published.

4.2 Case Study – Manipulation with Financial Statements in Five Accounting Periods

The answer to the query if the economic result and cash-flow accrual lead to a similar value during the course of time may be presented on the basis of a simplified case study. For the given accounting unit, in variants A and C, complete accounting was processed for the period of five years, including financial statements, and cash-flow accruals were ascertained in individual periods.

We shall consider an enterprise for the accounting periods in the first to fifth years, with the following prerequisites and accounting transactions:

Amount of the authorized capital – paid-up by bank transfer: CZK 5,200,000.00.

Monetary contribution of CZK 200,000.00, non-monetary contribution: a building of the value amounting to CZK 5,000,000.00 (depreciation plan: in an even rate for 25 years - valuation as per an expert opinion).

Accounting for stocks by B method.

4.2.1 Representation of accounting transactions for variant A (windows dressing, fraud reporting)

- Amount of the authorized capital – paid-up by bank transfer: CZK 5,200,000.00.
- Monetary contribution of CZK 200,000.00, non-monetary contribution: a building of the value amounting to CZK 5,000,000.00 (depreciation plan: in an even rate for 50 years – valuation as per an expert opinion.

Accounting transactions:

- The given accounting unit is engaged in trading activities – sale with a 30% margin, dead stock is sold in the third year at the acquisition cost.
- The accounting unit took a specific bank loan to purchase long-term tangible assets in the amount of CZK 2,000,000.00 with interest of 5% p.m. in the amount of CZK 100,000.00 per year – in the first year, the interest is activated in the entry price of assets before they are placed in usage – the loan is payable at the beginning of the fourth year, interest is paid by bank transfer during the respective years, i.e. from the first to the third years – such assets are depreciated in accordance with the relevant depreciation plan for 25 years in an even rate in the acquisition price amounting to CZK 5,000,000.00.
- In the first year, 2010, of long-term intangible assets, the accounting unit generated a trademark at its own cost as a result of research and development of goods innovation (for the purpose of trading with the same – through the mediation of producers, it becomes a part of goods that are the subject of trade) – the accounting unit does not depreciate such assets, the acquisition price of CZK 600,000.00 = direct wage costs. In the fifth year, the trademark such created was sold for CZK 800,000.00.
- The accounting unit has overdue receivables – 90% of nominal value of receivables is collected in the current period.
- As of the balance day in the second and third years, the accounting units has in stock the low-turnover goods, "dead stock", in the amount of CZK 500,000.00, such dead stock was sold in the fourth year at the acquisition price. Such low-turnover goods originated on account of goods that remained unsold in the first year.
- The accounting unit creates no adjustments for goods.
- In the second year, accounting unit performed a technical revaluation of a structure depreciated for 50 years (as per the account depreciation plan of

the structure) in the amount of CZK 1,000,000.00 – paid by bank transfer in the second year.

- In the first, second and third years, the accounting unit created no accounting reserve for a general overhaul of the building. The overhaul was conducted in the fourth year within the budget planned at CZK 1,500,000.00. Such overhaul was reported by the accounting unit as technical revaluation – modernization of the building.
- In the first year, the accounting unit conducted an overhaul of the building in the amount of CZK 1,000,000.00 – paid by bank transfer in the first year. This overhaul was reported as technical revaluation – reconstruction of the structure.
- The accounting unit did not create an adjustment for the building in the first year – influenced by the above technical revaluation of the structure.
- The accounting unit creates no adjustments for receivables.
- The total monthly personnel costs of the accounting unit amount to CZK 500,000.00 – paid by bank transfer (for simplicity's sake, state health insurance and income tax of natural persons are not analysed).
- Goods purchased during accounting periods in the first, second and third years amount to CZK 24,000.000.00 – paid by bank transfer in the year of procurement, excepting the first year, when a maximum of obligations was paid-up with the view of a lack of funds on the bank account. The sale of goods with the average 30% margin – 90% of receivables collected in the given invoiced accounting period, receivables from the previous period were paid in full in the given accounting period. The closing balance of receivables in the fifth year was not written off for the reason of uncollectibility, regardless the fact that the insolvency proceedings were terminated. The goods purchased during the fourth and fifth accounting periods amounted to CZK 12,000,000.00 (affected by financial crisis). The sale of goods with the average 20% margin – 90% of receivables collected in the given invoiced accounting period, receivables from the previous period were paid in full in the given accounting period.
- Out of free funds, a long-term loan was provided in the amount of CZK 1,000,000.00 with 10% p.m. – the interest paid in individual accounting periods, i.e. in the first, second and third years. The loan was paid off at the beginning of the fourth year.
- The sale of goods with the average 30% margin – 90% of receivables collected in the given invoiced accounting period, receivables from the previous period were paid up in full in the given accounting period.

- Proprietary securities were purchased for the purpose of long-term holding of the same, in the value of CZK 500,000.00; however, for the reason of high appreciation in the period from the first to the fourth year, these were reported by the accounting unit as securities held for trading – during this period, appreciated by 50% from the original value. The accounting unit sold these securities in the fifth year with 20% profit, i.e. the profit was paid in the fifth year along with the nominal value.

- The accounting unit transfers the profit earned in the undistributed profit from previous years.

- In the first, second and third years, the accounting unit creates no accounting reserve. The overhaul is performed in the fourth year in the amount of CZK 1,500,000.00.

- Funds on the bank account acc. to the balance as of 31.12. of the given period bear interest in the interest rate of 2% from the relevant amount.

- For the reason of increase in turnover, the accounting realises a circular trade in liaison with another entity, pursuant to a business collaboration agreement, whereas in the first year, invoices were issued with a 100% margin, and in the third year, a corrective tax document was issued for such margin, and for the fourth and fifth year, a circular operation was conducted in acquisition costs – hence, the turnover increases by 200% for the first and second years, and by 100% for the third, fourth and fifth years. Goods are sold and purchased within the scope of this circular trade in the sum of CZK 24,000,000.00. In the third and fifth years, receivables and payables from this business collaboration were set off reciprocally.

- The accounting unit performs a parking transaction, i.e. a part of goods sold in the value of CZK 500,000.00 is sold in the second year with an increase of a 100% margin for CZK 1,000,000.00 (without consideration). In the fourth year, it re-purchases the goods for CZK 500,000.00 and sells the same to another entity for this acquisition price.

4.2.2 Representation in accounting for variant C

- The accounting unit is engaged in trading activities – sales with a 30% margin, dead stock is sold in the third year at the acquisition cost.

- The accounting unit took a specific bank loan to purchase long-term tangible assets in the amount of CZK 2,000,000.00 with interest of 5% p.m. in the amount of CZK 100,000.00 per year, the loan is payable at the beginning of the fourth year, interest is paid by bank transfer during the respective years, i.e. from the first to the third years - such assets are depreciated in accordance

with the relevant depreciation plan for 5 years in an even rate in the acquisition price amounting to CZK 5,000,000.00.

- In the first year, 2010, of long-term intangible assets, the accounting unit generated a trademark at its own cost as a result of research and development of goods innovation (for the purpose of trading with the same – through the mediation of producers, it becomes a part of goods that are the subject of trade) – depreciation is done for three years in an even rate, acquisition cost CZK 600,000.00 = direct wage costs. In the fifth year, the trademark such created was sold for CZK 800,000.00.
- The accounting unit has overdue receivables – 90% of nominal value of receivables is collected in the current period.
- As of the balance day in the second and third years, the accounting units has in stock the low-turnover goods, "dead stock", in the amount of CZK 500,000.00, such dead stock was sold in the fourth year at the acquisition price. Such low-turnover goods originated on account of goods that remained unsold in the first year.
- The accounting unit creates adjustments in the second year in the amount of 30% of dead stock, i.e. CZK 150,000.00; financial accounts are not manipulated with for a specific purpose.
- In the second year, accounting unit performed a technical revaluation of a structure depreciated for 25 years in the amount of CZK 1,000,000.00 – paid by bank transfer in the second year.
- In the first, second and third years, the accounting unit created an accounting reserve for a general overhaul of the building in the sum of CZK 500,000.00 per year (tax reserve conditions were not met). The overhaul was conducted in the fourth year within the budget planned at CZK 1,500,000.00.
- In the first year, the accounting unit conducted an overhaul of the building in the amount of CZK 1,000,000.00 – paid by bank transfer in the first year.
- The accounting unit created an adjustment for the building in the first year in the amount of CZK 500,000.00 – due to a reduction in the building market value – the adjustment was dissolved in the second year – influenced by the above technical revaluation of the structure.
- The accounting unit creates adjustments for receivables in the amount of 20%.

- The total monthly personnel costs of the accounting unit amount to CZK 500,000.00 – paid by bank transfer (for simplicity's sake, state health insurance and income tax of natural persons are not analysed).

- Goods purchased during accounting periods in the first, second and third years amount to CZK 24,000.000.00 – paid by bank transfer in the year of procurement, excepting the first year, when a maximum of obligations was paid with the view of a lack of funds on the bank account. The sale of goods with the average 30% margin – 90% of receivables collected in the given invoiced accounting period, receivables from the previous period were paid up in full in the given accounting period. The closing balance of receivables in the fifth year was written off for the reason of uncollectibility (the insolvency proceedings were terminated). The goods purchased during the fourth and fifth accounting periods amounted to CZK 12,000,000.00 (affected by financial crisis).

- The sale of goods with the average 20% margin – 90% of receivables collected in the given invoiced accounting period, receivables from the previous period were paid in full in the given accounting period.

- Out of free funds, a long-term loan was provided in the amount of CZK 1,000,000.00 with 10% p.m. – the interest paid in individual accounting periods, i.e. in the first, second and third years. The loan was paid off at the beginning of the fourth year. The sale of goods with the average 30% margin – 90% of receivables collected in the given invoiced accounting period, receivables from the previous period were paid in full in the given accounting period.

- Proprietary securities were purchased for the purpose of long-term holding of the same, in the value of CZK 500,000.00, which the unit resolved to hold in the long term – the accounting unit collected payment in the fifth year with 20% profit, i.e. the profit was paid in the fifth year along with the nominal value.

- The accounting unit transfers the profit earned in the undistributed profit from previous years.

- In the first, second and third years, the accounting unit creates an accounting reserve (conditions for depositing the reserve amount on a bank account were not complied with) for the building general overhaul in the sum of CZK 500,000.00. The overhaul is performed in the fourth year in the amount of CZK 1,500,000.00.

- Funds on the bank account acc. to the balance as of 31.12. of the given period bear interest in the interest rate of 2% from the relevant amount.

- For the purpose of verifying the identification model CFEBT, a case study was designed for the business entity (wholesale) in the variants "A" and "C". The entity model "A" at the same conditions applied the techniques of creative accounting (windows dressing) to monitor turnover and maximize asset value. The entity model "C" monitors in compliance with the goal of true and fair view as much as possible.

If *CFEBT ≥ materiality*, there is a high risk of breaching a true and fair view of the accounts.

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.
Materiality of 5% is considered in this paper.

The table 4.1 below shows the results of a case study designed for an entity operating in wholesale, for a period of five financial years. Entity under similar conditions had different objectives in the value of financial statements.

Option A, represents the financial statements maximizing turnover and assets. Option C´s entity uses all opportunities to maximize the true and fair view of the accounts, including the precautionary principle in the form of provisions and reserves.

Table 4.1 Profit/loss and cash flow increment in five years for the A option

Option A	**1.year**	**2. year**	**3. year**	**4. year**	**5. year**	**∑**
VH (EBT) thous. CZK	30576	31660	-41205	1999	1117	24147
CF thous. CZK	0	2785	6889	1805	3594	15073
Cash	0	2785	9674	11479	15073	

Source: author

*CFEBT = 37.6%...*significantly exceeds materiality, i.e. there is a high risk of manipulated financial statements in terms of Czech accounting regulations

Table 4.2 Profit/loss and cash flow increment in five years for the C option

Option C	**1.year**	**2. year**	**3.year**	**4 year**	**5.year**	**∑**
VH(EBT) thous. CZK	2539	5150	4948	1369	700	14706
CF thous. CZK	0	2785	6889	1805	3594	15073
Cash	0	2785	9674	11479	15073	

Source: author

Table 4.2 shows = 2.5%...does not amount to the value of materiality, i.e. there is a low probability of manipulation of financial statements in terms of Czech accounting regulations.

Intentionally prepared accounting transactions for accounting units under similar conditions, i.e. in conditions of Czech accounting regulations confirmed the model hypothesis. Thus, there is a significant relation between the accounting results and increase of cash flow in the longer term (5 years).

For the financial statements compiled for variants A and C for the 1st to 5th year period, see supplements no.1 to no.4. The statements were made according to formal Czech accounting regulations valid till December 31,2015.

4.2.3 Comparison of results between CFEBT and Beneish Model

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. In many respects, it resembles the Altman Z score, but is optimized for the detection of profit manipulation more than bankruptcy.
The following variables are employed:

1. DSRI – Days' sales in receivable index in the t and t-1 period.
2. GMI – Gross margin index as the ratio of gross margin and sales in the t and t-1.
3. AQI – Asset quality index.
4. SGI – Sales growth index.
5. DEPI – Depreciation index.
6. SGAI – Sales and general and administrative expenses index.
7. LVGI – Leverage index of total debts to total assets in the t and t-1.
8. TATA – Total accruals to total assets in the t-period.

M-score of less than −2.22 indicates that a company have 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).

Data processed by the above case study was verified in the Beneish Model for the accounting period 1 and 2 for option A and option C.

Table 4.3 M-score, option A for the 1st and 2nd year

M-score for Media Vision		
The Full Beneish Model for earnings manipulation detection		
(Based on Eight Variables)		
Input variables	**1st year**	**2nd year**
Net Sales	78550	80200
Gross costs of Sales	47500	48944
Net Receivables	51055	100120
Current Assets (CA)	52305	104405
PPE(Net)	64681	117437
Depreciation	324	668
Total Assets	65005	118105
SGA Expense	500	500
Net Income (before taxes)	30576	31661
Cash flow from operations	0	2785
Current Liabilities	26905	48000
Long-term Debt	2000	2000

Source: Beneish Model, author

Table 4.4 M-score calculation, option A, in the 1st and 2nd year

DERIVED VARIABLES		**1st year**:	**2nd year**:
Other L/T Assets [TA-(CA+PPE)]		-51981	-103737
DSRI		0,521	
GMI		0,986	
AQI		0,910	
SGI		0,979	
DEPI		1,135	
SGAI		1,021	
Total Accruals/TA		0,470	
LVGI		1,050	

Source: Beneish Model, author

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

M-score	
(8-variable model)	–0,83

Note: M > –2.22, firm is likely to be a manipulator

Table 4.4 revealed that an entity that pursues the objective of manipulating financial statements amounted to an M-score 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 regulations.

Table 4.5 revealed the financial data from the financial statements of a unit in the 1st and 2.year for option C.

Table 4.5 M-score, option C, in the 1st and 2nd year

M-score for Media Vision		
The Full Beneish Model for earnings manipulation detection		
(Based on Eight Variables)		
Input variables	**1.year**	**2. year**
Net Sales	30550	31200
Gross costs of Sales	28711	26205
Net Receivables	2444	2496
Current Assets (CA)	3555	6405
PPE(Net)	13144	15889
Depreciation	1400	1442
Total Assets	15655	19505
SGA Expense	500	500
Net Income(before taxes)	2539	5150
Cash flow from operations	0	2785
Current Liabilities	2905	0
Long-term Debt	2500	3000

Source: Beneish Model, author

Table 4.6 M-score calculation, option C, in the 1st and 2nd year

DERIVED VARIABLES		1. **year**	2. **year**
Other L/T Assets [TA-(CA+PPE)]		-1044	-2789
DSRI		1,000	
GMI		2,660	
AQI		0,466	
SGI		0,979	
DEPI		0,864	
SGAI		1,021	
Total Accruals/TA		0,162	
LVGI		2,245	

Source: Beneish Model, author

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

M-score (8-variable model)	–2,26

Note: M > –2.22, firm is likely to be a manipulator

Table 4.6 revealed that the entity that pursues the objective of achieving a true and fair view of the financial statements amounted 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 1nd year, in conditions of Czech accounting regulations.

Essentially, financial statements must give a fair and true presentation to be employed in the corporate management and reporting checks. For most interest groups, accounting data remain one of the fundamental sources of information about companies. Accordingly, every interest group is bound to expect different values to fulfil its respective objectives. The accounting legislation must, therefore, define certain limits of application of various accounting methods and procedures as used by accounting units to represent their intentions. Such objectives, along with required values, are, as a rule, motivated in the particular approach to the ratings of companies. The search for the most fitting representation of company ratings by the form of a mathematical apparatus, decomposition of indicators and its subsequent usage on the basis of rather implausible numbers may not always bring with it a required accurate result.

Our paper is concerned with the query, "how manipulated financial statement may be identified, or, as the case may be, if it is possible to recognize manipulated financial statements". This query, if answered, would considerably facilitate the position of not only financial statement users, but in particular, that of auditors, i.e. independent and professionally competent persons whose task is to enhance trust of users in financial statements.

The identification model CFEBT was designed to accommodate such a purpose, which model is based on the hypothesis maintaining that there is a close relation between the accounting economic result and cash-flow accrual in the period of five years. The hypothesis was verified by the case study within the designed model CFEBT. Accounting and financial statements of an accounting unit in variant C was analysed, respecting a true and fair representation as defined by Czech accounting standards, for five accounting periods, in comparison with variant A, which included financial statements intentionally manipulated in pursuit of maximization of turnover and assets, for the identical accounting unit, and for five accounting

units. Furthermore, our contribution verifies resulting accounting data of this case study in the Beneish Model for the first and second years of variants A and C.

Results of data analysed in the CFEBT model revealed that if an accounting unit adheres to a true and fair representation of its accounting in the context of Czech accounting standards, this representation, in the aggregate of accounting economic results and aggregate of cash-flow accruals for five years, should not deviate from the determined limit of significance level for the given accounting unit (5–10%). Should such a deviation occur, the accounting unit ought to give a reliable explanation as to this discrepancy; contrariwise, its financial statements show a high rate of risk of manipulation in time.

The case study results for variants A and C as obtained in the CFEBT model in the first and second years were compared to the M-score of the Beneish Model. The former was designed to identify risks of profit manipulation by Professor Messod Daniel Beneish, of Indiana University in Bloomington, for the accounting environment in the USA. Similarly, this model proved for the first and second years of variant A that in the context of Czech accounting standards, this model managed to identify financial statements with a risk of manipulation, and variant C considered without a risk of manipulation. However, the Beneish Model is based on an entirely different approach to manipulation with financial statements, mainly as regards risk motives that might have forced the accounting unit to manipulate its profit, or did force the accounting unit to do so. We believe that the suggested model CFEBT may be used by auditors for testing financial statements as a detailed test on the basis of which a risk of an accounting fraud may be identified, and moreover, it may be applied by all users of financial statements who are to consider the issue of reliability of financial statements submitted to them.

Hypothetically, if the accounting entity does not respect the true and fair view of accounting just by intentionally not displaying costs representing only the costs without the impact on cash flow (e.g., it does not create corrections or accounting reserves) during more accounting periods, it is possible to observe a disbalance between the management result and cash flow formation.

Nevertheless, if the observed period for the CFEBT score calculation covers the whole period of non-created corrections up to the point of collection of the reduced selling price of risk reserves or the period of non-created reserve to costs up to the implementation of the future liability cost, the explanatory capacity of the selected approach, a disbalance is tracked as late as in the 2nd stage of the CFEBT score detailed test.

4.3 Case study – model in terms of Czech accounting standards 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 provided within the Czech accounting standards for six accounting periods between 2008 and 2013 are available and at the same time the corporation´s liquidation took place in the year after the analysed period, i.e. in 2014.

In order to find answers to defined questions, a case study of an accounting entity, which is risky in terms of the financial health, was designed. The entity´s liquidation took place immediately after the period of the research. Also, the entity was in loss of more than five million CZK. The financial statements of the sample entity were subjected to an analysis of different models in order to evaluate the possibility of users (auditors) to detect the risk of accounting fraud and the manipulation of financial statements beyond the true and fair view of accounting.

4.3.1 CFEBT model – results in terms of Czech accounting standards and IFRS

Table 4.7 contains the results of detecting manipulation risk in the financial statements through the CFEBT model in the accounting periods of 2008 to 2013. It was high above the materiality of the separate assessment of years 2008 to 2013, and the CFEBT revealed high levels above the materiality in CF and EBT accruals in the years of 2010 to 2012.

Table 4.7 Assessing the risks of manipulation of financial statements by the CFEBT model

	2008	2009	2010	2011	2012	2013	Sum
VH (EBT) in thous. CZK	–7547	–8935	–5979	–4752	–1776	–8502	–37491
CF Accrual in thous. CZK	136	–91	6738	1065	–2251	–1727	3734
CF in thous. CZK	136	45	6783	7848	5597	3870	24279

Source: author

The analysis of the accruals development in different accounting periods between 2008 and 2013 revealed two possible tendencies of financial statement manipulation. During these six reporting periods, the entity reported negative accounting loss from its activities in a total amount of EBT amounting to -37.491 million CZK and in the same reporting period, the increase in the amount of 3.734 million CZK was revealed. After calculating the value of the CFEBT model, it represents 110% of the value thus well above consideration materiality 5–10%.

In cases where an entity's financial statements are manipulated, two basic ways of manipulation are obvious. The first line reports manipulation with the profit/loss – undervaluation of the profit (overvaluation of the loss). In the second line, an entity manipulated its cash flow, which is not reflected in the profit and it overvalued the reported cash flow.

The reasons for this discrepancy may be defined in the context of both the accounting system of International Financial Reporting Standards (IFRS) and Czech accounting standards (CAS) so that in the period:

- The costs reported in the period are not reflected as expenses in particular, the reported cost of the risk to be borne by an entity in future periods as accounting allowances and reserves. The case of manipulated financial statements may potentially lead to overvaluation of costs using techniques of creative accounting using methods such as Big bath, tax optimization, artificial costs without implementation costs, formally recognized contractual penalties (earning management);

- Revenues were not reported to the created cash flow within the true and fair view of the accounts because it does not meet the criteria for revenue reporting or the CASs, for example, because of advanced payments of unvoiced unrealized supply of work in progress. In case of manipulated accounts, revenues were potentially undervalued , for example, by mispricing or by not-recognized orders, (earning management);

- Increased cash flow by maximizing the operating cash inflows or minimizing operating cash outflows.

To evaluate the risk of manipulation of financial statements beyond the true and fair presentation of financial accounting statements prepared in accordance with IFRS or CAS, it is necessary to analyse the development of risk items above mentioned guidelines of the discrepancy between development and cash flow items reported in the financial statements. Accounting expert or an auditor then evaluates whether the deviation of the reported values can be considered as the inherent risk of the accounting system or as some risk of manipulation of accounting statements beyond the legislative rules.

Based on an analysis of costs and revenue items and their links to increase the production of cash flow of an entity in the period from 2008 to 2013 on the condition of the true and fair view of accounting, risk items were identified in order to find potential manipulation leading to an undervaluation of profits and overvaluation of reported losses. Subsequently, they were adjusted for these material differences in accounting items, which caused a diversion of development of the EBT and growth of CF in the context of true and fair view of accounting;

the CFEBT values were modified so that the modified CFEBT could be calculated. The resulting value of the modified CFEBT was reduced to 21%.

This result has implications for legislation of the country. In legislative terms for the Czech Republic, especially for auditors, it means to assess the risk of accounting fraud and its response to perceived risk, particularly, of ISA 240, act no 253/2008 Coll. on money laundering and terrorist financing (the "Act against money laundering") and Act 40/2009 Coll. of the Criminal Code.

Table 4.7 above presents various adjustments to the calculation of the CFEBT that emerged from the analysis of financial statements and the development of cash flow over the period.

4.3.2 Risk analysis in modified CFEBT model in terms of Czech accounting standards and IFRS

Table 4.8 Modified CFEBT – analysis of significant items

Adjusting the CFEBT for significant items of the financial period 2008–2013	
∑ EBT before adjustment	–37491
overvaluation of the accounting loss (undervaluation of the EBT):	
Change in reserves and allowances	3011
depreciation (extreme assumption of zero-option income in the period)	1249
modified EBT	**–33231**
increased CF before adjustment	3734
overvaluation of increased CF:	
Reserves	0
increase in short-term trade payables	–19803
increase in liabilities to controlled and managed persons	–24083
change of advance payments received	0
modified increase of CF	–40152
CFEBT after modification	**21**

Source: author

By Table 4.8, the value of the modified CFEBT was significantly reduced from 110% to 21%, but it remains above the considered materiality of a deviation.

On the basis of the analysis of cost and return entries and their relations to the formation of the accruement of cash flow of the chosen financial entity during the period 2008–2013, with an assumption of keeping a true and fair view of accounting, risk entries were identified with the aim of finding potential manipulations leading to profit underestimation or overestimation of the shown accounting loss. Subsequently, the accounting entries which caused the deviation in EBT development and cash flow accumulation within a true and fair view of accounting were adjusted by these material differences.

Table 4.10 presents the modified values of the CFEBT model from which the new modified CFEBT score is calculated. This way the resulting value of modified CFEBT was lowered to 21%.

Increased risk of manipulation of financial statements for users of financial statements can therefore be considered beyond the true and fair view. Users of financial statements who need to decide about the credibility of financial statements in terms of CAS can be advised to perform a more detailed analysis of risk items within the accounting and taking into account the specifics defined by the true and fair view of the accounts of the national accounting systems.

These detailed tests can be performed by a professionally qualified user of accounts who wants to decide about the development of the company's financial health, as part of the introduction of an anti-fraud program into their internal control systems based on the submitted financial statements. The group of professionally qualified users include internal or external auditors, owners, those charged with governance (Corporate Governance) or stakeholders of public administration and control offices. Information about the risk of manipulation of financial statements may not only improve the effectiveness of internal control systems of the subject, but also reduce the information asymmetry between owners and those charged with management of an enterprise.

Based on the results of the analysis of individual models, the author can conclude that it is appropriate to use a combination of several models for the detection of manipulation in the financial statements. Based on their results it is possible to identify risk points, reverse reaction in the financial statements or accounting (if you are a user who has access to the records) and to carry out detailed tests to obtain assurance that no manipulation occurred. 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 for more accounting periods (optimally in five years) and analyses the links between cash flow and profit. The paper also presents a modified version of this model, which is the result of identifying risk factors that emerged from the development of discrepancies in cash flow and profit. 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.

We believe that the suggested CFEBT model may be used by auditors to identify risks of accounting fraud of in accordance with ISA 240 or by any user accounts for testing financial statements. Its modified version may be used as a detailed test for auditors to identify risk; particularly in application of the audit judgement in assessing audit risk, in audit planning and in testing different items in the financial statements.

4.4 Case study – the CFEBT model as a part of the internal control system of the entity

The following case study analyses selected models of the detection of manipulated financial statements as a possibility to reduce the risk of accounting fraud and use as part of an internal control system of an entity or as a management tool for corporate governance or internal auditors. A risk analysis was performed on 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 selected accounting unit. The given the entity was processed using a case study for the period of five years. Also, the entity had a profit of more than seven million CZK and does business in the service sector. The financial statements of the sample entity were subjected to an analysis of different models in order to evaluate the possibility of users (auditors) to detect the risk of accounting fraud and the manipulation of financial statements beyond the true and fair view of accounting.

4.4.1 The CFEBT score

Table 4.9 EBT and CF Accrual in the years 2009–2013

	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 before modification (adjustment)	x	x	x	x	x	**43%**

Source: author

Table 4.9 contains 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, thus well above consideration materiality 5–10.

The reasons for this discrepancy may be defined in the context of both the accounting system of International Financial Reporting Standards (IFRS) and Czech accounting standards (CAS) so that in the period:

(a) Increased cash flow by maximizing the operating cash inflows or minimizing operating cash outflows.

(b) Revenues were not reported to the created cash flow within the true and fair view of the accounts because it does not meet the criteria for revenue reporting or the CAS's, for example, because of advanced

payments of unvoiced unrealized supply of work in progress. In case of manipulated accounts revenues were potentially undervalued for example by mispricing or by not-recognized orders (earning management).

(c) The costs reported in the period are not reflected as expenses in particular, the reported cost of the risk to be borne by an entity in future periods as accounting allowances and reserves. The case of manipulated financial statements may potentially lead to overvaluation of costs using techniques of creative accounting using methods as Big bath, tax optimization, artificial costs without implementation costs or formally recognized contractual penalties (earning management).

To evaluate the risk of manipulation of financial statements beyond the true and fair presentation of financial accounting statements prepared in accordance with IFRS or CAS, 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. We will focus on the adjustment EBT in the analysis accounting items of the financial statements in the years 2009–2013.

Table 4.10 Modified CFEBT – analysis of significant items in the years 2009–2013

Adjusting the CFEBT for significant items of the financial period 2009–2013	**mil. CZK**
∑ EBT before adjustment	**47138**
EBT modifications:	
Costs: ∑ depreciation + +	17732
Costs: changes in accounting provisions and reserves + + / - -	-829
Change in receivables of the period + - / - +	10295
∑ Increase (decrease) CF from investment activities - - / + +	-14867
Change in liabilities representing the costs + + / - -	-276
Change in stocks + - / - +	169
Change in received credits and loans + + / - -	-72
∑ Dividends paid - -	-34106
∑ Modified EBT	**25184**
∑△ CF increases of the period	**26799**
CFEBT after modification	**6%**

Source: author

In Table 4.10, the value of the modified CFEBT was significantly reduced from 43% to 6%, so it fulfils the considered materiality for fair and true view of financial statements. Increased risk of manipulation of financial statements for users of financial statements can therefore be considered beyond the true and fair view. 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 taking into account the specifics defined by the true and fair view of the accounts of the national accounting systems.

The adjustments for EBT modification and cash flow accruement are based on the original hypothesis of the CFEBT approach and adjustments by material entries of cost and return without an impact on cash flow including the cash fow changes not representing the cost and return.

4.4.2 The Beneish model

In Table 4.11 bellow are identified the fraud indicators of the Beneish model between years 2008–2014.

Table 4.11 Assessing the fraud indicators of the Beneish model

DERIVED VARIABLES	FRAUD INDICATOR	2014 / 2013	2013 / 2012	2012 / 2011	2011 / 2010	2010 / 2009	2009 / 2008
Other L/T Assets [TA-(CA+PPE)]		0	842	195	173	117	49
DSRI	**≥1,465**	1,026	1,226	1,104	0,322	0,922	***1,889***
GMI	**≥1,193**	-0,032	-23,819	0,993	1,019	0,998	0,993
AQI	**≥1,254**	0,000	***4,397***	1,135	***1,485***	***2,357***	0,922
SGI	**≥1,607**	1,049	0,899	0,962	0,921	0,947	0,918
DEPI	**≥1,077**	1,031	1,189	0,966	0,949	***1,458***	0,917
SGAI	**≤1,041**	***0,945***	***0,980***	***1,008***	***0,991***	***0,907***	1,110
Total Accruals/TA	**≥0,031**	-0,094	-0,098	-0,098	-0,097	-0,069	-0,166
LVGI	**≥1,111**	***1,900***	0,966	0,948	0,929	***1,122***	1,024

Source: author

The results can be assessed in details using the Beneish indices – fraud indicator (Bell, 2009):

- Asset Quality Index (AQI): ≥1.254 Improper capitalization of expenses.
- Days Sales in Receivable Index (DSRI): ≥1.465 Asset overstatement: inflating the value of receivables.
- Depreciation Index (DEPI): ≥1.077 Earning manipulation: inflating the useful life of assets and increasing income
- Gross Margin Index (GMI): ≥1.193 Economic difficulty.
- Leverage Index (LVGI): ≥1.111 Earning manipulation.

- Sales General & Administrative Expense Index (SGAI): ≤1.041 Earning manipulation.
- Sales Growth Index (SGI): ≥1.607 Revenue recognition: fictitious revenue.
- Total Accruals (TATA): ≥0.031 Revenue recognition

Although there are identified fraud indicators: Asset quality index (AQI) in years 2010, 2011, 2013 and Sales and general and administrative expenses index (SGI) in years 2009–2013 and Leverage index (LVGI) in 2014, overall result M-score evaluates low motivation to manipulate earnings.

Thus it can be assumed that profit manipulation and incorrect capitalization of expenses do not cause any significant deformities of the complete picture of accounting statements.

Table 4.12 Assessing risks of manipulation of financial statements by the M-Score

	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

Source: author

Table 4.12 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.

4.4.3 Jones Non-discretionary Accruals

Table 4.13 bellow shows the results of Jones´ Non-discretionary Accruals. The low risk of the manipulation of financial statements are indicated in years 2009, 2010, 2011 and 2012. The high risk of fluctuation of discretionary expenditure is identified only in year 2013. It was caused by the increase in total assets of about 29,057 mil. CZK and merger of the other business corporations.

Table 4.13 Assessing the risks of manipulation of financial statements by Jones' Non discretionary Accruals

Accounting item	**2009**	**2010**	**2011**	**2012**	**2013**
Total assets	32871	3297	33158	3294	32351
Revenue	30417	28820	26549	25533	25140
Property, plant, equipment	11519	12098	11792	11121	10323
Jones ´analysis	X	-0,02958	-0,05273	-0,29576	96,44417
Result		**low risk**	**low risk**	**low risk**	**high risk**

Source: author

These detailed tests can be performed by a professionally qualified user of accounts who wants to decide on the development of the company's financial health, as part of the introduction of an anti-fraud program into their internal control systems based on the submitted financial statements. The group of professionally qualified users includes internal or external auditors, owners, those charged with governance (Corporate Governance) or stakeholders of public administration and control offices. Information about the risk of manipulation of financial statements may not only improve the effectiveness of internal control systems of the subject, but also reduce the information asymmetry between owners and those charged with the management of an enterprise.

In addition, the user should take into account the possibility of manipulation with various accounting items when deciding on the basis of the previously mentioned models. In our opinion, it is necessary for any user of the accounts to take this risk into account when deciding. The group of users includes internal or external auditors, the owners, banks or other institutions, and the managers of Corporate Governance and everyone whose decisions regarding the outcome of accounting is dependent on the quality of the accounting data in the financial statements.

Based on their results, it is possible to identify risk points, reverse reaction in the financial statements or accounting (if you are a user who has access to the records) and to carry out detailed tests to obtain assurance that no manipulation occurred. 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 for more accounting periods (optimally in five years) and analyses the links between cash flow and profit. The paper also presents a modified version of this model, which is the result of identifying risk factors that emerged from the development of discrepancies in cash flow and profit. 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.

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 application of the audit judgement in assessing audit risk, in audit planning and in testing different items in the financial statements. It is appropriate to complement the CFEBT model with other models of M-score for testing the motivation of financial statements manipulation and the Jones' Non-discretionary Accruals models for testing the fluctuations in accruals.

Conclusion

There are some significant reasons why to deal with the problem of manipulation of financial statements. It´s a current problem in relation to changing situation is that the misinterpretation of information by entities continues; unfinished process of identifying the measures, the need to develop other approaches and models. There is no line between creativity and fraud; different assessment measures. Fraud has been increasing. The assessment of enterprises is based on submitted financial statements. Different ratios applied to bankruptcy and financial value models are calculated in relation to financial statements data. It is important to be aware of the situation and to consider it when deciding that the outcome can be significantly different regarding the time and in relation to the hypotheses of the relationship between the profit/loss increase and the cash flow. It´s very important to reduce audit risk for auditors according to international auditors standard ISA 240.

The problem is that accounting errors and fraud are common phenomena with a wide impact on finance, tax, management and ethics. Increasing loss and damage caused by wrong accounting data and information can be seen. Accounting fraud may report figures improving but also worsening an enterprise´s image. An enterprise is damaged by the management (50%) and employees (30%) mostly.

Hidden and induced costs and fraud must be added. Indicating a solution for accounting fraud takes place in different ways, requiring different requirements. The aim of this study was to generally present the methods of indication. Within the development of method, two methods that can assist in the indication of accounting fraud were discussed: the method of Quick-Detection Fraud Cost Accounting (Q-DMFCA). The model is based on environmental accounting and creative accounting. The model has a structure composed of balance in material, energy, finance and legal areas. Then the model was applied in ratios of a small enterprise with proven fraudulent activity and in the standards of a generally large manufacturing enterprise with custom manufacturing. In both cases, it was found that the model could be usefully employed both to detect possible fraud and for quality control of production, and waste handling.

The change in mark-ups, provision of samples above the limit, unjustified credit notes and other high-risk situations can be identified.

Strengths and weaknesses of the model were identified.

The next steps are planned in the following areas:

- Development of methods for following the breakdown of sales figures, controlling operations.
- Identification of defect detection balances.
- Comparison of processes and outcomes with the Beneish Model.
- Calculation method on real data from fraudulent data, unacknowledged sold quarterly production.
- Evaluate opportunities to test sales, margins and inventory in the audit procedures, including the ISA 240 and other.
- Further development of methods in comparison with the standard costs, time comparison, competitive data, benchmarking, and business objectives.

The Q-DMFCA application is related to the audit process.

The CFEBT method is based on an assumption that in five years a fraud would project into the cash-flow. It is necessary to enable users of financial statements to assess the risk of manipulated financial statements in the period of 5 years. The CFEBT model was designed to test the risk of flawed financial statements, which should help external auditors in auditing the financial statements, to carry the audit risk i.e. the risk not to issue a true and fair accounts of the corresponding statement. This test should reduce the audit risk.The auditor, in case of finding financial statement with high risk of manipulation, can reduce the materiality (significance) of testing, increase the range of tests and adjust the timing of tests. It could also help in assessing risks to auditors dealing with accounting fraud; they are required to judge according to the International Standard on Auditing ISA 240. In this case 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 application of the audit judgement in assessing audit risk, in audit planning and in testing different items in the financial statements. It is appropriate to complement the CFEBT model with other models of M-score for testing the motivation of financial statements manipulation and the Jones' Non-discretionary Accruals models for testing the fluctuations in accruals as a part of the internal control system of the entity.

The CFEBT approach 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.

Abstract

The quality of reported accounting data as well as the quality and behaviour of their users finally influences the efficiency of an enterprise´s management. Its assessment could therefore be changed as well. To identify creative accounting and fraud, several methods and tools are used. We present our proposal of the balance mode Q-DMFCA (Quick Detection Model (Material) Flow (Fraud) Cost Accounting) based on environmental accounting and MFCA (Material Flow Cost Accounting) as its method.

The following balance areas are included: material, financial and legislative. Using the SWOT analysis, the strengths and weaknesses of the model were assessed based on its possible use within a production and business company, or firm. Its possible usage for the detection of some creative accounting techniques was also assessed.

The model is further developed for its specific use in practice and theoretical aspects of risk are processed as a quick test without the need for mathematical tools.

The next possibility of how to identify some methods of creative accounting is the CFEBT model. The identification model CFEBT was based on the hypothesis maintaining that there is a close relationship between the economic result of accounting and cash-flow accrual in a period of five years. Results of data analysed in the CFEBT model revealed that if an accounting entity adheres to a true and fair representation of its accounting in the context of Czech accounting standards, then it is not identified as creative accounting. This paper, in the aggregate of accounting economic results and aggregate of cash-flow accruals for five years, should not deviate from the determined limit of significance level (materiality) for the given accounting unit (5 to 10%). The testing hypothesis of the CFEBT model assesses whether there is a close relation of a loss and an increase in the cash flow in 5 year's time; whether the sum of the amounts for 5 year's time would reveal the same results respectively. We believe that the CFEBT model may be used by auditors for testing financial statements as a detailed test on the basis of which the risk of an accounting fraud may be identified. Moreover, it may be applied by all users of financial statements who are to consider the issue of reliability of financial statements submitted to them.

Keywords: creative accounting, fraud in accounting, MFCA, the Quick Model of Fraud Detection, DMFCA model, the CFEBT model, financial statements, fair and true view of accounting

JEL classification: M 41 M 42

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List of Tables

List of Supplements

Supplement no. 1

PROFIT/LOSS ACCOUNT (thous. CZC)

Variant A

0

		Profit/Loss Account	Year 1	Year 2	Year 3	Year 4	Year 5
I.		Revenue from the sale of own products and services	78.550	80.200	7.200	39.400	38.400
		Expenses on sold goods	47.500	48.000	48.000	37.000	36.000
+		*Business margin*	*31.050*	*32.200*	*-40.800*	*2.400*	*2.400*
II.		Revenue from the sale of own products and services	*600*	*0*	*0*	*0*	*0*
		Production consuption	*0*	*0*	*0*	*0*	*0*
	1.	Consuption of material and energy					
	2.	Services	*31.650*	*32.200*	*-40.800*	*2.400*	*2.400*
		Personal expenses	*1.100*	*500*	*500*	*500*	*500*
	1.	Wages and salaries	1.100	500	500	500	500
	2.	Social security and healt insurance expenses					
	3.	Other expenses					
		Taxes and fees					
		Depreciation	324	345	345	376	376
III.		Revenue from disposals of fixed assets	0	0	0	0	800
III.	1.	Revenue from fixed assets					800
III.	2.	Revenue from disposals of materials					
		Net book value of sold fixed assets and material	0	0	0	0	600
	1.	Net book value of sold fixed assets	0	0	0	0	600
	2.	Net book value of sold material					
	IV.	Changes in inventory and reversal of operating items and comprehensive deferred expenses					
	V.1.	Other operating revenue					
	V.2.	Other operating expenses					
*		**Operating profit/loss**	**30.226**	**31.355**	**-41.645**	**1.524**	**1.724**
VI.		Revenue from long term financial assets - shares	0	0	0	0	600
VII.		Costs related to long-term financial assets and costs spent for sold shares	0	0	0	0	500
IX.		Value adjustments: revenue from adjustments of shares and derivates	250	250	250	250	

Supplement no. 1

PROFIT/LOSS ACCOUNT (thous. CZC)

Variant A

0

	Profit/Loss Account	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	Value adjustments: expenses from adjustments of shares and derivates					1.000
X.	Interest revenue	100	155	290	225	293
	Interest expenses		100	100		
*	**Profit/Loss from financial operations**	**350**	**305**	**440**	**475**	**-607**
**	**Profit/Loss of current accounting period**	**30.576**	**31.660**	**-41.205**	**1.999**	**1.117**

Supplement no. 2

PROFIT/LOSS ACCOUNT (thous. CZC)

Variant C

0

		Profit/Loss Account	Year 1	Year 2	Year 3	Year 4	Year 5
I.		Revenue from the sale of own products and services	31.150	31.200	31.200	14.900	14.400
		Expenses on sold goods	25.600	24.500	24.000	12.500	12.000
+		*Business margin*	*5.550*	*6.700*	*7.200*	*2.400*	*2.400*
II.		Revenue from the sale of own products and services					
		Production consuption	*0*	*0*	*0*	*1.500*	*0*
	1.	Consuption of material and energy					
	2.	Services	*0*	*0*	*0*	*1.500*	*0*
		Personal expenses	*0*	*0*	*500*	*500*	*500*
	1.	Wages and salaries					
	2.	Social security and healt insurance expenses					
	3.	Other expenses					
		Taxes and fees					
		Depreciation	0	0	1.442	1.242	1.242
III.		Revenue from disposals of fixed assets	0	0	0	0	800
III.	1.	Revenue from fixed assets					800
III.	2.	Revenue from disposals of materials					
		Net book value of sold fixed assets and material	0	0	0	0	0
	1.	Net book value of sold fixed assets					
	2.	Net book value of sold material					
	IV.	Changes in inventory and reversal of operating items and comprehensive deferred expenses	0	0	500	-1.986	-288
	V.1.	Other operating revenue	3.011	1.605	0	0	1.440
	V.2.	Other operating expenses					
*		**Operating profit/loss**	**2.539**	**5.095**	**4.758**	**1.144**	**306**
VI.		Revenue from long term financial assets - shares	0	0	0	0	600
VII.		Costs related to long-term financial assets and costs spent for sold shares	0	0	0	0	500
IX.		Value adjustments: revenue from adjustments of shares and derivates					

	PROFIT/LOSS ACCOUNT (thous. CZC)			**Supplement no. 2 Variant C**		
		0				
	Profit/Loss Account	**Year**	**Year**	**Year**	**Year**	**Year**
		1	**2**	**3**	**4**	**5**
	Value adjustments: expenses from adjustments of shares and derivates					
X.	Interest revenue	100	155	290	225	294
	Interest expenses	100	100	100	0	0
*	**Profit/Loss from financial operations**	**0**	**55**	**190**	**225**	**394**
**	**Profit/Loss of current accounting period**	**2.539**	**5.150**	**4.948**	**1.369**	**700**

Supplement no. 3

Balance sheet (in thousand Czech Crowns)

variant A

			Accoutting period (Netto)				
			Year	Year	Year	Year	Year
			1	2	3	4	5
		TOTAL ASSETS	**64.681**	**117.436**	**52.231**	**76.230**	**29.348**
A.		**Receivables from subscriptions**					
B.		**Fixed assets**	**12.376**	**13.031**	**12.687**	**12.811**	**11.835**
B.	*I.*	*Intagible fixed assets*	*600*	*600*	*600*	*600*	*0*
		Research and development	600	600	600	600	0
B.	*II.*	*Tangible fixed assets*	*10.776*	*11.431*	*11.087*	*12.211*	*11.835*
B.	II.	Lands					
		Constrictions	5.880	6.740	6.599	7.927	7.755
		Equipment	4.896	4.691	4.488	4.284	4.080
B.	*III.*	*Long-term financial assets*	*1.000*	*1.000*	*1.000*	*0*	*0*
B.	III.	Shares – controlled and controlling organizations					
		Other financial investments	1.000	1.000	1.000	0	0
C.		**Current assets**	**52.305**	**104.405**	**39.544**	**63.419**	**17.513**
C.	*I.*	*Inventory*	*500*	*500*	*500*	*0*	*0*
C.	I.	Materials					
		Merchandise	500	500	500		
C.	*II.*	*Long-term receivables*	*0*	*0*	*0*	*0*	*0*
C.	*III.*	*Short-term receivables*	*51.055*	*100.120*	*28.120*	*50.440*	*2.440*
C.	III.	Trade receivables	51.055	100.120	28.120	50.440	2.440
C.	*IV.*	*Short-term financial assets*	*750*	*3.785*	*10.924*	*12.979*	*15.073*
C.	IV.	Cash					
		Bank accounts		2.785	9.674	11.479	15.073
		Short-term securities and interests	750	1.000	1.250	1.500	
D.		**Accruals**	**0**	**0**	**0**	**0**	**0**

			Year	Accounting period			
				Year	Year	Year	Year
			1	2	3	4	5
		TOTAL LIABILITIES	64.681	117.436	52.231	76.230	29.348
A.		**Equity**	**35.776**	**67.436**	**26.231**	**28.230**	**29.347**
A.	*I.*	*Registered capital*	*5.200*	*5.200*	*5.200*	*5.200*	*5.200*
A.	I.	Registered capital	5.200	5.200	5.200	5.200	5.200
A.	*II.*	*Share premium and capital funds*	*0*	*0*	*0*	*0*	*0*
A.	*III.*	*Funds from earnings*	*0*	*0*	*0*	*0*	*0*
A.	*IV.*	*Profit/loss – previous years*	*0*	*30.576*	*62.236*	*21.031*	*23.030*
A.	IV.	Retained earnings from previous year		30.576	62.236	62.236	64.235
		Accumulated losses from previous years				-41.205	-41.205
A.	*V.*	*Profit/loss – previous year (+/-)*	*30.576*	*31.660*	*-41.205*	*1.999*	*1.117*

Balance sheet (in thousand Czech Crowns)				**Supplement no. 3 variant A**		
			Accoutting period (Netto)			
		Year	**Year**	**Year**	**Year**	**Year**
		1	**2**	**3**	**4**	**5**
B.	**Reserves**	**28.905**	**50.000**	**26.000**	**48.000**	**0**
B.	*I. Reserves*	*0*	*0*	*0*	*0*	*0*
B.	*II. Long-term payables*	*0*	*0*	*0*	*0*	*0*
B.	*III. Short-term payables*	*26.905*	*48.000*	*24.000*	*48.000*	*0*
B.	III. Trade payables	26.905	48.000	24.000	48.000	
B.	*IV. Bank loans and lending*	*2.000*	*2.000*	*2.000*	*0*	*0*
C.	**Accruals**	**0**	**0**	**0**	**0**	**0**

Balance sheet (in thousand Czech Crowns)			**Supplement no. 4 variant C**			
			Accoutting period (Netto)			
		Year	**Year**	**Year**	**Year**	**Year**
		1	**2**	**3**	**4**	**5**
	TOTAL ASSETS	**13.144**	**15.889**	**21.337**	**19.206**	**19.906**
A.	**Receivables from subscriptions**	**0**	**0**	**0**	**0**	**0**
B.	**Fixed assets**	**10.200**	**10.258**	**8.817**	**6.575**	**4.833**
B. I.	*Intagible fixed assets*	*400*	*200*	*0*	*0*	*0*
	Research and development	400	200	0	0	0
B. II.	*Tangible fixed assets*	*8.300*	*8.558*	*7.317*	*6.075*	*4.833*
B. II.	Lands	0	0	0	0	0
	Constrictions	4.800	5.558	5.317	5.075	4.833
	Equipment	3.500	3.000	2.000	1.000	0
B. III.	*Long-term financial assets*	*1.500*	*1.500*	*1.500*	*500*	*0*
B. III.	Shares – controlled and controlling organizations	500	500	500	500	0
	Other financial investments	1.000	1.000	1.000	0	0
C.	**Current assets**	**2.944**	**5.631**	**12.520**	**12.631**	**15.073**
C. I.	*Inventory*	*500*	*350*	*350*	*0*	*0*
C. I.	Materials					
	Merchandise	500	350	350	0	0
C. II.	*Long-term receivables*	*0*	*0*	*0*	*0*	*0*
C. III.	*Short-term receivables*	*2.444*	*2.496*	*2.496*	*1.152*	*0*
C. III.	Trade receivables					
C. IV.	*Short-term financial assets*	*0*	*2.785*	*9.674*	*11.479*	*15.073*
C. IV.	Cash					
	Bank accounts					
	Short-term securities and interests					
D.	**Accruals**	**0**	**0**	**0**	**0**	**0**
			Accounting period			
		Year	**Year**	**Year**	**Year**	**Year**
		1	**2**	**3**	**4**	**5**
	TOTAL LIABILITIES	**13.144**	**15.889**	**21.337**	**19.206**	**19.906**
A.	**Equity**	**7.739**	**12.889**	**17.837**	**19.206**	**19.906**
A. I.	*Registered capital*	*5.200*	*5.200*	*5.200*	*5.200*	*5.200*
A. I.	Registered capital	5.200	5.200	5.200	5.200	5.200
A. II.	*Share premium and capital funds*	*0*	*0*	*0*	*0*	*0*
A. III.	*Funds from earnings*	*0*	*0*	*0*	*0*	*0*
A. IV.	*Profit/loss – previous years*	*0*	*2.539*	*7.689*	*12.637*	*14.006*
A. IV.	Retained earnings from previous year	0	2.539	7.689	12.637	14.006
	Accumulated losses from previous years					
A. V.	*Profit/loss – previous year (+/-)*	*2.539*	*5.150*	*4.948*	*1.369*	*700*
B.	**Reserves**	**5.405**	**3.000**	**3.500**	**0**	**0**
B. I.	*Reserves*	*500*	*1.000*	*1.500*	*0*	*0*

Balance sheet (in thousand Czech Crowns)			Supplement no. 4 variant C		
		Accoutting period (Netto)			
	Year	Year	Year	Year	Year
	1	2	3	4	5
B. II. Long-term payables					
B. III. Short-term payables	*2.905*	*0*	*0*	*0*	*0*
B. III. Trade payables					
B. IV. Bank loans and lending	*2.000*	*2.000*	*2.000*	*0*	*0*
C. Accruals					

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