

**TARTU UNIVERSITY**  
**School of Economics and Business Administration**  
**Institute of Business Administration**

**ACCOUNTING AND PERFORMANCE  
MANAGEMENT PERSPECTIVES  
IN BUSINESS AND PUBLIC  
SECTOR ORGANIZATIONS**



Tartu 2009

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PERSPECTIVES IN BUSINESS AND PUBLIC SECTOR  
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SCHOOL OF ECONOMICS AND BUSINESS ADMINISTRATION  
INSTITUTE OF BUSINESS ADMINISTRATION

ACCOUNTING AND PERFORMANCE MANAGEMENT  
PERSPECTIVES IN BUSINESS AND PUBLIC SECTOR  
ORGANIZATION

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## **Dear Colleagues,**

During the last decade there has been a substantial shift from tangible aspects to intangible aspects as the drivers of the performance of an organization. In this sense it's very important to emphasize on the fostering of "performance culture" or "performance orientation" resulting in a growing use of performance management tools. Performance management is the process by which the organization integrates its performance with its corporate and functional strategies and objectives. Performance measures can be an important tool for understanding entity's performance, but without a process of using this information, it is only of limited value. In these circumstances accounting information is becoming more important in management control processes. However, accounting systems seem to contribute a construction of a more rational organization in private as well in public sector. In today's circumstances of the globalizing and internationalizing environment, although being in the stage of economic recession it is really important to discuss on the meaning and impacts of the linkages between economy and society, within different cultures and human groups. Change processes provide unique opportunities for learning: they provoke reactions in business and public entities indicating accounting and management systems effectiveness and efficiency and need for their development and redesign. It is our role as independent academics to seize this learning opportunity, to analyze new developments and to report our findings. Our conference is instrumental to this aim: here we meet each other and learn from experiences in business as well public sector settings.

Today's conference is also important for the University of Tartu and Estonian accounting research community in general. Such topics as intangible assets measurement, cash flow prediction, reporting of securities, strategic management accounting, public sector performance and others, which will be discussed in detail at the conference are really challenging for the future cooperation between academia and practice and future economic growth.

Thus, welcome to Tartu to meet your colleagues and to establish new collaborations.

On behalf of the conference organizers we wish you an interesting, productive, collegiate and pleasant conference.

Toomas Haldma  
University of Tartu

Conference chair

**Section I**  
**FINANCIAL ACCOUNTING AND AUDITING**

# ISSUES OF EQUITY CAPITAL ACCOUNTING AND VALUATION IN PRIVATE CAPITAL COMPANIES

Inta Brūna, Ruta Šneidere  
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## Introduction

At the end of 2008, economic situation in the world drastically worsened. Alongside with the problems of the financial system, every country, including Latvia, experienced serious problems within economic development. Reduction of the volume of activities, insolvency of the enterprises or even their closure, increase of the unemployment, rapid rise of the inflation rates are only the most essential ways how the economic crisis exposes itself. It creates both the decrease of the growth rates of gross national product that actually means the decrease of gross national product (GNP), for example, by 7% in 2007 in comparison with 2006, and already by 13% in 3 quarters in 2008 in comparison with the same period in 2007 (Central Statistical Bureau of Latvia) and non-implementation of the state budget and thus the social problems resulting from this. The price increase still can be observed. Thus the level of consumer prices in Latvia in January 2009 in comparison with December 2008, increased for 2,2%. The average level of the product prices increased for 2,1% but for the services – 2,3%. In Estonia in its turn, the consumer prices in January 2009 decreased for 0,6%, but in Lithuania in January 2009, in comparison with December 2008, they increased for 2,7% (Ministry of Finance, Republic of Latvia). In such conditions it becomes more and more difficult for the merchants to plan their economic activities and adopt appropriate decisions. Basing on the fact that information necessary for the adoption of managerial decisions appears in the result of accounting, the about the influence of the inflation upon the accounting policy becomes topical. It means the repeated evaluation and possible change of the evaluation methods used in the accounting policy of the enterprises not only for economic resources but also for financing sources including the issued stock equity.

The purpose of the paper is by analyzing legal acts of the Republic of Latvia on the equity capital establishment and accounting requirements, to identify topical problems and provide recommendations (for solutions), as well as to evaluate the necessity of correction of the equity capital evaluation methods in high inflation circumstances. To reach this objective the following tasks shall be implemented: 1) the substance of equity capital and activities in the context the Commercial Law of the Republic of Latvia by finding shortcomings and problematic aspects shall be analyzed; 2) Latvian and foreign research papers shall be studied inter alia in the area of equity capital evaluation; 3) based on the analyses of theory and empiric research recommendations for prevention of the stated problems have been drafted and modification of the evaluation approach to the equity capital shall be performed.

The structure of the paper is related to the contents of the stated tasks and it is formed in three parts. The first part is devoted to the analysis of the establishment of the issued stock equity and conditions for its change in the context of normative acts of the Republic of Latvia. The comparison of the requirements regulating the laws and accounting standards in Lithuania and Estonia has been carried out, as well as the necessity to realistically evaluate the issued stock equity has been substantiated. The second part has provided methodological substantiation for the empiric research but the third one – results of the carried calculations. In the final part of the paper the authors have formulated their conclusions and proposals.

### 1. Problems of the establishment of the issued stock equity in Latvia

Beginning with 2005 in relation with the re-registration of all Latvian enterprises in the Commercial Register, certain conditions of the Commercial Law have to be observed in their establishment. According to situation up to 09.11.2004 and in accordance with the Lursoft data 19 526 enterprises and entrepreneurial companies have been already registered in the Commercial Register, out of which 15 223 are Ltd that constitutes approximately 78% from all the registered active enterprises, the second position is occupied by individual merchants – 3938 or approximately 20%. Other forms of commercial activities including joint stock companies have been registered in a considerably less amount. At the beginning of 2009 the number of active merchants have increased for 4533 or 248% including limited liability companies – for 41 464 or 272%. It provides increase of the proportion of Ltd's for 5.34 points in the total structure (see table 1).

**Table 1.** Distribution of Latvian merchants in the Commercial Register (2004–2009) (Lursoft)

<i>Form of commercial activities</i>	<i>Number of active merchants 2004</i>	<i>Ratio 2004 (%)</i>	<i>Number of active merchants 2009</i>	<i>Ratio 2009 (%)</i>
1. Affiliate of a foreign merchant	130	0,67	293	0,43
2. Joint-stock company	59	0,30	253	0,37
3. Affiliate	74	0,38	251	0,37
4. Individual merchant	3938	20,17	10274	15,1
5. Limited partnership	15	0,01	69	0,1
6. General partnership	87	0,44	232	0,34
7. Limited liability company	15223	77,96	56687	83,3
<b>Total:</b>	<b>19526</b>	<b>100</b>	<b>68059</b>	<b>100</b>

Thus the data show that the dominating role within the total number of Latvian enterprises is occupied exactly by capital companies. In accordance with the explanation of the Commercial Law: “A capital company is a commercial company, the equity capital of which consists of the total sum of the par value of equity capital shares or stock”. [The Commercial Law, 2000] By investigating the conditions for

the establishment of the initial financing source of the capital companies in Latvia – the issued stock equity – it is useful to compare how it is reflected in the accounting balance sheets of Lithuania and Estonia (see table 2).

**Table 2.** Comparison of the contents of the stockholder equity in Latvia, Lithuania and Estonia

(AAL; 8 BAS; ASBG 2)

<i>Latvia</i>	<i>Lithuania</i>	<i>Estonia</i>
1. Stock or share capital (equity capital)	1. Paid up portion of authorised capital	1. Share capital
–	–	2. Unregistered share capital
2. Stock (share) emission premium	2. Share premium	3. Share premium
–	–	4. Treasury units of shares (minus)
3. Long-term investment revaluation reserve	3. Revaluation reserve	–
4. Financial instrument revaluation reserve	–	–
5. Reserves:	4. Legal reserve	5. Statutory reserve capital
a) reserves specified by law	5. Other reserves	6. Other reserves
b) reserves for own stocks or shares		
c) reserves specified by the company articles of association		
d) other reserves		
6. Retained profits:	6. Retained earnings (losses)	7. Retained earnings (accumulated loss)
a) retained profits brought forward from the previous year		
b) retained profits of the accounting year		

Requirements of the investigated normative acts of the Baltic countries for the presentation of the components of the stockholder equity are different according to the degree of detailed elaboration. For example, the Estonian ASBG2 Requirements for Presentation in the Financial Statements also foresee to present the emitted but unregistered share capital as well as the Treasury units of shares up to the date of the balance sheet date. The accounting balance sheet of the enterprises in Latvia in its turn provides more expanded reserve items and separately undivided profit of the reflected reporting year and previous years. The Lithuanian 8 BAS includes the condition to present the paid-up portion of the authorised issued stock equity in distinction from the company reports in Latvia and Estonia where the registered issued stock equity has to be presented. However in all three countries the issued stock equity is evaluated par value. The mentioned differences do not contradict the European Union directives and International Financial Statement standards: “IAS 1 does not prescribe the order of format in which an entity presents items, however the standard stipulates the list of minimum categories, including issued capital and reserves. In some countries, the legislation specifies the format of the financial statements – in particular the EU Fourth Directive mandates particular presentations – but in other jurisdictions entities have a free choice.” [Wiley, 2008].

In the period when the possibilities to gain the profit are decreasing and the crediting of enterprises is limited, the additional investment in the issued stock equity can become one of the most important financing sources and thus the issues related to the requirements for the establishment of the issued stock equity and further activities – possibilities to increase or decrease it, become especially topical. Legally the issued stock equity provides basis for determination of the rights of voting during the participants' meetings and for determination of the amount of dividends for capital owners. Economically the issued stock equity is only a sum established in the Statutes. However larger importance within the economic activities of the enterprise belongs to monetary resources and property by which the issued stock equity is paid. By the form of legal property according to the Commercial Law the following companies are differentiated: individual merchants, partnerships and capital companies. Since the individual merchants and partnerships do not separately distinguish the issued stock equity but they determine the issued stock equity as a difference between the total sum of the assets and liabilities, the detailed analysis of the establishment of the issued stock equity in these forms of economic activities is not necessary. But in the capital companies that in accordance with the Commercial Law are societies with limited liability (Ltd.) and joint stock companies (JS), the Statutes should present the amount, number of shares and nominal value of the issued stock equity (The Commercial Law, 2000). Although the initial wording of the Commercial Law of the Republic of Latvia has been changed and supplemented several times, still the interpretation and usage of some of its norms can create certain problems for company owners and managers, thus their analysis and solution is especially topical.

- 1) The conditions for the establishment of the issued stock equity in the limited liability companies and joint-stock companies in the concrete requirements of the Commercial Law have been specified in relation to the minimal amount for the establishment of the issued stock equity upon the conditions of the payment of the issued stock equity by foreseeing that this can be done by help of money or property contributions (The Commercial Law 2000). However essential is the fact that the payment of the issued stock equity of the joint-stock companies in cash has been already foreseen in the requirements of the Commercial Law (Section 146 (4)), but in the contract for the establishment of Ltd it is possible to include the condition that the issued stock equity has to be paid only in cash. There are detailed explanations of the conditions how to evaluate the property contributions and what part of the issued stock equity has to be deposited up to the moment of submission of the application. Tangible or non-tangible things serve as property contributions and they can be used in the commercial activities if it is possible to make a collection against them. It in its turn can be evaluated by the founders if the total value of the property contributions does not exceed 4000 LVL and is less than half of the issued stock equity but in other cases the evaluation is carried out by the experts. Independently from the fact who evaluates the property contributions, Article 154, Section 3 states that: "The property contributions shall be valued according to the *usual value* of the relevant property or rights." Also Section 4, Article 164 (up to the latest changes

of the CL) takes use of the same notion: "...when the property has been acquired within the framework of the usual commercial activities of the company for the usual value..." Neither in the Commercial Law nor in the other normative acts regulating entrepreneurial activities there is an explanation what has to be understood by the notion "usual value". In accordance with the definition provided in the introductory part of LR Law "Annual Accounts Law" to another economy term – "**Fair value** is the amount in respect of which it is possible to exchange assets or fulfil obligations in a transaction between well informed, interested and financially independent persons" [Annual Accounts Law, 1992]. Whether that is the case when the notion "usual value" has been mentioned as identical to the notion "fair value" or its content contains another additional conditions – this fact remains hidden for the users of the law. Thus the value of so important position as the issued stock equity in the foundation documents and company balance sheet at similar conditions can be determined differently. Therefore also the condition of Article 2 of the LR Law "On Accounting" stating that: "Accounting shall be conducted so that a third person qualified in the area of accounting may obtain a true and clear representation of the financial position of the undertaking..." [On Accounting, 1992]. has been trespassed. Since the usage of the fair value has been also foreseen in the conditions of the International Accounting Standards (SGS) and International Financial Statement Standards (SFGS) and since the EU directives that Latvia as EU member state after 1 May 2004 has to observe are harmonised with the requirements of SGS and SFPS, then it will be justifiably to exchange the formulation of Article 154, Part 3 of the Commercial Law "usual value" with the notion 'fair value'.

- 2) Increase of the issued stock equity in the joint-stock companies in accordance with Article 250, Section 1 of the Commercial Law has been limited by the emission of new stocks. None of the articles in Chapter XIII of the Commercial Law "Stock companies" and its 2nd section "Increase and Reduction of Equity Capital" has mentioned the possibility to increase the issued stock equity by increasing the nominal value of the stocks on the account of the accrued profit like it has been foreseen for the companies with limited liability. Strictly following the requirements of the norms of the law, usage of the profit for the increase of the issued stock equity is possible only by emitting the employee stocks that may be acquired only by employees of the company and members of the board of directors but also their nominal value should not exceed 10% of the signed issued stock equity. Does it mean that it is not already possible to transform the accrued capital of the company into its issued stock equity? Such situation can create the necessity for stockholders to pay out the profit in dividends with the objective to attract the profit again by emitting issuing new stocks and thus providing the existing stockholders with the priority rights of acquisition that are foreseen in the law (Endziņš, 2003) At the same time Article 262 of the law includes the condition: "Equity capital may be reduced by reducing the par value of stock." It is analogous method for the above mentioned forbidden possibility of the increase of the issued stock equity and thus evidencing certain inconsistency of legislators. It as well is the case when there does not exist an explanation whether it is possible to carry this by only paying

out to the stockholders the cancelled part of the nominal value or by reducing the uncovered losses (Petkeviča 2003) It is important for the joint-stock companies to know whether the possibilities for the above mentioned increase or reduction of the issued stock equity on the account of the profit or losses has to be included in the conditions for the increase or reduction of the issued stock equity or in the Statutes of the company or it is incompletely impossible.

- 3) The question on the relationship between the issued stock equity and stockholder equity is essential for the stockholders because only at certain conditions it is possible to decide on the payment of the dividends. The Commercial Law of Latvia states that: "Dividends may not be calculated and paid out if it arises from the annual accounts that the own funds of the company are less than the total amount of the equity. (Article 161 (4) (The Commercial Law 2000). It means that the payment of the dividends is possible only in case of the positive undivided profit. Similar conditions are also advanced in other countries but there are as well can be mentioned examples when the requirements are softened. " In the US, states that have adopted Model Business Corporations Act can now, in certain US jurisdiction, declare and pay dividends in excess of the book amount of retained earnings if the directors conclude that, after the payment of such dividends, the fair value of the corporation's net assets will still be a positive amount. Thus, directors can declare dividends out of unrealized appreciation, which, in certain industries, can be a significant source of dividends beyond the realized and recognized accumulated earnings of corporation." [Wiley, 2008]. Thus we have to conclude that the requirements of the Latvian law are comparatively stronger however in the above mentioned statement the noticeable factor is the factor limiting the payments of the dividends – the fair value of the net assets or of the stockholder equity has to be positive. As the issued stock equity is one of the components of the stockholder equity, the question whether with the rapidly increasing inflation the issued stock equity retains the substance of its value and whether it is not necessary to correct it still remains open.

If the prices are constantly growing like it is going on in Latvia and other countries and the issued stock equity during the operation of the company activities has not changed, then the represented value of one monetary unit of the issued stock equity becomes less and it does not already provide real notion on the amount of the capital invested by the founders. However the normative acts regulating accounting does not foresee its recalculating. Therefore we would check hypothesis that within the conditions of high inflation correction of the issued stock equity by price index is necessary when the participants of the commercial company adopt their decision on the profit division.

## 2. Substantiation for the methodology of the correction of the issued stock equity

The changes of the economic situation are characterised by several indicators among which the obligatory indicator is the level of inflation. The inflation level in the Euro zone countries beginning with 2000 has been somewhat above 2% except 2007 when it reached 3,1%. However the inflation in new member states has been noticeably higher and in separate periods it has even reached the level of 18% (Hungary in 2007 – 18,5%, Bulgaria in 1998 – 18,7%) (G. Vaskis, 2008) Data of Central Statistical Bureau of Latvia evidences that from 1998 till 2008 the average level of consumer prices in Latvia has increased for 63,7%. The consumer prices in Latvia in 2007 increased for 14,1% and they continued to increase also in 2008. In February 2008 in comparison with February of the previous year the price increase of 16,7% has been observed but now the price increase slows down. Thus in February 2009 in comparison with February 2008 the consumer prices have increased for 9,6% but if comparing against the indicator of the previous month – only for 1,1%. The production prices in their turn during the last year has increased for 7,2% but in February 2009 in comparison with January they even decrease for 0,6% (CSB of LR, 2009). This fact evidences only the decrease of the economic activity in national economy but it does not characterise the improvement of the situation in total. During the last year the increase of the consumer price index in Latvia has been one of the largest in comparison with the other EU member states (see table 3).

**Table 3.** Harmonized Indices of Consumer Prices in 2008 in separate EU member states [Eurostat, 2009]

	2005 = 100										
<i>Country</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>	<i>VII</i>	<i>VIII</i>	<i>IX</i>	<i>X</i>	<i>XI</i>	<i>XII</i>
Bulgaria	126	127	128	129	129	131	131	132	132	132	131
Estonia	120	121	122	123	123	124	125	126	126	126	125
Latvia	130	132	134	135	136	137	136	138	139	138	138
Lithuania	118	119	121	122	123	123	123	124	125	125	124
Romania	118	119	120	120	120	121	121	122	123	123	124

When investigating the requirements of the normative acts regulating accounting in Latvia, one has to admit that none of them foresees the correction of the financial statements in the conditions of high inflation. These issues have been investigated in IAS 29 Financial reporting in hyperinflationary economies. The objective of IAS 29 is to establish specific standards for enterprises reporting in the currency of a hyperinflationary economy, so that the financial information provided is meaningful. [IAS PLUS]. Entities that prepare financial statements on the historical cost basis of accounting do so without regard either to changes in the general level of prices or to increases in specific prices of recognized assets or liabilities. This means that within the conditions of the increasing prices the statements do not any more reflect the value of asset retraction as well as they create false notion on the financial results.

However the Standard does not determine the absolute rate of the price increase at which the hyperinflationary situation is recognised. In order to carry out the procedures for the financial statements foreseen in IAS 29 – to correct them by the general price index, the economic environment of the concrete state has to be characterised by the following:

- the general population prefers to keep its wealth in non-monetary or in a relatively stable foreign currency;
- the general population regards monetary amounts not in terms of the local currency but in terms of a relatively stable foreign currency. Prices may be quoted in that currency;
- sales and purchases on credit take place at prices that compensate for the expected loss of purchasing power during the credit period, even if the period is short;
- the cumulative inflation rate over three years approaches, or exceeds, 100%. [IAS 29]

According to the data of LR CSB which state that in Latvia the consumer price index during the period of 7 years (2000–2007) reaches 43%, but the production price index – 58,8%, it becomes clear that the increase of the last three years would not reach 100%. [LR CSB]. Therefore at least one of the aforementioned criteria does not fulfil itself and the IAS 29 requirements in the compilation of the financial statements of the Latvian companies are not binding. As it has been mentioned beforehand, the Latvian laws on accounting as well do not foresee to correct the data of the financial statements by the price index. However when preparing the report on year 2008 when Latvia has experienced the highest ever increase of inflation, it is advisable for the board and council of the capital companies to take into account the influence of the inflation at least when passing decisions on such important issues as division of the profit in dividends. Keeping in mind that the Commercial law allows to calculate and pay out the dividends only if the stockholder equity is not less than the issued stock equity, the issue on the valuation of the issued stock equity in specific situations becomes essential.

Different scientists in different countries in their investigations have mainly paid their attention to the determination of the value of the company [Rees W.P.1999; Abdelghany K. E. 2005; Bowman C., Ambrosini V. 2007; Anand P., Faseruk A. 2008; Dyl E. A., Jiang G.J. 2008] or to the analysis of the methods determining the stock value and their modifications. However these investigations do not tackle the issues related to the corrections of the issued stock equity in order to avert the influence of high inflation. To check the advanced hypothesis – that correction of the issued stock equity in the conditions of high inflation by price index is necessary when the participants of the commercial company adopt their decision on the profit division, we would take use of such assumptions:

- historically determined substantive value of the issued stock equity decreases;
- profit of the reporting year presented in the stockholder equity does not reflect the capability of the company to finance the adequate renewal of the spent resources and its payment in dividends can be unsubstantiated;

- the amount of the undivided profit from the previous years and the amount of its reserves may not correspond with its real level if the influence of inflation is excluded;
- the real value of the stockholder equity under the influence of inflation will differ from the reporting data;
- thus the limiting factor for the adoption of the decision in the commercial companies to divide the profit into dividends is the following – the corrected stockholder equity should not be less than the issued stock equity.

The following methodology will be used for the examination of correlations:

$$1) IE_{ad} = IE / IP \quad \{2.1\}$$

$$2) E_{ad} = E - IE + IE_{ad} \quad \{2.2\}$$

$$3) \text{If } E_{ad} < IE, \text{ the payment of dividends is not useful} \quad \{2.3\}$$

Here:

IE – issued stock (share) equity

$IE_{ad}$  – adjusted issued stock equity

E – stockholder equity

$E_{ad}$  – adjusted stockholder equity

IP – indices of prices

### 3. The results of the empiric research

The most essential influence in the development of the Latvian economy in the present conditions is played by the renewal of the production including the renewal of the industry, therefore especially for the companies in these fields it would be essential to leave the profit as an important financing source for the development of the company activities instead of paying out dividends. Basing on this assumption, 60 data from the financial statements in 20 manufacturing companies for the period of 2005–2007 for the research has been used. There are 7162 manufacturing industry companies of different size that according to NACE classification are functioning in 23 industries in Latvia. In 2007 the manufacturing industry produced the national gross domestic product in the amount of 895,5 mln lats which if comparing against the total GDP in the prices of 2000 – 2420,4 mln lats compiled only 36,9%. Reduction of the amount of the manufacturing industry for 9,2% in 2007 and already for 11,5% in 2008 ranged in the third place among the industries and it essentially decreased the total GDP (LR CSB). Changes of the most important posts of the stockholder equity within the manufacturing industry companies are summarised in table 4.

**Table 4.** Changes of the structure of the stockholder equity in manufacturing companies in Latvia 2003–2007 mln LVL [LR CSB]

	2003	2004	2005	2006	2007
<i>Issued stock equity</i>	542,1	602,9	640,7	686,8	743,4
<i>Profit</i>	58,4	71,5	92,3	175,1	179,4
<i>Stockholder equity</i>	800,6	905,9	1012,6	1153,7	1412,9

If the increase rate of the stockholder equity in this period is 76,5%, of the issued stock equity – 37,1%, then for the profit it is essentially larger and composes 207,2%. At such conditions the decision of the owners to pay out the profit in dividends can be quite realistic. Let's examine whether correcting the stockholder equity for the manufacturing industries following the aforementioned methodology will create situation that it becomes less than the issued stock equity. From the data that were chosen from 60 financial statements for the research there have been used the data on the issued stock equity, stockholder equity and manufacturing price indexes of the corresponding years by determining the corrected issued stock equity and stockholder equity according to the formula (2.1.–2.2). The calculation results (see Table 5) showed that in 5 financial statements of 3 companies or in 8,3% cases the corrected issued stock equity became less than the issued stock equity (the data in bold in the table 5).

**Table 5.** Calculation results confirming the hypothesis, thsd. LVL

[LURSOFT data]

	2005	2006	2007
<i>Company No 1</i>			
Issued stock equity	7496,9	<b>7496,9</b>	7496,9
Undivided profit	-1074,2	716,8	3104,5
Stockholder equity	6422,7	8213,7	10601,4
Production price index	1,24	1,368	1,588
Corrected issued stock capital	6045,9	5480,2	4720,9
Corrected stockholder equity	4971,6	<b>6196,9</b>	7825,5
<i>Company No 2</i>			
Issued stock equity	2743,6	<b>4783,7</b>	<b>4783,7</b>
Undivided profit	320,8	267,9	299,8
Stockholder equity	3487,6	5398,4	5604,1
Production price index	1,24	1,368	1,588
Corrected issued stock capital	2212,6	3496,8	3012,4
Corrected stockholder equity	2956,6	<b>4111,6</b>	<b>3832,8</b>
<i>Company No 3</i>			
Issued stock equity	2490,3	<b>2490,3</b>	<b>2490,3</b>
Undivided profit	-833,1	235,2	347,6
Stockholder equity	1758,9	2827,2	2951,3
Production price index	1,24	1,368	1,588
Corrected issued stock capital	2008,4	1820,5	1568,3
Corrected stockholder equity	1276,9	<b>2157,2</b>	<b>2029,2</b>

By analysing the obtained results, we can see that within these 5 financial statements, the profit which could be divided, is comparatively small in relation to the stockholder equity (from 5,0–11,8%), and besides in two cases the corrected stockholder equity becomes less than the issued stock equity in the next year after

the negative financial result, but in one case – after the decrease of the profit amount. Especially in such a situation it is even more important for the companies to leave the profit undivided in order to renew the potential of the economic growth. Thus the advanced hypothesis, that independently from the requirements of the Commercial law in the conditions of high inflation the correction of the issued stock equity by the help of price index is necessary for the shareholders of the commercial company when adopting the decision on the profit division into dividends, is substantiated. Taking into account that the results of economic activities of 20 companies are not representative for all more than 7000 manufacturing industry companies in Latvia; therefore it is impossible to state, that 8,3% of all cases, the profit division into dividends could be unsubstantiated. However, the substantiation level of the advanced theory possibly could be higher if the data of 2008 were used in the calculations, that even more characterize tendencies of the economic recession, but that during the research period still were not available.

### Conclusion and findings

1. The dominating place in national economy of Latvia – approximately 86,5% from all commercial is occupied by the capital companies whose foundation conditions and conditions for the issued stock equity establishment are regulated by the Commercial Law. However some of its conditions still cannot be interpreted in unequivocally including the payment of issued stock capital with the property contributions for *usual value* and uncertainties about the possibility for joint-stock companies to increase issued stock equity by increasing stock nominal value on the account of the accrued profit.
2. The comparison of the laws and standards regulating the accounting systems of Estonia, Lithuania and Latvia provide for the fact that the presentation of differently detailed contents of the issued stock equity in the financial statements, but it does not contradict the European Union directives and International Financial Statements' standards.
3. The requirement of the Latvian Commercial Law that the capital companies can divide their profit in dividends only then if the issued stock equity is not less that the stockholder equity in the conditions of high inflation can be insufficient in order to protect the company from unsubstantiated decrease of the financing sources. It follows that the statement to be examined is whether the conditions of these requirements have to be modified by correcting the stockholder equity by the price index.
4. 60 data and calculation results from the financial statements from 20 manufacturing industry companies that have been used for the examination of the advanced theory show that in 5 financial statements or in 8,3% cases the corrected issued stockholder equity becomes less that the stockholder equity therefore in these cases the profit division in the dividends is not welcome.
5. To solve the stated problematic issues of the requirements of the Latvian Commercial Law, the authors propose the following:
  - To replace the formulation of "*usual value*" in Article 154, Part 3 of the Commercial Law with the notion "*fair value*";

- To specify the conditions for the equity capital increase in joint-stock companies by including the possibility to increase the nominal value of stocks on the account of the accrued profit;
- In the conditions of high inflation when the companies adopt the decisions on the division of profit in the dividends, to take use of the modified condition of the Commercial law by correcting the equity capital by help of price index.

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## Summary

### ISSUES OF EQUITY CAPITAL ACCOUNTING AND VALUATION IN PRIVATE CAPITAL COMPANIES

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Rapid increase of inflation in Latvia in the past years has created a lot of discussions on the effectiveness of activities to limit inflation and the compliance of commercial decisions made by business community to the current economic situation. Taking into account, that necessary information and basis for management decisions is a result of accounting statements, thus the issue on the perception of inflation in the accounting becomes topical. The purpose of the paper is by analyzing legal acts of the Republic of Latvia on the equity capital establishment and accounting requirements, to identify topical problems and provide recommendations (for solutions), as well as to evaluate the necessity of correction of the equity capital evaluation methods in high inflation circumstances. The theoretical part of the research has analysed the conditions of the presentation of the equity capital in the financial statements of Latvia and its neighbouring countries – Estonia and Lithuania, the requirements of the Latvian Commercial law in relation to the equity capital establishment and its changes as well as limitations to the division of profit into dividends. By advancing hypothesis that within the conditions of high inflation the correction of the equity capital by help of the price index is necessary for the participants of the commercial companies when adopting decision on the profit division into dividends, the authors of this empiric research examined its justification in the financial reports data of 60 Latvian manufacturing industry companies. The calculation results proved the confirmation of the advanced theory in 8,3% cases.

# ACCOUNTING FOR INTANGIBLE ASSETS IN THE REPUBLIC OF LATVIA: HISTORY, CURRENT CASE AND FUTURE DIRECTIONS

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## Introduction

Both economic and political transformations within the society have a profound impact on the accountancy system. The restoration of Latvia's independence brings along a fundamental reform of the national accountancy: changes affect the whole aggregation of accountancy objects, criteria for recognizing and evaluating them, basic rules of accountancy and inclusion of objects in the financial statements. One of the results of this overhaul was the addition of a new accountancy entry to the balance sheet: intangible assets. They were included in the assets group and classified as long term investments. Today, as innovation and knowledge become ever more important in economic development, intangible assets can be seen as a form of business resource: enterprises launch and subsequently produce new or improved products and services (research and development costs), ensure the protection of intellectually intensive products (e.g., patents, trademarks, computer software, copyright), cater for the legality of various activities (concessions, licenses); they also acquire other enterprises, and as a result goodwill, the very specific intangible asset, can be found in accountancy books. The performed research proved that initially in Latvia these specific intangible assets were recognized as accountancy objects already in 1920s. Therefore it is important to carry out the historical research on the intangible assets accountancy development in Latvia. The aim of research is to describe and analyze the history, current case and future directions of intangible assets recognition and accountancy methods in Latvia. Research on the history, current case and future directions of intangible assets recognition and accountancy methods in Latvia is carried out according to the following stages: 1) initial recognition of these assets during the first independence period of Latvia (1920s); 2) denial of intangible assets as accountancy objects; 3) repeated recognition these resources as accountancy objects (1988) and reform of accountancy in Latvia, including the accountancy of intangible assets (1993); 4) nowadays situation regarding the intangible assets recognition and accountancy methods in Latvia.

## Literature review

Character, economic essence, recognition, valuation and reporting of intangible assets, and choosing of proper accountancy policy is the object of various discussions between scientists and professionals. The specific features of these assets, their valuation and reporting diversity, and their role in entrepreneurship's development are stressed by various authors. Midermann, (2007) argued intangible assets as important contributor to firms income and capital market value. By

Hendriksen and van Breda (1997) intangible assets are one of the most complicated objects in accountancy reporting and matter is not the problems of their recognition, but in their valuation and indefinable time of use. Powell (2003) stressed, that accounting for intangible assets remains one of the biggest challenges facing accounting with significant economic consequences. The issue is very complicated and will require input from not just standard setters, but also academics and industry. By point of view of Lev (2005), intangible assets reached prominence in the business world in the late 20<sup>th</sup> century and will surely persist to capture centre stage in the future. Intangibles are inherently different from physical and financial assets. These differences are responsible for the unique potential of intangibles to generate vast economics value and growth, at both the corporate and national levels, as well as for the serious difficulties in managing, measuring and reporting the values of intangibles. Various methods are available to overcome the valuations challenges, but efforts to improve the measurement and reporting of intangibles should continue. International Accounting Standards deal with accounting for intangible assets in IAS 38 which purpose is to prescribe the recognition and measurement criteria, accounting policy for intangible assets. Historical some attention to recognition and reporting problems of intangible assets were devoted in Latvia too. Research sources from beginning of the last century recognized that the first views about intangible assets in Latvia belonged to Karlis Berzins (1928), senior docent of the University of Latvia. By his view intangible assets were recognized as items of reporting and were shown in enterprises balance sheets. It should be noted that during the Soviet rule in the Latvia intangible assets did not exist as accountancy objects, and, as they were not regarded to be among the assets of any enterprise, no relevant extended research took place. Starting from late 1980s, Soviet economists began an intense inquiry into the essence of and accounting for intangible assets, and recognized them as items of reporting. After the renewal of Latvian independence little has been written on intangible assets. Most of the publications are textbooks or other study literature, where attention is paid primarily to the rules governing the accounting for intangible assets pursuant to the existing tax legislation (Benze, 1995; Andžāne, 2000). Individual issues in this sphere have been raised by, e.g., Kaire (1997), who has written on the determination of goodwill in the process of privatization. Dzerele (2001) stressed to problems of recognition of intangible assets internal generated in companies. The results of complex research in Latvia about character and economic essence of intangible assets, and, criteria for their classification, recognition, measurement as well as the more general accountancy policy are presented in the monograph "Intangible Assets and its Accounting Problems Solutions" (Būmane, 2002).

### **Initial recognition of intangible assets during the first independence period of Latvia (1920s)**

The carried out research showed that initially in Latvia these specific intangible assets were recognized by scientists as accountancy objects already in 1920s – during the first independence period of Latvia. In the specialized literature in Latvia the intangible assets were for the first time mentioned in Latvian Encyclopedia of

1928–1929 as “intangible property rights”. The senior docent of the University of Latvia Karlis Berzins explains this concept as follows: *Immaterial property rights* – a concept that comprises author’s rights, patents and trademarks. This intangible property might be alienable in despite of the individual’s rights (freedom, reputation, freedom of expression) (Bērziņš, 1928). According to this definition, initially intangible assets were explained only as separate intellectual property rights. On August 23, 1929 the Ministry of Finance of Latvia issued the decree “On the information to be published and presented to the Ministry of Finance by commercial, manufacturing enterprises and shipping companies”, which provided for the new balance item – intangible values and their structure: *Intangible values*: 1) customers and a company (goodwill of a company – authors); 2) inventions, patents; 3) concessions, etc.

### **Denial of intangible assets as accountancy objects**

During the soviet time the intangible assets were not recognized as accountancy objects in Latvia, and, consequently, there was no such concept included in the laws and regulations of that period of time, as well as it was not included in the Plan of accounts of the Ministry of Finance USSR (1985), and there was no such item in the form of balance, published in Latvian Soviet Encyclopedia. Denial of intangible assets as accountancy objects was substantiated on their fictitious nature. According to well-known soviet scientist Professor N. Veicman: “Already the name of this group ..... indicates that it comprises objects, which are fictitious by their nature. These are such objects as goodwill (intangible value of an enterprise – authors), monopoly rights and privileges, brands and trademarks, patents, copyright, commercial secrets (secrets of technological processes). This list shows that the reason for the development of “intangible” resources is based on the totality of factors, which facilitate gaining of income, exceeding the average norm of profit of the respective sector of national economy. According to several foreign companies views, the existence of such factors is the sufficient reason for the capitalization of benefit, related to the promotion of favourable business activities of companies” (Вейцман, 1962). In 1990s there was a contrary point of view expressed by scientists S. Stukov and L. Stukov: “The quote allows drawing a conclusion that “intangible” assets can develop surplus profit, and this fact is crucial for any businessman, for whom “intangible” assets are as important and as “tangible” as buildings, vehicles and machinery, and supplies that are “tangible assets” and have material substance (Стуков С. А., Стуков Л. С., 1998). In capitalist countries the intangible assets became more and more significant, particularly in 1960s–1970s, when the large holding companies were formed as a result of the merge of separate enterprises. The balance of such holding companies comprised also “goodwill”. In order to ensure the competitiveness of products to be produced and to facilitate the development of business activities, many companies also invested significant funds into research and development of new types of products. Thus the intangible assets of company balance comprised also the item “research and company development costs”. On July 14, 1967, during the diplomatic conference in Stockholm there was World Intellectual Property Organization established, which in December 1974

became UNO specialized agency. This provided an opportunity for the business people to protect the intellectual property of enterprises. At the end of 1980s soviet economists started to carry out the research on the nature of intangible assets and their accountancy in detail. On May 3, 1988, the Ministry of Finance USSR issued a letter No. 80/8-09, in compliance with which the concept “intangible assets” was included into the Plan of accounts under the code 04. The articles on this matter were published in the press as well – L. Shneidman “Accountancy of intangible assets at joint ventures”, T. Krilova “What are the intangible assets?” (Шнейдман, 1991; Крылова, 1992).

### **Repeated recognition these resources as accountancy objects (1988)**

In 1991 the Ministry of Finance of the Republic of Latvia issued a letter “On the Modifications in the Plan of Accounts”, where together with other changes account No. 4 “Intangible Accounts” is included into the Plan of accounts. Therefore intangible assets relatively recently – at the end of 1980s and at the beginning of 1990s were repeatedly recognized as accountancy objects in Latvia and disclosed in the enterprise balance as a part of long-term assets. At that time the opinion existed in Latvia that intangible assets are the company rights to use the land, waters and other natural resources, buildings and machinery, as well as the property rights (including intellectual property rights), invested by the participants into the fixed capital of the company or acquired by the company as a result of its activities (Kaire, Putāne, 1991). Since 1993, when the law “On Annual Accounts of Enterprises” came into effect, the above mentioned structure of intangible assets was supplemented with the items “research and company development costs” and “goodwill”.

Reform of accountancy in Latvia, including the accountancy of intangible assets (1993). In 1992 and 1993 there was the accountancy reform in Latvia carried out, and it should be pointed out that a peculiar situation came into existence: since January 1, 1993, two main laws came into effect – “On Accounting” and “On Annual Accounts of Enterprises” –, but at the same time there was no corresponding Plan of accounts adopted for the new accountancy system. On May 13, 1993, the Ministry of Finance of the Republic of Latvia issued an order “On the Single Plan of Accounts for the Enterprises and Organizations”, where together with other accounts there was a group of accounts established under the code 1.1 “Intangible investments”. But at the same time it was pointed out that the provisions of this document should be introduced into the individual plans of accounts of enterprises and organizations from January 1, 1994. Therefore up to 1994 the accountancy in Latvia, including intangible assets accountancy, was carried out according to different code systems of accounts: 1) Plan of accounts was adapted to the requirements of the accountancy new system, approved by the Ministry of Finance USSR, that is, intangible assets were accounted under the code No.4; 2) since 1993 the plan of accounts, proposed by Dr. oec. J. Benze, Dr. ing. E. Vevers, was also applied. This plan provided for the accounting of intangible assets under the code 1.1 (Benze, Vēvers et al, 1993). It should be mentioned that, in conformity with the reform of accountancy in Latvia, intangible assets are disclosed in balance according

to their residual value. The performed comparative analysis, starting from 1994, on the situation in Latvia regarding the organization and policy of intangible assets, which existed at the end of 1980s and at the beginning of 1990s, showed that there are differences between these aspects, but they cannot be identified as fundamental changes. Thus, there were no separate synthetic balance accounts envisaged for each group of intangible assets. But this situation changed, when the single plan of accounts came into effect, which provided for separate accounts of each group of intangible assets according to the balance items. Therefore the opportunity was ensured to perform the accounting of obtaining, depreciation and withdrawal for each group of intangible assets separately. At the end of 1980s and at the beginning of 1990s the account No. 02 "Depreciation of intangible accounts" was adapted for the registration of accounted depreciation of intangible assets regarding various production costs (basic production costs, machinery and equipment operating costs and other types of costs). Under this account there was the subsidiary account "Depreciation of intangible assets" developed. The sum of depreciation could be also directly registered in the credit of account No. 04 "Intangible assets". But from 1994, the accounted depreciation of intangible assets was not reported in the separate special operation account (D) "Elimination (depreciation) of intangible assets value" and in the regulating account (K) "Costs of written-off part of intangible assets value". Thus, the accounted depreciation was not recording regarding different production costs anymore, but instead is directly entered into a separate special operation account and a corresponding regulating account. Until 1995 the Latvian laws and regulations provided regarding the intangible assets that their productive time was from 3 till 5 years depending on the type of these assets and on the legal restrictions in relation their application, as well as only linear method could be applied for the accounting of depreciation. These provisions were related also to the determining of a sum to be taxed with the profit tax, in the event if the enterprise used these intangible assets to ensure its business activities.

### **Nowadays situation regarding the intangible assets recognition and accountancy methods in Latvia**

Since 1995 significant changes in the tax laws had taken place in Latvia, because the laws "On Enterprise Income Tax" and "On Personal Income Tax" came into force. Up to nowadays in the accountancy there exists separation of the calculation of intangible assets depreciation for the financial accountancy of enterprise activities and the calculation of depreciation applied for the determining of a sum to be taxed with the profit tax. In September 2000, the Ministry of Finance of the Republic of Latvia cancelled the single plan of accounts in Latvia, adopted in 1993 regarding the accountancy organization. And, although there is no more provision determining that this plan must be applied, when preparing individual plans of accounts in enterprises and organizations, it is still widely used in practice.

Provisions of the accountancy of intangible assets in Latvia nowadays are regulated by various laws and regulations. List of these documents and the characteristics of

basic provisions of intangible assets recognition and accountancy methods is presented in Table 1.

**Table 1.** Laws and regulations, regulating the basic conditions of intangible assets recognition and accountancy methods in Latvia\*

#	Laws and regulations	Date of enactment	Basic provision	Part of laws and regulations
1	Law "On Accounting"	January 1, 1993, with later amendments	Generally adopted provisions of maintaining and organization of accountancy, related to the accountancy objects, including intangible assets	
2	Law "On Annual Accounts of Enterprises"	January 1, 1993, with later amendments	Provisions of the recognition of intellectual property rights in the balance item "Concessions, patents, licences, trademarks and similar rights"	Article 18
	"Annual Accounts Law"	Since October 19, 2006	Cost accountancy policy in relation to the research and company development costs. Provisions of costs capitalization in relation to the company development costs	Article 18
			Provisions of intangible assets depreciation accountancy for the needs of financial accounting	Article 35
3	Law "On Consolidated Annual Accounts"	January 1, 2000, with later amendments	Policy of accounting the goodwill that comes into existence, when the consolidated accounts are being prepared	Article 18
	"Consolidated Annual Accounts Law"	Since November 8, 2006		
4	Law "On Enterprise Income Tax"	January 1, 1995, with later amendments	Provisions of depreciation of intangible assets, used for the determining the sum to be taxed with the enterprise income tax	Articles 6 and 13
5	The Commercial Law	January 1, 2002, with later amendments	Provisions of the inclusion of intellectual property rights into the fixed capital of limited liability companies and into the fixed capital of public limited companies	Chapter 3
6	Regulations No. 585 "On Maintaining and Organization of Accountancy", issued by the Cabinet of Ministers	October 21, 2003, with later amendments	Generally adopted provisions of accountancy maintaining and organization, related to the accountancy objects, including intangible assets	

\* Table made by authors of the paper

Cost accountancy policy in relation to the research and development costs. Since the accountancy reform, from the beginning of 1990s till November 2003, there was no separation of research and company development costs in Latvia. Such costs had to be accounted as assets in the financial accountancy and on the basis of systematic substantiation they had to be recognized as expenses in the period of their productive time. Besides, there were no criteria for their capitalization adopted. Since November 20, 2003, research and company development costs must be accounted separately in Latvia, because the amendments to the law "On Annual Accounts of Enterprises" came into force. These amendments provide for the different accountancy policy of such costs. The law provides for the immediate research costs writing-off as expenses, but company development costs could be capitalized as intangible assets, if the respective criteria, provided by law "On Annual Accounts of Enterprises", are met. The law "On Annual Accounts of Enterprises" provides for the following criteria of company developmental costs capitalization: 1) there is an intention to work-out the asset for its use at the company or its sale; 2) there is an opportunity and there are technical, financial and other resources available in order to complete the asset and to use it at the company or to sell it; 3) company can show the future economic benefit the asset would provide, if the asset would be sold or used at the company; 4) it is possible to carry out credible evaluation of the work-out costs of this asset. It should be pointed out that it was difficult to meet the requirements of these criteria. When determining the sum to be taxed with the enterprise income tax, such costs (research and company development costs) are written-off as expenses in the accounting period, when they came into existence (except costs of the research, mining and quality evaluation of mineral deposits, which are recognized as assets and included into costs within period of 10 years).

Provisions of the recognition of intellectual property rights in the balance item "Concessions, patents, licenses, trademarks and similar rights". Since the accountancy reform, from the beginning of 1990s till December 1999, the Latvian law "On Annual Accounts of Enterprises" provided for the disclosure of payment for the acquired rights only in the balance item "Concessions, patents, licenses, trademarks and similar rights". This provision caused differences concerning the correct interpretation of the concept "payment" in practice. On the one hand, the concept "payment" was understood as acquisition of these rights as a result of business activities, when money decreases or liabilities of company increases. On the other hand, in conformity with the provisions of the laws in force "On Limited Liability Companies" and "On Public Limited Companies", it was understood that the intellectual property rights (patents, licenses, trademarks and similar rights) are included into the fixed capital of such companies. But the inquiry of the members of Latvian Association of Professional Accountants showed that in practice the concept "payment" was understood only as a business activity as a result of which money decreases or liabilities of company increases. Such interpretation was supported also by State Revenue Service of the Republic of Latvia. The Directive No. 4 of the European Union provides for the disclosure of rights and assets, acquired for the valuable consideration, in the balance item of intangible assets "Concessions, patents, licenses, trademarks and similar rights and assets". Such rights and assets

are not recognized as goodwill. Therefore on December 16, 1999, there was an amendment made to the law “On Annual Accounts of Enterprises” – the concept “payment” was replaced by concept “valuable consideration”. Thus, the above mentioned more exact definition better characterizes different types of these intangible assets: purchase – selling, barter, inclusion of intellectual property rights into the fixed capital of companies, as well as recognition of intangible assets, created by enterprise.

Provisions of the inclusion of intellectual property rights into the fixed capital of limited liability companies and into the fixed capital of public limited companies. Since the accountancy reform, from the beginning of 1990s till 2002, when the Commercial Law came into effect, there was a peculiar situation in Latvia: it was planned to introduce the provisions of the Commercial Law since 1998, but the enactment of this law was specified several times, therefore the legislation was in force, which was adopted at the beginning of 1990s – the laws “On Limited Liability Companies” (1991) and “On Public Limited Companies” (1993). All the above mentioned laws and regulations provided for the inclusion of intellectual property rights into the fixed capital of such companies. The Commercial Law considers the intellectual property rights to be equivalent to the property investment into the fixed capital of companies. Besides, it is pointed out that the evaluation of the property investment shall be performed by independent expert, who is included in the approved list of Commercial Register. The exceptions are the founders or co-partners of limited liability companies, who can carry out the evaluation themselves, if the total value or property investment does not exceed 4 000 LVL and is less than a half of the fixed capital. It is also indicated that the intellectual property rights could be used for the payment of the fixed capital of companies only if it is possible to evaluate these rights in terms of money and to use them for the commercial activities of companies.

Policy of accounting the goodwill that comes into existence, when the consolidated accounts are being prepared. Starting from the accountancy reform from 1990s till 2000, when the law “On Consolidated Annual Accounts” came into effect, there were only general provisions determined in Latvia regarding the preparation of the consolidated accounts of enterprises. The situation changed, when on January 1, 2000, the law “On Consolidated Annual Accounts” came into effect, where the detailed information was presented on the preparation, checking, approval and publishing of this specific account. Up to May 26, 2005, the law “On Consolidated Annual Accounts” provided that both acquisition method and merging method could be applied for the preparation of this account. Later the above mentioned date, in conformity with the recommendations of International Financial Reporting Standards No. 3 “Business Combinations”, it is allowed to apply only acquisition method. The law “On Consolidated Annual Accounts” provided for the recognition of positive difference, which came into existence due to the consolidated accounts, as intangible asset “Goodwill”, but the negative difference was included into the calculations of profit or losses. On November 8, 2006, law “On Consolidated Annual Accounts Law” came into force in Latvia. This law replaced the law “On

Consolidated Annual Accounts". There were no changes in relation to the recognition and accountancy of goodwill that comes into existence, when the consolidated accounts are being prepared.

Provisions of intangible assets depreciation accountancy for the needs of financial accounting and provisions of depreciation of intangible assets, used for the determining the sum to be taxed with the enterprise income tax. It is provided in Latvia that for the needs of financial accounting the initial cost of intangible assets must be written-off for the calculation of profit and losses in the period of their productive time, which is determined by company management. If it is impossible to determine the productive time of goodwill, this intangible asset is not depreciated. From 1995–1998, when determining the sum to be taxed with the enterprise income tax, the calculation of intangible assets depreciation was more complex than the calculation of financial accountancy depreciation:

- 1) research and company development costs were allowed to be written-off completely in the period, when they came into existence, but such tax policy was allowed only, if these costs were related to the business activities of an enterprise. It means that the sum of the above mentioned costs reduced the enterprise income tax. Costs of the research, mining and quality evaluation of mineral deposits are written-off within period of 10 years, starting from the day, when such costs came into existence;
- 2) if concessions, patents, licenses, trademarks came into existence at the enterprise before December 31, 1994, they are written-off within 5 years, starting from the day, when they came into existence, but, if these intangible assets came into existence at the enterprise later the above mentioned date, the concessions are written-off within 10 years, whereas patents, licenses, trademarks are written-off within 5 years, starting from the day, when they came into existence;
- 3) since January 1, 1995, irrespective the fact, when goodwill or other rights appeared in the accountancy, the value of these types of intangible assets was not accounted anymore, when determining the sum to be taxed with the enterprise income tax;
- 4) software for the tax needs was classified as an element of the 3<sup>rd</sup> category of fixed assets with the determined basic depreciation rate of 25% per annum, and the double digressive method of depreciation calculation is applied. It means that the depreciation rate is 50% ( $2 \cdot 25\%$ ) of object residual value per annum.

Since 1999, the provisions for the depreciation accountancy regarding the research and company development costs, concessions, patents, licenses and trademarks have not changed in Latvia. Software also remains in the 3<sup>rd</sup> category of fixed assets, but its depreciation rate has increased and reached 70% ( $2 \cdot 35\%$ ) of object residual value.

### Analysis of the dynamics and content of intangible assets in Latvian enterprises (2001–2007)

If Latvian enterprises are to be successful under the conditions of market economy, they must ensure the production of competitive high quality goods. That can be done by using new technological processes, proper fixed assets and materials, qualified labour and also various intangible assets. The growth in importance of intangible assets in Latvian enterprises is reflected in Table 2.

**Table 2.** The content of intangible assets and the dynamics of intangible assets and total assets in Latvian enterprises 2001 – 2007 (LVL million) \*

Entry \ Year	2001	2002	2003	2004	2005	2006	2007
Development costs (to 2002 also research c.)	8	6	39	39	6	3	2
Concessions, patents, licenses, trademarks, brand names and similar rights	41	35	38	42	48	49	53
Other intangible assets	64	63	28	31	44	111	142
Goodwill	15	15	14	23	57	19	36
Payments on account for intangible assets	5	3	4	3	7	9	20
<b>Total value of intangible assets</b>	<b>133</b>	<b>122</b>	<b>123</b>	<b>140</b>	<b>162</b>	<b>191</b>	<b>253</b>
<b>Value of assets</b>	<b>8 751</b>	<b>9 452</b>	<b>11 196</b>	<b>13 493</b>	<b>17 324</b>	<b>23 082</b>	<b>31 939</b>

\* Table is made by authors of the paper, using the data of the Central Statistical Bureau of Latvia

A research of the dynamism of intangible assets shows that their weight relative to the total assets varies between 1,5% in 2001, in absolute terms that being equivalent to Ls 133 million, and 0,8% in 2007, when their absolute value was Ls 253 million. This comparatively low relative level of intangible assets can be explained mainly by the fact that the existing practice of accounting does not allow to capitalise internally generated intangible elements, hence many of these existing objects are not included in assets. Besides, since for a long period of time in the Latvian economy intangible assets were not regarded to be assets at all, now there is no adequate understanding of their significance for the development of an enterprise.

The total period of research shows a tendency of increasing absolute value of intangible assets, especially from the beginning 2003. Significant changes in the content of intangible assets could be witnessed in 2003, when the amount shown in entry "Development costs" grew rapidly. Research and development costs in 2002

constituted LVL 6 million, but in 2003 they had already grown to LVL 39 million, thus in 2003 occupying the first place among all these entries. Some explanation to so fast increasing value of intangible assets is that only from 2003 in Latvian legislation were included criteria about development costs capitalization. By this reason companies started this process and these costs were reflected in balance sheets of companies.

It is important to mention the significant increasing (more than 67 million LVL) value of that balance item "Other intangible assets" from 2006. Because this entry does not include development costs, concessions, patents, licenses, trademarks and similar rights, goodwill or payments on account for these assets, one must question what ensured the rapid increase. For more detailed research of this current situation the additional information about included items in companies balance sheets are required.

Compare trends of values of intangible assets and total assets values from 2002 we recognize similarity in their growth path, that allows to speak about acceptable economic performance development in Latvia.

## Conclusions

The research on the development of intangible assets recognition and accountancy methods in Latvia showed that in conformity with the national economic development, changes in the business environment and modern accountancy tendencies on the international scale, the accountancy of intangible assets in Latvia is being improved on an ongoing basis. As a negative aspect we must point out that there is no separate national standard of intangible assets accountancy yet and therefore their recognition, evaluation and accounting is regulated by different laws and regulations. The development of such standard in Latvia is planned in the immediate future.

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## Summary

### ACCOUNTING FOR INTANGIBLE ASSETS IN THE REPUBLIC OF LATVIA: HISTORY, CURRENT CASE AND FUTURE DIRECTIONS

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The restoration of Latvia's independence brings along a fundamental reform of the national accountancy. One of the results of this overhaul was the addition of a new accountancy entry to the balance sheet: intangible assets. The research on the development of intangible assets recognition and accountancy methods in Latvia showed that in conformity with the national economic development, changes in the business environment and modern accountancy tendencies on the international scale, the accountancy of intangible assets in Latvia is being improved on an ongoing basis.

## AUDIT RISK MODEL: NEED FOR REVISION?

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Models are abstractions of reality, therefore in all cases they shall be simplified; as a model can hardly incorporate all aspects of reality. Such simplification may be appropriate to the extent it is not excessive or done improperly (Cushing, Loebbecke, 1983). In a number of research papers (Quadackers, Mock, Maijoo, 1996; Messier, Austen, 2000) an opinion can be found that an audit risk model is a conceptual framework for the performance of an audit. However, Martinov and Roebuck (1998) in their surveys have concluded that individual audit firms refer to different models of an overall audit risk, inherent and control risk concepts, as well as assess them on a different level of aggregation.

The outset of the beginning of an audit risk model creation is considered the sixties of the past century when a number of authors (Roberts, 1974; K. Stringer, 1975; Waren, 1979) and professional organisations (CICA<sup>1</sup>, AICPA<sup>2</sup>) published their views on an audit risk model. However, the general accepted audit risk model (hereinafter – the classical audit risk model) was announced by AICPA in 1983 (SAS 47); the same audit risk model is nowadays being referred to in the International Standards on Auditing. Under the circumstances a question arises whether the approach to the planning and conducting audits may remain unchanged even in view of the rapidly changing global business environment and the requirements to auditors getting increasingly stringent.

*The purpose of the present paper is to perform a comparative study of different audit risk models and submit proposals concerning the development on an improved audit risk assessment model.*

With this objective in mind the study first attempted to identify the principal advantages and disadvantages of a number of audit risk models – classical, expanded and those of Kinney (1989), Aldersley (1989), Sennetti (1990), Srivastava, Shafer (1992), Holmes (1995), Beatie, Fearnley, Brandt (2002), Turner, Mock, Srivastava (2003), Bell, Peecher, Solomon (2005).

**Classical audit risk model:** Under this model audit risk (AR) is understood as a function of inherent risk (IR) that is beyond control of the auditor, and the control risk (CR) and detection risk (DR), where the relation between the components of the audit risk is mathematically expressed by way of a formula:  $AR = IR \times CR \times DR$ . First, it should be acknowledged that the classical audit risk model *does provide certain understanding about audit risk and its components*. By following the model

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<sup>1</sup> The Canadian Institute of Chartered Accountants.

<sup>2</sup> The American Institute of Certified Public Accountants.

an auditor can assess the audit risk components having regard to the factors determining the value of each such component. Furthermore, some authors (Robertson, 1990; Mackevičius, 1999) have claimed that the expression of the model actually shows that the inherent, control and detection risks cannot be equal to a zero, and have acknowledged the significance of the assessment of all audit risk components in conducting an audit. Second, the classical risk model is highly *instrumental when planning an audit*. Arens and Loebbecke (1997) distinguish three ways of using the risk model for the purpose of audit planning: 1) the audit risk model helps assess the audit plan in terms of the qualification of the auditor. Having assessed the risk components it becomes possible to calculate the overall audit risk level and to compare it with the acceptable risk level; 2) the audit risk model enables the auditor to determine the detection risk; 3) the model is applied in order to understand the interrelations between the audit risk components and between them and the audit evidence.

Although the classical audit risk model is sufficiently precisely expressed in mathematical terms, in practice it is often subjected to criticism. First, most authors (Mackevičius, 1999; Robertson, 1990; Arens, Loebbecke, 1995) have pointed out that the audit risk model does help the auditor to better understand the interrelations between individual risks, but does not provide for a way to *calculate them*. It neither shows how to accurately establish the values of the inherent, control or detection risk. Since quite frequently the assessment of an acceptable level of audit risk, inherent and control risks is rather subjective and reflects the reality just to a limited extent, Long (1999) has claimed that in reality the audit risk model may be not sufficiently accurate. It drives to a conclusion that some authors (Cushing, Loebbecke, 1983; Arens, Loebbecke, 1997; Messier, Austen, 2000) have recognised that the audit risk model in any case is not able to provide a method to accurately estimate the audit risk components since the audit risk assessment is inevitably subjective. As claimed by Allen, Hermanson, Kozlovski, Ramsay (2006) "one of the reasons for the differences in the approaches towards the classical audit risk model may be related to the fact that according to one views it is being related to a conceptual framework, while others relate it to an accurate mathematical equation". Second, Messier, Austen (2000) and Dusenbury, Reimers, Wheeler (2000) have noted that the product of the audit risk components indicated that the inherent, control and detection risks were independent risk elements and that the model failed to reflect the interdependence of the inherent and control risks. But actually the audit risk components are interdependent, and all knowledge about one individual component must be carefully weighted in order to assess it in relation to other components. Therefore, Dusenbury, Reimers, Wheeler (2000) have pointed out that most researchers (Cushing, Loebbecke, 1983; Kinney, 1989; Sennetti, 1990; Morton, Felix 1990) have concluded that the Bayesian-decision framework according to which the components are relatively interrelated and are determined one after another is more appropriate for the description of the model than the link between the components expressed by way of multiplication. Third, the audit risk model has an inherent *aggregation problem*. In the opinion of Cushing, Loebbecke (1983) financial statements cannot be audited as a whole, therefore in the process of

audit financial statements are decomposed into separate parts and a specific audit objective is defined in respect of each such part. On that basis the audit risk model should be applied to each smallest audit element. In the meantime the composite audit risk model has not been developed to such level of detail; therefore the model should be expanded in order to resolve the aggregation problem. Fourth, Daniel (1988) has indicated that an *auditor is affected by a number of risks that are not included into the audit risk model*. For example, auditors may suffer damage due to litigation proceedings, negative publicity or other matters arising following the publication of the auditor's report. The threat may possibly arise even where an auditor performs a quality audit in accordance with the relevant professional standards and prepares an appropriate auditor's report about the financial statements of the entity. Besides, as Knechel (2007) has noted auditors need an updated wording of the audit risk model able to a larger extent relate the business risk of the entity audited and the audit risk. Currently, the links between the risks, control procedures, result assessment, assertions of financial statements and the comprehensive examination remain largely undefined. Still, as claimed by Bell, Peecher, Solomon (2005) the classical audit risk model is not capable of clearly showing the sampling and non-sampling risks. An inappropriate non-sampling risk control may result in undetected material misstatements (especially in case of fraudulent financial statements). To summarize, a conclusion may be drawn up that the classical risk model *does not completely reflect the entirety of the audit risk components and/or their primary characteristics*.

### **Expanded audit risk model**

Some authors (Robertson, 1990; O'Reilly, 1990) have proposed the *Expanded Audit Risk Model*. Under this model the detection risk is replaced by the analytical procedures and the risk of tests of details. The relation between the components of the expanded audit risk model, such as the inherent risk (IR), control risk (CR), analytical procedures (AP) and tests of details (TD) is expressed by a mathematically formula  $AR = IR \times CR \times AP \times TD$ . Evidently, the structure of the expanded audit risk model is similar to that of the classical audit risk model. The essential difference is that the detection risk in the model is divided into two parts. Thus it may be concluded that the application of this latter model will not be "essentially" advantageous or disadvantageous in relation to the classical audit risk model. Furthermore, in the opinion of Robertson (1990), Dusenbury, Reimers, Wheeler (2000) this model may *facilitate the understanding of certain sampling elements in the audit of account balances and transactions*. Since for the purpose assessment of the inherent, control and analytical procedures risks auditors exercise professional judgement, the expanded audit risk model may be used to express the test of details risk. The expression of the expanded audit risk model allows a conclusion that the lower the test of details risk, the lower is the overall audit risk. Since the performance of substantive procedures is costly, the performance of such tests in the extent as deemed necessary may enhance the efficiency of audit (Dusenbury, Reimers, Wheeler, 2000). Still, in the opinion of the author of the present paper it should be acknowledged that the expanded audit risk model does

provide some understanding about the audit risk related to the application of tests of details, however, it fails to disclose to what extent the risk is related to sampling and non-sampling risks. The non-sampling risk, in the same way as the sampling risk should be controlled by means of the audit risk model.

### **Kinney, Aldersley, Sennetti audit risk models**

Research sources indicate that Kinney (1989), Aldersley (1989) audit risk models are based on the Bayesian-decision framework. Furthermore, Kinney (1989) presented an audit risk model algorithm ("audit risk tree") in accordance to which the audit risk assessment should be performed in the following procedure: having assessed the inherent risk (IR) the auditor is further supposed to acquire an understanding about the entity's internal control and correctly assess the control risk. However his measurement is related to an inherent risk that the auditor will not be able to properly assess the control risk at its maximum value ( $IC_1$ ). As a result the analytical procedures are performed to a smaller or, accordingly, to a larger extent. Furthermore, there is an analytical procedure risk ( $R_{11}$ ) that the procedures can incorrectly provide audit evidence on the absence of a material misstatement while in reality the misstatement does exist. Having regard to that an audit will apply fewer tests of details since neither the understanding of the internal control structure, neither its testing or the analytical procedures have produced any evidence that the material misstatement exists. As result a risk arises that the performance of tests of details will not detect the material misstatement ( $TD_{111}$ ) which will eventually lead to an incorrect acceptance ( $IA_1$ ). Other cases presented in the model can be interpreted in a comparable way. In the meantime the Aldersley's (1989) audit risk model is also considered a to represent a certain modification of the Kinney's (1989) audit risk algorithm. Aldersley (1989) has noted that his audit risk model does not discuss any excess situations ("tree branches"): the incorrect acceptance solution is rejected in case where a material misstatement does not exist; where the control risk is assessed close to maximum, an assumption is made that the misstatement will be detected; where the evidence show that a possibility of misstatement exists it is expected to be detected.

In the opinion of Sennetti (1990) the audit risk model proposed by him, also Kinney (1989) and Aldersley (1989) provide a *model that is much more comprehensive and to a larger extent aligned with the definition of audit risk in the meaning of the International Standards on Auditing*. According to the audit risk models proposed by Sennetti (1990), Kinney (1989) and Aldersley (1989) having collected sufficient evidence on a possible material misstatement an auditor may find himself in a incorrect acceptance position ( $IA_1$ ) or the correct acceptance ( $CA_1$ ) position. Although the definition of the audit risk is based on the case of incorrect acceptance – ( $IA_1$ ), both cases are possible. Therefore the latter model is more comprehensive than the classical audit risk model *for the audit risk planning and assessment purposes*, since the auditor needs to assess all cases ( $IA_i$ ,  $CA_i$ ) by determining a planned audit risk level, and the planned audit risk is different from the audit risk assessed on the *ex post* level. Besides, Kinney (1989) has offered the audit risk

model modification that acknowledges the dependence between the two risk components, i.e., the inherent and control risks. According to Kinney (1989), the inherent risk factors ( $IR_{nc}$ ) that cannot be reduced by means of control procedures (pervasive factors) have an impact upon the entire structure of the entity's internal control, since these risk factors are related to entity as a whole and are relevant to all cycles of accounting and account balances. On the other hand, factors of inherent risk ( $IR_c$ ) that are reduced by means of control procedures (specific factors) are relevant to certain accounting cycles and account balances. In the opinion of the author of the present paper the latter proposal to distinguish the inherent risk factors into pervasive and specific factors partly correspond to the levels of material misstatement risks defined in the standards on auditing (ISA 200, 2007), i. e., the financial statement level (overall) and the assertion level (specific). Therefore it may be concluded that the Kinney's (1989) audit risk model *attempts to address the aggregation problem* that is incident to the classical audit risk model.

### Srivastava, Shafer audit risk model

Srivastava, Shafer (1992) have indicated that the plausibility of the belief function reveals the intuitive understanding of the auditor to a better level than the regular probability. Since plausibility not necessarily means evidence, that the statements are materiality misstated, it cannot be appropriately equated to the probability of material misstatement. The concept of the belief function includes three related matters: 1) belief function (Bel) – belief that no material misstatement exists; 2) plausibility function (PL) – plausibility of material misstatement, and 3) the value of the principal probability (m). In the opinion of Srivastava, Shafer (1992) the principal probability is appropriate to express the initial solutions, while the plausibility function is instrumental in expressing the final solutions on audit risk. The plausibility functions proposed by Srivastava, Shafer (1992), or the audit risk model formulas at different aggregation levels (financial statements (F), accounts (A) and audit objective (AO)) are summarized in the Table below:

**Table 1.** Audit risk formula on the basis of the belief function concept

Occurrence level	Plausibility function (PL)
<b>Financial statements</b>	$PL_F^*(\sim f) = AR_F^* = IR_F APR_F [1 - \prod_A (1 - AR_A)]$ $\text{Where: } AR_A = IR_A APR_A [1 - \prod_O (1 - AR_{AO})]$ $AR_{AO} = IR_{AO} APR_{AO} CR_{AO} DR_{AO}$
<b>Accounts</b>	$PL_A^*(\sim a) = AR_A^* = IR_A APR_A IR_{AO} APR_{AO} [1 - \prod_O (1 - AR_{AO})]$
<b>Assertions (audit objective)</b>	$PL_{AO}^*(\sim c o) = AR_{AO}^* = IR_F APR_F IR_A APR_A AR_{AO}$ $AR_{AO}^* = (IR_F IR_A IR_{AO}) (APR_F APR_A APR_{AO}) (CR_{AO} DR_{AO})$

AR – audit risk; IR – inherent risk; APR – related analytical procedure risk; CR – control risk; DR – risk related to substantive tests.

Source: R. P. SRIVASTAVA, G. R. SHAFER, 1992.

The data in the Table allow an observation that the plausibility function formula at assertion level is comparable to the classical audit risk model, although the audit risk understanding is entirely different, since account is being taken of the assessments made on the assertion (audit objective), accounts and financial statements level. Furthermore, the proposed plausibility function formulas on other levels (financial statements, accounts) have been constructed to properly consider the scope of occurrence of audit risk components at different levels. Since the approach offered by Srivastava, Shafer (1992) distinguish the evidence collected at three different levels it may be concluded that the *audit risk aggregation problem* has been solved, therefore the audits performed on the basis of the formulas proposed by the authors *may be significantly more efficient* than the audits performed according to the classical audit risk model formula.

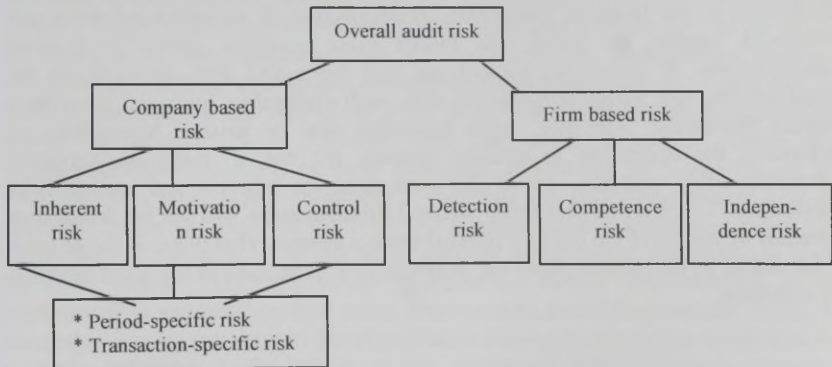
### ABREMA model

Holmes (1995) have proposed the activity based risk evaluation model (hereinafter – the ABREMA model) under which audit risk is primarily distinguished into two components: 1) risk of material misstatements in unaudited financial statements, and 2) the risk that the misstatement will not be detected by the auditor ( $1-Pr(Da)$ ). Further the risk of material misstatements in unaudited financial statements is categorised into the inherent risk of material misstatement ( $RMM_i$ ), and the risk that material misstatement will not be detected by the entity itself ( $1-Pr(De)$ ). Having substituted the material misstatement risk into two of its components that audit risk according to the ABREMA model shall be expressed as follows:  $AR = RMM_i \times (1-Pr(De)) \times (1-Pr(Da))$ . The above considerations allows a conclusion that: 1) the three audit risk components discussed in the ABREMA model ( $RMM_i$ ,  $1-Pr(De)$ ,  $1-Pr(Da)$ ) corresponds to the risk components under the classical audit risk model ( $IR$ ,  $CR$ ,  $DR$ ), and 2) the mathematical expression of the ABREMA model coincides with the expression of the classical audit risk model, i.e.,  $AR = IR \times CR \times DR$ . However, an important consideration in this respect is the illustration by Holmes (1995) of the audit risk evaluation process under the ABREMA model showing that the audit risk is assessed in different stages of the audit involving the auditor's actions related to audit planning, obtaining and assessment of audit evidence and passing of the decision. However, the audit theory maintains that audit is a continuous information collection process (including the reversible relations from previous actions) by choosing to act or not to act, by obtaining additional information and then again deciding whether to act or not act. The process is phased rather than having collected the complete information and having integrated it prior to choosing a response. However, the audit risk evaluation process according to the ABREMA model shows that the auditors will in the first place collect the necessary audit evidence, and then assess the evidence in a different way, than the continuous and iterative process as described earlier. Also the provided audit risk evaluation process according to the ABREMA model shows that all five audit stages are consecutive, i. e., the control testing stage precedes the substantive testing stage, which allows a conclusion that auditors perform the control tests prior to the substantive tests. Often in practice the audit evidence related to the control

efficiency is collected in connection with the tests of details evidence (dual purpose tests are performed). Therefore the ABREMA model failure stems from its structure designed to emphasise the dependence of the mature, timing and scope of substantive procedures on the control test results. Irrespective of that, in the opinion of the author of the paper, the ABREMA model is important in the sense that the course of the audit risk evaluation is illustrated through the prism of the audit phases.

### The audit risk model proposed by Beatie, Fearnley and Brandt

Beatie, Fearnley and Brandt (2002), when describing the essence of the audit risk have pointed out that the auditor may fail to detect material misstatements, or, upon the detection of these, fail to recognise them for the following three main reasons: 1) the audit has been performed no in compliance of the standards – i.e., the auditor is not sufficiently competent; 2) having detected the material misstatements the auditor neither report or correct them – i.e., the auditor is not sufficiently independent; 3) the management of the entity intentionally seeks to mislead the auditor. In the latter case the auditor shall not be liable for the failure to detect the misstatements, and the first two reasons are attributed to audit failure. Therefore, the authors (Beatie, Fearnley and Brandt, 2002) have pointed out that: 1) classical audit risk model is limited to the detection risk, i.e., at the limit that where the audit firm identifies the problem, and where for some reasons that the audit firm/auditor is not sufficiently independence in his mind it will be impossible to produce correct opinion. Therefore the auditor's independence facts must be included into the audit risk model; 2) the audit risk model must allocate sufficient attention to the audit firm/auditor capacity to properly resolve the encountered problems. The incapacity to identify the significance of the problems arising from the audit is nothing else as the competence risk. While arguing that the threats potentially arising from the auditors/audit firms are not recognised in the classical audit risk model, Beatie, Fearnley and Brandt (2002) in the audit risk model propose to introduce some new audit risk components such as independence and competence risks (see the Figure).



**Figure 1.** The audit risk model proposed by Beatie, Fearnley and Brandt. Source: BEATIE, FEARNLEY, BRANDT, 2002, p. 42.

Further, the audit risk model proposed by Beatie, Fearnley and Brandt introduces the following types of risk: 1) motivation risk, i.e., understanding of the management's behaviour, 2) period-specific and transaction-specific risks. The latter risks are material in the sense that the auditor should to a larger extent focus upon the specific accounting periods and specific transactions that depend on the motivation of the management. Also the latter model distinguishes the risks arising from the entity being audited and from the audit firm in order to show how the independence system acknowledges the safeguards. Besides, by assigning the risk to the audit firm it is acknowledged that the quality and the scope of the audit standards complied with by the auditor should alleviate the detection risk. And the quality control (including the client acceptance procedures), training and the ethics influence upon the audit firm coordinated with the regulatory supervision is expected to alleviate the competence and independence risks.

Beatie, Fearnley and Brandt (2002) maintain that the audit risk model proposed by them *acknowledge the entirety of audit risks*, while the classical audit risk model shows only the consequences of detection rather than the adequate decisions or incentives of the managements. The audit risk model proposed by Beatie, Fearnley and Brandt clearly shows the factors determining the scope of the audit risk. These include: 1) actions of the entity being audited; and 2) actions of the audit firm. The auditor must be aware that risk may exist not only because of his actions or the actions of the audit firm, but also because of the peculiarities of the entity audited. However, although the audit risk model proposed by Beatie, Fearnley and Brandt is quite easily comprehended and expressed schematically, its *mathematical expression* has not been presented. The mathematical expression would demonstrate the links between the audit risk components, and how one audit risk components could be expressed through the other audit risk components. Furthermore, in the opinion of the author of the present paper, the motivation risk distinguished in the Beatie, Fearnley, Brandt model should be assessed in connection with the inherent and control risks. Since one of the important factors of the inherent risks is the integrity and experience of the management, as well as the management's intentions to make adjustments in the financial statements, distinguishing of an individual audit risk component renders the audit risk model more *complex, rather than more understandable*. It should be pointed out that the model also distinguishes the period-specific and transaction-specific risk, such distinction, however, deserves a separate discussion. Naturally, when executing new or unusual transactions or performing the operations in specific periods, the risk to make an erroneous accounting entry increases, but at the same time the inherent and control risks increase too, i.e., the risk that these material misstatements will not be detected or corrected by means of the entity's internal control system. Therefore, in the opinion of the author of the present paper the distinction of these risks in the audit model is not expedient.

### **Audit risk model proposed by Turner, Mock, Srivastava**

In the opinion of Turner, Mock, Srivastava (2003) the components of the fraud triangle and their interrelations produce a significant impact upon the audit risk, therefore the authors *integrate the fraud triangle components into the audit risk model*, including the links between the approaches – management integrity and incentives, and the management integrity and capacities. The link between the management integrity and incentives shows that in view of low level of incentives the management demonstrates high integrity and operates seeking to alleviate the incentives. However, in view of the high level of incentives, the integrity of the management is compromised and the management seeks any possible benefit. Furthermore, the link acknowledges that the management of lower integrity may seek to create new or create the existing incentives. In the meantime the relation between the management's integrity and capacities shall be interpreted as follows: in view of significant capacities, due to their attractiveness the management integrity is compromised and the fraud risk increases. Besides, the management with lower integrity may seek to create or increase the capacities currently available (Turner, Mock, Srivastava, 2003, p. 17). In the opinion of the author of the present paper the fraud factor is an overall factor in nature, therefore the fraud risk assessment should in all cases be in focus as proposed in the Turner, Mock, Srivastava (2003) audit risk model. However the assessment should be performed in the first place at the financial statements level, which would determine the appropriate actions of the auditor on the assertion level.

### **Audit risk model proposed by Bell, Peecher, Solomon**

The researchers (Bell, Peecher, Solomon, 2005) have proposed for the purpose of risk assessment to refer to the triangulation approach. Triangulation is manifested when the auditor reaches the degree at which the same audit decision is based on the evidence from all three principal sources: entity's business state (EBS), management information intermediaries (MII), and the management business representations (MBR). Where ISA 315 (2007) highlights the significance of the EBS as the source of evidence in the inception stage of the audit, the triangulation approach acknowledges that the consistency between MII and MBR does not ensure that the MBR contain reliable representations of the EBS. When applying the triangulation a thought is given to "how evidence from one principal source provide new information and responses, or raise questions concerning the reliability of the evidence from other principal sources". Therefore the underlying principle of the approach claims that the evidence from one principal source *compliment* rather than *compensate* the evidence both collected from the other source, and collected about the other source. This significantly enhances the overall persuasiveness of the evidence upon which the auditor relies when passing the audit decisions. It may be concluded that by referring to the triangulation approach the auditor systemises the evidence collected in the course of the continuous risk assessment, considers whether sufficient appropriate audit evidence has been obtained in the course of each phase of the audit from all principal evidence sources, and on the appropriate

level of occurrence to enable the auditor to assess and respond to all principal audit risks (*aggregation problem is addressed*), and considers whether the formulated assurance concerning the final assessment of risk is reasonable. Besides, the triangulation approach, according to Bell, Peecher, Solomon (2005) facilitates the improvement of the audit quality in two ways: 1) the comparison of the EME, MII and MBR evidence *facilitates the auditor in responding to the risk of the unintentional misstatements in financial statements*. The MII-based evidence becomes even more informative, where they are formed on the basis of the EBS and MBR evidence, and where the analysis of the MII-based evidence is based on the EBS and MBR evidence; 2) *facilitates the auditor in fighting intentional misstatements*. By applying the triangulation approach the auditor shall collect the evidence from the EBS and about the EBS, and the management will find it much more difficult to falsify certain of this evidence, than the evidence from the EBS and about the EBS. Furthermore, where the management is aware that auditors collect evidence from the EBS, the management will be less inclined to commit fraud.

## Conclusions

The results of the comparative analysis of the audit risk models shows that all audit risk models covered are expressed in some kind of form, i.e., a formula, scheme, or a table, and are relevant in the audit process, because: 1) provide an overall understanding about the audit risk and its components, although does not provide a specific way to quantify the risks; 2) distinguish individual audit risk components, although only the audit risk models of Kinney (1989), Aldersley (1989), Srivastava, Shafer (1992) and Bell, Peecher, Solomon (2005) attempt to address the problem of the audit risk component dependence, according to which the audit risk components are assessed by reference to the results of the precedent assessment of the audit risk component. Furthermore, the audit risk models expressed by a mathematical formula (classical, expanded, Kinney (1989), Sennetti (1990), Srivastava, Shafer (1992) and ABREMA (1995): 1) prove that not a single audit risk component may be equal to a zero, because otherwise it would mean that in the case analysed no audit risk exists; 2) facilitates the expression of one audit risk component through other components, determine the scope of the audit procedures, materiality level, which may be very important in planning the statistical sampling, although they do not create any major additional value for the purpose of the quantifying of the overall audit risk and/or its individual components.

When referring to the deficiencies of the audit risk models covered, a conclusion may be drawn up that the models *do not completely reflect the entirety of the audit risk components and/or their primary characteristics*:

- 1) *conditions determining the audit risk* (concerning the application of sampling, occurrence of fraud, business risk of the entity audited, engagement risk of the audit firm and other detection-related factors) *are covered by individual audit risk models only*;
- 2) the audit risk models covered, except the models proposed by Srivastava, Shafer (1992) and Bell, Peecher, Solomon (2005) do not resolve the aggregation

problem, i.e., does not demonstrate that audit risk and each component of the audit risk must be assessed not only on the assertion, groups of transactions and account balances, but also on the level of financial statements;

- 3) only the audit risk models proposed by Holmes (1995) and Bell, Peecher, Solomon (2005) demonstrate that *audit risk and/or its components are (re)assessed at a certain phase of the audit*, however, not a single audit risk models covered *disclose the iterative nature of the decision-making process*; changes in the audit risk assessment should have an impact upon the auditor's work (by providing for adjusted values of audit risk components, further examination of the established misstatements and adjusting them accordingly).

Considering that none of the audit risk models covered may be considered sufficiently comprehensive and fails to fully reflect the essence of the audit risk assessment, an enhanced audit risk evaluation model should meet the following conditions: 1) acknowledge the entirety of the audit risk components and their core characteristics (concerning the application of sampling, occurrence of fraud, and etc.); 2) disclose the interdependence of audit risk components; 3) be applicable when assessing the audit results; 4) specify that audit risk and/or its components are evaluate at each phase of the audit and at different level of aggregation levels; 5) provide the stages of audit according to the applicable audit practice; and 6) disclose the iterative nature of the decision-making process.

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## Summary

### AUDIT RISK MODEL: NEED FOR REVISION?

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In a number of research papers an opinion can be found that an audit risk model is a conceptual framework for the performance of an audit. Under the circumstances a question arises whether the approach to the planning and conducting audits may remain unchanged even in view of the rapidly changing global business environment and the requirements to auditors getting increasingly stringent. With this objective in mind the study attempted to identify the principal advantages and disadvantages of a number of audit risk models – classical, expanded and those of Kinney (1989), Aldersley (1989), Sennetti (1990), Srivastava, Shafer (1992), Holmes (1995), Beatie, Fearnley, Brandt (2002), Turner, Mock, Srivastava (2003), Bell, Peecher, Solomon (2005) and submit proposals concerning the development on an improved audit risk assessment model.

# PLANNING OF THE TAXATION POLICY UNDER CRISIS

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## Introduction

Since ancient times taxes as obligatory payments have already been a constituent part of economic relations. In comparison with taxes nowadays at that time they had other forms and methods of collecting but, nevertheless, in all times taxes have served as a mechanism of redistribution of income in the society as a definite element of the economic culture typical of all kinds of economy. In the long run taxes as an economic category have been attracting the attention of scientists, monarchs and politicians because the taxes have proved their ability to make a substantial influence both on the economic processes and on the welfare of inhabitants. The tax policy of governments has been the reason for different attitudes of the society towards the ruling class. It has not been in vain that among the government tasks and especially during the political campaigns the tax policy has been an important part of the programs. We must emphasize that taxation is a complicated financial category and it is difficult to predict the response of the society to the changes of taxation policy. In this respect a lot of governments in the world have made mistakes. It is easier to forecast taxes under stable economic conditions but under crisis and the situation of recession it is completely different. At present the governments of many countries face a challenge how to ensure the budget income in the situation of economic recession, how to protect companies from bankruptcy and how to keep up a certain level of welfare of inhabitants. Governments have a wide range of financial and economic instruments at their disposal, the use of which can stop the recession and stabilize economy or, the other way they can make the economic problems bigger.

At the same time we must point out that many governments do not have enough experience and knowledge in managing the problems of public finance and economy as a whole under crisis. As a lot of researchers have emphasized, in such situations the governments respond without delay under the pressure of certain layers and groups of the society. Solutions and reforms do not have a complex approach, the governments overdo with the use of different instruments as a result of which the problems become bigger.

The aim of the article is to analyze theoretical principles and features of tax policy under crisis and based on the analysis of a real situation in the Republic of Latvia to give recommendations for the improvement of tax policy.

## 1. Theoretical background of the development of tax policy

As it has already been pointed out, taxation is one of the oldest institutions in the society, its origin is closely connected with the existence of the country. Some

authors consider that the systemic tax application began with "church duty" or Tithe (one tenth) which was regularly collected for the church and this continued later on with the collection of portion of the products for financing the secular power, too. Other specialists of financial history relatively divide the historical development of taxation into three stages<sup>1</sup>. The main difference between these stages was the increase of significance in the state income and a higher stage of development of the taxation mechanism.

In the first stage there were the first very primitive and basically natural obligatory payments. In this stage there were no special institutions of tax collection, payments were collected irregularly. In connection with the payments in this stage the research papers most often mention such regions as ancient Egypt, ancient Greece, China and the Roman Empire. A lot of different payments were stated for the benefit of rulers: some cattle, corn, oil and honey; part of income; duty for transportation of goods; duty for plot of land; corvee, etc. It was especially in the Roman Empire where there were about 200 different payments. Even part of them has remained up to nowadays, for example, the taxes of land, real estate, sales tax, customs duty and a lot of others.

The second stage of development (XVI–XIX centuries) is characterized by the increase of the state role in the building up the state revenues and relatively regular collection of taxes. State institutions were created to impose quotas and to supervise the collection process. The taxation system and its unification began to develop in the framework of one country. The example can be the Act of Union in 1707 which stated the unification of England and Scotland as a result of which duties and payments of customs were harmonized in the territory of both countries. During the second stage the amount of taxes was set which were exclusively the rights of the parliament.

During this period the theories developed concerning taxes as obligatory payments, their nature, significance and role in the economic and socio – political life in the society.

It is commonly accepted that the third stage of development began after the First World War and continues up to nowadays. During this period of time scientists, economists and financiers began and are still working on the search for the optimal approach in order to balance the taxpayers' interests against state revenues. The tax administration has fully been taken over by the state. The discussions are held among countries about the harmonization and simplification of the taxation system. The science of taxation involves a lot of theoreticians and practitioners. More and more emphasis is laid on the significance of taxes as an economic category of the objective necessity. So, the theory of collective necessity developed justifying the increase of state expenses and tax burden. In its turn, the theory of J. M. Keynes (1883–1946) defines that the taxes are the main mechanism to regulate economy and

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<sup>1</sup> Пушкарева В. М. История финансовой мысли и политики налогов. М., Инфра-М., 1996, page 17.

one of the elements of the growth and development of economy. The scientist emphasized that too big savings of money hinder the development and that is why by the help of taxes they must be withdrawn and invested into the development of economy. This opinion is known as a theory of imposing taxes on passive income and stimulation of demand. Later on with the development of the monetary theory M. Friedman (1912–2006) pointed out that taxes must be imposed on active money because too much money in circulation hinders the development. Contrary to Keynes it is known as a theory of the stimulation of supply which suggests to decrease tax rates and to set the tax relief to corporations as a result of which there could be a rapid growth of economy and the increase of tax payments to the budget. This theory is illustrated by a well-known Laffer Curve which shows the importance of liberalization of imposition of taxes and optimal determination of tax burden.

As we can see, there are different and even opposite opinions about the role and influence of taxes on economy and there are different proposals to use taxes for the achievement of definite social and economic goals. Historically, the tax policy has changed depending on the economic situation in the country and the viewpoint of the ruling political party. There have been successful as well as unsuccessful examples in practice. It is interesting to point out that the tax reforms have always taken place in order to improve the welfare of inhabitants, to develop production and to ensure the budget income. According to the historical data there are different ways how to achieve that. It is difficult to find a country where all individuals of the society are equally satisfied or unsatisfied with the tax policy. There is an assertion that a perfect tax application is like a gimmick as a result of which it is possible to ensure everything what it can do and achieve a maximal effect. Therefore, there is no surprise that economists in the world have been puzzling over taxes, and still the taxes today are both well understandable and puzzling at the same time. They are so simple in essence and so contradictory and debatable in their particular application<sup>2</sup>.

What is a fair taxation system? All politicians, practitioners and scientists try to find an answer to this question. Several criteria are proposed for the assessment of a fair taxation system which is immediately criticized. There are some of them:

- **Those who have higher income pay higher taxes.** Still there is a question under the discussion about the kind of taxes which should or should not be included into the common taxable income. There are two different opinions: the first – all kinds of income are the tax base; the second – a part of income is not taxed.
- **Those who spend more pay more taxes.** This idea is supported by the fact that it is possible to conceal the income and not include into the tax return. Therefore, the welfare of inhabitants is best characterized by the consumption which is more difficult to conceal. The critics of this idea point out that consumption can be concealed because people can spend money in foreign countries and the real price of the deal can be concealed, too.

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<sup>2</sup> Veseth, M. Public Finance, 1984. page 172.

- **The same rate for any kind of income.** Still there is a viewpoint that rates must be differentiated according to certain criteria (the amount of income, value of property, the nature and significance of services and goods in our life, etc.).
- **Less tax burden for all:** higher taxable minimum; special preconditions for families with children, etc., and there is an opinion that still the burden must be differentiated. The idea about the reduction of tax burden is similar to the theory which states that the budget income can be increased by the reduction of taxes.
- **A lot of taxes but low.** It has been pointed out that putting a particular tax on a fragmented base (e.g. on particular income or property – payroll tax, capital tax, tax on winnings, etc.) it is easier for inhabitants to understand the tax policy and there is an impression that you can avoid from many taxes because there is no tax base. This way you can better see that wealthier people pay more taxes.
- **Few but high taxes.** There is an opposite viewpoint in comparison with the previous one. Namely, a lot of taxes can create the impression that the tax burden is very big and therefore there is a proposal to consolidate the base and to set one tax, for example, income tax. Of course, the tax will be higher because the government must provide the budget income but the country will be proud of the small amount of taxes and it is not insignificant for a taxpayer.

Other research papers mention the necessity to ensure horizontal and vertical justice. Several researchers refer to the taxation policy principles set forth by the Scotch scientist A. Smith: purchasing power, the principle of redivision of taxes, consistency, simplicity, economic effectiveness.

The aim of the author is not to analyze these principles but to point out that during the evolution of the world a lot of research work of tax policy has been done and nowadays the governments should not invent something new, they must study this research, find out the economic consequences of tax changes mentioned in the investigations, the governments must make conclusions and take the most appropriate action in a particular economic situation. Unfortunately, the representatives of governments and politicians do not appraise theoretical investigations and so they make mistakes and the worst thing is that they are repeated.

## **2. Analysis of tax policy until the economic crisis in Latvia**

In any economic situation taxes are the main source of the budget income. In order to make the tax policy it is necessary to find out how the government plans to spend taxpayers' money. So, the necessity of tax revenues is connected with the state functions. The government organization of work and its efficiency seriously influence the amount of budget expenses. During the recession the tax revenues decrease and it is necessary to review the planned activities of the government. The aim of this research is not to analyze the government expenses and the possibilities to reduce them because it is a separate subject of research. The author only wants to indicate that the reduction of expenses is a very difficult question for the society and a complicated problem for governments because it is connected with the adoption of very unpopular decisions. Therefore, any government is interested in retaining the

budget income to avoid such decisions. We could see a similar situation in Latvia in the period before crisis. With the rapid development of economy tax revenues increased.

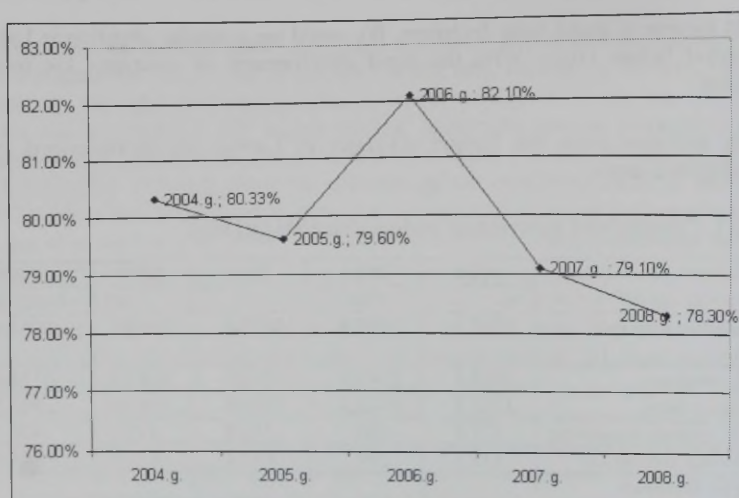
During previous years the budget revenues in Latvia are characterized by the following indicators.

**Table 1.** Consolidated government budget structure (mj lats)<sup>3</sup>

	2004	2005	2006	2007	2008
	Fact				estimation
<b>Consolidated budget income</b>	<b>2522,2</b>	<b>3199,8</b>	<b>4015,6</b>	<b>5415,2</b>	<b>6553,6</b>
1. Tax revenues	2025,4	2545,7	3299,0	4285,4	5133,9
1.1. Direct taxes	1261,3	1502,3	1935,8	2566,8	2996,2
<i>Incl. Corporate income tax</i>	<i>127,8</i>	<i>180,7</i>	<i>253,8</i>	<i>405,3</i>	<i>560,0</i>
<i>Personal income tax</i>	<i>435,5</i>	<i>509,1</i>	<i>657,2</i>	<i>870,5</i>	<i>1006,0</i>
<i>Social insurance contributions</i>	<i>641,2</i>	<i>751,0</i>	<i>958,4</i>	<i>1220,0</i>	<i>1358,0</i>
<i>Property taxes</i>	<i>56,8</i>	<i>61,6</i>	<i>66,4</i>	<i>71,0</i>	<i>72,2</i>
1.2. Indirect taxes	745,7	1019,9	1331,1	1678,6	2094,3
<i>Incl. Value added tax</i>	<i>486,7</i>	<i>677,1</i>	<i>930,5</i>	<i>1205,3</i>	<i>1520,0</i>
<i>Excise tax</i>	<i>236,9</i>	<i>314,0</i>	<i>366,2</i>	<i>428,2</i>	<i>522,1</i>
<i>Car and motorcycle tax</i>	<i>4,9</i>	<i>9,5</i>	<i>13,7</i>	<i>17,8</i>	<i>22,2</i>
<i>Electricity tax</i>				<i>0,4</i>	<i>0,4</i>
<i>Customs duty</i>	<i>17,1</i>	<i>19,2</i>	<i>20,7</i>	<i>27,0</i>	<i>29,5</i>
1.3. Other taxes	18,5	23,5	32,0	40,0	43,4
2. Non-tax revenues	190,8	218,3	242,7	367,4	389,5
3. Donations and presents	9,9	8,7	12,4	3,5	3,5
4. Own revenues	142,0	175,3	196,6	245,8	261,0
5. Foreign financial aid	154,2	251,8	265,0	513,0	765,7

The figures in the table show that in previous five years the tax revenues in the absolute amount regularly increased which was connected with a stable growth of GDP. Nevertheless, the tax income part of the consolidated government budget has changed during the last years.

<sup>3</sup> About the state budget in 2008 – explanations. [www.fm.gov.lv](http://www.fm.gov.lv) resource viewed on 15.03.2009.



**Figure 1.** The proportion of tax revenues in the state budget in the years 2004–2008.

During the last years the proportion decreased more rapidly because of the increase of foreign financial aid in the part of non-taxed revenues in the budget. Analyzing the revenues of particular taxes we can see that in the whole period in Latvia direct taxes are dominant among which the biggest part accounts for obligatory social insurance contributions and personal income tax. In the part of indirect taxes the value added tax undoubtedly constitutes the biggest portion. Consequently, not all the taxes have the same fiscal role. To make it clear the author shows the data of tax revenues according to the specific weight of GDP.

**Table 2.** Consolidated government budget structure<sup>4</sup> (% from gross domestic product)

	2004	2005	2006	2007	2008
	Fact				estimation
<b>Consolidated budget income</b>	<b>33,9</b>	<b>35,3</b>	<b>35,6</b>	<b>39,7</b>	<b>41,5</b>
1. Tax revenues	27,2	28,1	29,3	31,5	32,5
1.1. Direct taxes	17,0	16,6	17,2	18,8	19,0
1.2. Indirect taxes	10,0	11,3	11,8	12,3	13,3
1.3. Other taxes	0,2	0,3	0,3	0,3	0,3
2. Non-tax revenues	2,6	2,4	2,2	2,7	2,5
3. Donations and presents	0,1	0,1	0,1	0,0	0,0
4. Own revenues	1,9	1,9	1,7	1,8	1,7
5. Foreign financial aid	2,1	2,8	2,4	3,8	4,9

<sup>4</sup> About the state budget in 2008 – explanations. [www.fm.gov.lv](http://www.fm.gov.lv) resource viewed on 14.03.2009.

Analyzing the changes of tax policy in this period we must say that it does not show changes in tax policy. The last significant changes in tax policy were in the year 2004 after the accession to the European Union when the lowered VAT tax was reduced from 9% to 5%, and according to the requirements of EU the excise tax rate is gradually being increased on alcohol, tobacco and oil products. Shortly before the accession to the European Union the corporate income tax rate in Latvia was substantially reduced from 25% to 15%. Analyzing personal income tax we must point out that changes were made in the internal structure.

**Table 3.** Changes of personal income tax in Latvia in 2005–2009

	2005	2006	2007	2008	2009
Rate%- natural persons	25	25	25	25	23
Rate%- sole proprietors	25	25	25	15	15
Non-taxable minimum per month Ls	26	32	50	80	90
Tax relief for dependent person per month Ls	18	22	35	56	63
Justified expenses for education and health care per annum Ls	150	150	150	150	300
Minimum monthly salary Ls	80	90	120	160	180

As a whole the changes must be considered as positive but other changes were necessary to regulate economy. For example, the taxable base of income tax was not reviewed. Latvia is one of the few countries where the capital tax has never been introduced and even now the capital gains are not being taxed, the opportunity of which is missed and too late to restrain splitting of the society and restrict the unbalanced real estate market. Besides, at present the non-taxable minimum is too low, it does not cover the subsistence level calculated by the Ministry of Welfare.

The government has not worked on other taxes, too, e.g., lottery and gambling tax, real estate tax, excise tax, which is considered to be a mistake.

As a whole, we must point out that substantial changes influencing the growth of economy until the year 2008 were not implemented.

As we know, in the period shown in the table there was a rapid increase of GDP and many economists forecasted the overheating of economy at the same time suggesting to make changes in the tax policy. In reality the government of Latvia did nothing to slow down the rapid growth of economy by the help of taxes (especially in the real estate market). The author has already pointed out that the science of economics has more than once mentioned taxes as one of the most efficient instruments for the regulation of economy, which was not used by the government of Latvia.

As another essential mistake of fiscal policy according to the author is the fact that receiving additional revenues in the budget the money was not used to cover the budget deficit and to create reserves. The money was simply spent. As a result under

the conditions of rapid economic growth there was a deficit in the state budget of Latvia which by no means was an excuse. So, shortly before crisis the taxation system in Latvia was inadequate to the economic situation because the government pursued a passive tax policy and there were no financial reserves.

### 3. Use of taxes to stabilize economy

As we know, at present there is an economic crisis in the world. It has hit Latvia rapidly and fiercely. At the end of the last year GDP of Latvia fell dramatically and the decline is still going on. As a whole last year GDP went down by 4.6% but last year in the fourth quarter in comparison with the period in the previous year GDP fell by 10.3%. The fall of GDP was especially felt in trading – by 17.2%, in transport and communication – by 2%, in manufacturing industry – by 11.5%, in building – by 10.9% and in financial mediation – by 18.0%.

According to the estimation of the Ministry of Finance, in 2009 GDP could decrease by 12–15%.

As a result the tax revenues in the state budget will substantially decrease which can threaten the performance of the government functions. The decrease of the tax revenues in the budget could reach an unpredictable amount. The tax revenue dynamics in the state budget for the last years is the following:

**Table 4.** Tax revenues to the state budget mj Ls<sup>5</sup>

Year	mj Ls
2004	1652,1
2005	2107,1
2006	2731,8
2007	3517,5
2008	4246,8
2009 plan	4057,2
2009 changed plan	3465,1

As we can see, after its first confirmation the revenue plan of 2009 has been changed according to the specified GDP forecast. The new government of Latvia is working now on the next specification of budget 2009 which means that the expected tax revenues will further decrease. The situation is really dramatic because this means a substantial reduction of the budget expenditure.

According to the operational data of Treasury of the Republic of Latvia only in February, 2009 the revenue of VAT was 33 million lats less but the revenue of personal income tax was 5 million lats less than in the same period of the previous year. Amendments to the law on taxes are in effect from 01.01.2009 in order to stabilize the situation in Latvia somehow. The base rate of VAT is increased from

<sup>5</sup> www.kase.gov.lv resource viewed on 10.03.2009.

18% to 21% (there is an opinion that it should have already been done two or three years ago) but the lowered tax rate is increased from 5% to 10%. Besides, for some services the lowered tax rate is abolished and now it is 21% instead of 5%.

The excise tax is also increased for alcohol, cigarettes and petrol. As a result the prices went up for all excise goods.

The following positive changes must be mentioned: from 1 January, 2009 the personal income tax was decreased from 25% to 23% but the non-taxed minimum and the tax relief for dependents were increased. Yet we must point out that initially there was a more substantial increase in the non-taxable minimum and the tax relief for dependents but it was not implemented.

The author wants to indicate that these changes were made in a hurry without sufficient economic calculations and a wide public discussion. The proof of it is the information from entrepreneurs about the dramatic worsening of the situation, especially, in the hotel industry where the VAT rate is increased from 5% to 21%.

Already after some months economists made the conclusion that the increase of VAT tax was a mistake because it hinders the development of entrepreneurship more. This fully demonstrates the importance of the determination and application of the Laffer curve which has long been known in theory. At present the optimal VAT curve has been violated. Insolvency has begun in the sector of hotel industry. Unfortunately, there is another statement in theory which states that this situation provokes such adverse consequences as the development of black economy, smuggling and other kinds of tax evasion.

There are debates in the government that starting with the year 2010 the tax base for real estate can be extended adding housing tax (at present the tax is levied on land and buildings) and there is also a proposal to extend the income tax base including capital gains. But these measures must be carefully prepared not to make mistakes and not to create chaos in tax administration. The excise tax could be more increased for lotteries, gambling and natural resources.

There is also a possibility to introduce new taxes such as inheritance tax, gift tax and capital gains tax. Entrepreneurs express the following opinion: "There is a question – what more? There was no need to increase the VAT tax in Latvia. The road to increase taxes is the road to nowhere, to the decline of the life quality of the society."<sup>6</sup>

To improve the economic situation, an idea is proposed – the exporters who have income in euro, should be allowed to pay taxes in euro, too. The Bank of Latvia rejects it flatly emphasizing that it could be the way to get to euro "through the back entrance", to accept euro as a legal means of payment in Latvia alongside with lats.

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<sup>6</sup> Tols M. Nodokļus palielināt nedrīkst. Dienas Bizness. 2009. g. 6. marts.

There could be additional costs in the economy and the situation of unfair competition but from the point of view of European partners it could be a gross violation of an agreement.

The author completely understands the problems of economic and social situation and shares the view that the government must find the possibility to increase the budget income and taxes have an important role in this situation. However, we must point out that the situation would not be so dramatic if in the previous years the tax policy was more flexible. A lot of changes in the taxation system should have already been made several years ago.

As it was mentioned before, one of the principles of the tax policy is flexibility which means that the tax policy must be changed according to the economic situation in the country. It does not mean that the tax policy must not be subject to the economic reality. Basically, it means that the tax policy must go a step ahead of the economic developments which the government wants to influence. The role of fiscal policy is timely to predict the decrease of the production volume or other adverse factors in the economy, such as the increase of unemployment level and inflation, the decrease of the production growth rate. So, the government has to operate actively to improve the situation.

Analyzing the economic development in Latvia in previous years we can make the conclusion that the above mentioned principles in the tax policy were not observed and this caused negative consequences for the budget income and economy as a whole.

The author thinks that the income tax base rate should have been extended around the year 2000 including the tax on capital gains and the tax on the increase of value of the real estate. It is inexcusable that the introduction of the zero tax return is missed. Lottery and gambling tax should have been introduced. Reserves should have been made during the good years.

Economic experts have also expressed their opinion about the inadequacy of the taxation system to the real situation. "The present taxation system was created at the beginning of 90-ties and at present it is not able to solve a lot of problems successfully, therefore there is a need to review it fundamentally."<sup>7</sup>

Another opinion is that there is a need not for the taxation revolution but evolution – further development.

The tax changes must produce the right economic effect to ensure an appropriate environment for a balanced long-term development and to create a stable basis for the welfare in future. The main direction of the tax reform must be towards the reduction of taxes on labor force and towards the increase of taxes on consumption.

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<sup>7</sup> Ķirsons M. Eksperti prasa revolūciju nodokļu sistēmā. Dienas Bizness, 02.09.2008.

The negative impact of indirect taxes on the incentive to work and invest is less, besides, the tax system must award those who invest knowledge, develop skills and create reserves for the future in order to increase resistance to the cyclic fluctuations of economy. The existing taxation system is not only obsolete but with its many changes and amendments it has become very heavy and contradictory. It needs to be corrected wisely. Under the conditions of recession the question of tax collection will be very topical – prolongation of term, surcharge, deferred payments.

The tax system must not be invariable, it must respond to what happens in economy. The author shares the view that at the present situation when the non-received amount of money increases and the entrepreneurs are not able to pay some of the taxes to the budget, a model is needed to allow the extension of term up to 3–5 years, otherwise tax must be paid from the money which is not received but for not paying taxes there is a penalty.

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## Summary

### PLANNING OF THE TAXATION POLICY UNDER CRISIS

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The theory of finance and taxes has a long history of several centuries, from the most primitive means of payment to modern civilized methods of payment and tax collection. The science of taxes has basically developed in two directions: firstly, taxes as a category of the objective necessity (ways of taxes, tax base, tax rates, etc.); secondly, legal relations between a taxpayer and a state (responsibility, rights, liability). Theoretical research has been proved in the practice in the evolution of the world and the findings have had both positive and negative results. Gradually the main principles of the tax policy emerged: justice, flexibility, economic effectiveness, etc. The task of the governments is to make the tax policy which is

appropriate to the economic situation using the theoretical basis and the experience in the world practice.

After the accession to the European Union there have not been significant changes in the tax policy in Latvia, although there were signals from the rapid development of economy that economy was going to overheat, that inflation reached unbelievable height and so it was necessary to influence the market of real estate and to restrain the splitting of the society. Consequently, the economic crisis has hit Latvia rapidly and heavily. For the stabilization of economy the government must use a wide range of complex instruments among which there are taxes. There are the following measures recommended in the field of taxation:

- To extend the income tax base including the dividends of natural persons.
- To reduce the VAT base rate from 21% to 19%, to review the range of goods and services with the lowered tax rate of 10% including the food products of the basic necessity.
- To extend the excise tax base including gambling, literature and films showing violence, luxurious cars and motorcycles.
- To consider the extension of tax payment term for entrepreneurs.
- To improve tax administration.

# ECONOMIC IMPACT OF FIRM REORGANIZATION IN ESTONIA

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## Introduction

Business failure (incl. bankruptcy and firm reorganization) is a topic that has been thoroughly studied by different authors for decades. For guaranteeing efficient legal framework, those themes have also been in the interest of different governments. Business failure aspects become especially topical during economic crisis, as many firms face difficulties and have to make decision about future existence – the situation also occurring in different world countries since 2008–2009. In most of the developed economies the option of firm reorganization instead of going bankrupt has been introduced in laws for a long time already (i.e. UK, USA, France, Germany), whereas in Estonia the topic has risen recently. In 26.12.2008 the reorganization law came in force in Estonia and previously the procedure had to some extent been possible through bankruptcy law introduced in 1992.

The process of creating the law had already begun in 2007 and the author had the opportunity to measure the economic impact of the law for the Estonian Ministry of Justice. The study was concluded in autumn 2008 and for those purposes material including information about all bankrupt firms in previous years was used. The objective of the current paper is derived from the mentioned study and it is to quantitatively measure economic impact of introducing the reorganization law from the viewpoint of Estonia as a state. Additionally impact on other parties influenced by the law is listed but not measured. Also several interviews with lawyers and trustees were made, to find out different aspects of the necessity to introduce such law and also opinions about its possible economic impact (and its measurement).

Current study carries several innovative and important aspects. Firstly, previous studies have mainly considered reorganization legislation effectiveness in different countries, but there are no major studies to forecast the economic impact of introducing the reorganization law or comparing such law introduction in comparison of different countries. The paper provides a possible methodology for future research. Secondly, the whole population of Estonian bankrupt firms was used for the analysis, but in different previous studies only samples have been used, which definitely has narrowed the possibilities of drawing conclusions. Thirdly, the nature of the research allows checking the results some time after the introduction of the law and that is why the results of current paper will not remain only hypothetical.

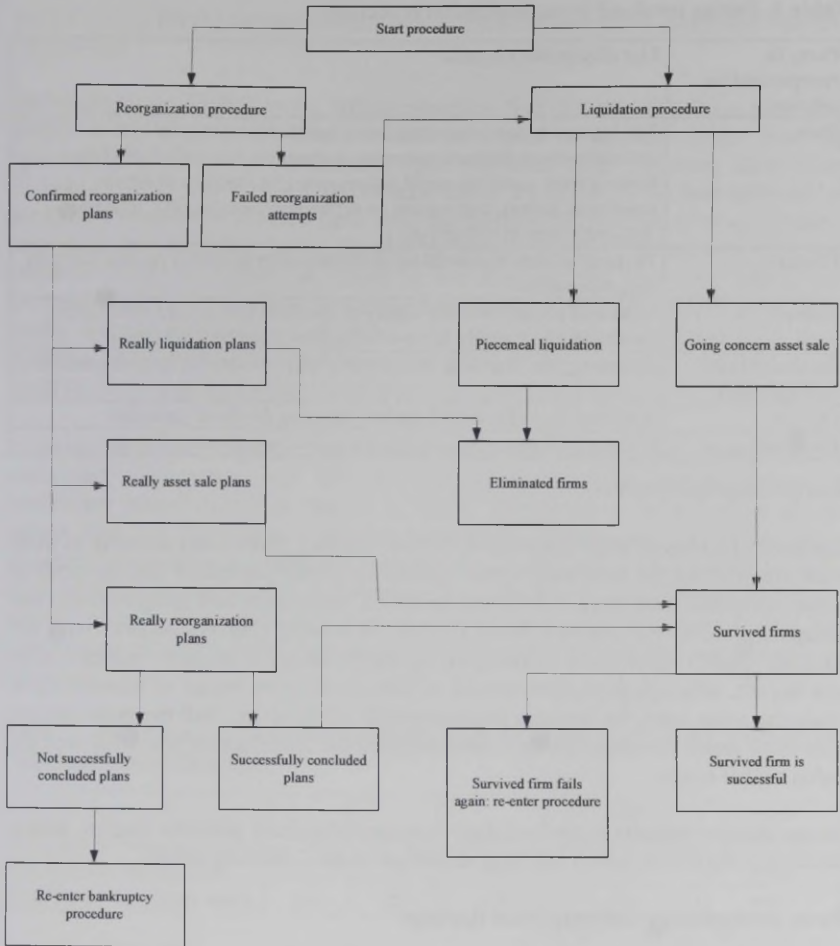
## Theoretical background

Failure has been common in business as long as business has been active at all. Business failure has been defined differently by different authors and in different laws. According to Altman and Hotchkiss (2006) business failure included “businesses that cease operation following to assignment or bankruptcy; those that cease with loss to creditors after such actions or execution, foreclosure, or attachment; those that voluntarily withdraw, leaving unpaid obligations, or those that have been involved in court actions such as receivership, bankruptcy reorganization, or arrangement, and those that voluntarily compromise with creditors”. Using the previous definition, the most important aspect is that business reorganization is broadly considered (also in this paper) as a procedure that is at least to some extent forced and agreed upon with parties outside a firm, would it be a court, creditor, government etc. Situations where firms voluntarily decide to make changes in their business process to raise higher profit or avoid losses in the future are definitely not covered by this term.

Failure procedures are written in reorganization and bankruptcy laws, which in some countries form a single document and in some separate documents. No matter of those aspects they both form unified legal framework in case of firm failure. In USA for instance there are six types of failure procedures under Bankruptcy Code (see United States Code): chapter 7 – liquidation; chapter 9 – adjustments of debts of municipalities; chapters 11, 12 and 13 – reorganization; chapter 15 – cross-border insolvency. The USA case of multiple laws is also common to France, Switzerland, Finland and other countries. In Germany there is one law for bankruptcy and reorganization – *Insolvenzordnung*.

An important question in case of failure is what the possible ways to proceed are. Figure 1 summarises the major options according to different laws to go through the failure process. Basically there are two options for every firm in case of failure (or bankruptcy threat) – to be submitted to reorganization or liquidation procedure. When this is the basic for every country, then the procedures and conditions falling under those two categories can remarkably vary and that is why data comparison problems might often rise in different studies.

Statistics for different countries shows varying survival rates in failure situation. This is of course country, time and calculation specific feature. Couwenberg (2001) found in his study the following rates: USA 18%, UK 20%, France 6%. Brouwer (2006) notes in her study that the confirmation rate of USA Chapter 11 is about 20% that means reorganization emerges in about 5% of all USA bankruptcy cases; she also points out the European figures to be remarkably lower.



**Figure 1.** Survival routes through bankruptcy (Couwenberg 2001).

The routes given on figure 1 can all have different impact on parties concerned. That is why choosing the right procedure at right time is crucial in maximizing the value of economic impact. Herewith it is important to consider which are the parties involved in reorganization procedure and the major possible economic impacts on them. Table 1 lists possible impacts, which the author finds to be most important, but definitely some others could also be noted. The central question is how to measure different impacts, as many of them cannot be put in quantitative form.

**Table 1.** Parties involved in reorganization procedure

Party in reorganization process	List of possible impacts
State	Tax income from reorganized firms, less burden on social system (unemployment support, managing support etc.), no effect of chain bankruptcies, avoiding social catastrophe (for instance in mono-functional towns), less burden on different offices (courts, trustees, law-enforcement officers etc.)
Creditors	Payment of debt and avoiding difficulties due to money receipt, carrying on cooperation
Clients	In case of prepayment the supply of goods or services, re-establishing good flows (especially in case failed firm is the only provider)
Personnel (incl. management)	Retaining jobs, avoiding self-responsibility for economic problems
Owners	Avoiding loss of invested capital, restoring dividend payments
Competitors	Competition stronger – can have negative or positive influence

Source: composed by author.

Author had a look at large selection of business failure studies, but majority of them were considering the following topics: efficiency of reorganization laws in juridical sense, reorganization rates in different countries, bankruptcy and reorganization law comparisons (see for instance Wang (2006), Osterkamp (2006)). Author could not find any studies specifically focusing on the methodology to measure reorganization law impact, although there were several of those looking on impact of introducing or changing other laws, for instance environmental, criminal etc. Still the measurement side in all cases remained direct – what resulted the introduction, not what was the value of that result.

As no specific and single methodology was available from previous studies, author decided to build one, which has been described in the following section.

### **Data, methodology and empirical findings**

Current part of the paper starts with the clarification of data available for research, then data choice has been viewed and in the end economic impact measurement methodology and results have been presented.

The extent of firm failure in Estonia has been viewed in 2005–2008 (year 2008 partially to the date 09.04.2008) to give overview of the set of firms that could be submitted to reorganization procedure. Choosing data from previous four years is because of changes in different laws, that could influence the results, but also because of common economic growth cycle for those years in Estonia. For analysis purposes the central database of Estonian Business register was used. There are also other databases, which list payment difficulties, tax debt and other data, but they

were not used for the current analysis as they do not provide any additional valuable information.

The database precisely lists the failure procedure, but unfortunately it does not give insight in the reasons of failure. Additional aspect to consider is the time lag between last submitted economic year report and failure time – in many cases it can be over a year. For that reason last official report might not be the best indicator of pre-failure situation, but at the same time due to previous absence of reorganization procedure entrepreneurs have allowed problems to develop uncommonly far. Different stages of failure are listed in the database and they are: bankruptcy procedure starting time, time of ending bankruptcy procedure due to absence of assets, time of bankruptcy declaration and time of deleting bankrupt firm from database. Ending of bankruptcy procedure means that the amount of assets is too small to cover even bankruptcy costs (Estonian bankruptcy law).

In period 2005–2007 Estonian courts have started 485 bankruptcies, the number of bankruptcy declarations was 484, but that figure does not include ending of bankruptcy procedure due to absence of assets. The figures in table 2 show that in period 2005–2007 there has been no major changes in bankruptcy procedure starts and there has been even a decrease in bankruptcy declarations, which is the obvious result of favourable economic environment, but the start of year 2008 statistics have already shown some increase. Taking into account the situation during the composition of article, those figures have turned much worse in Estonia and also in the world.

**Table 2.** Bankruptcy declarations and bankruptcy procedure starts in the database of Estonian Business Register.

Year	2005	2006	2007	2008 (up to 09.04)	Total 2005–2007
Bankruptcy declarations	210	171	167	52	484
Bankruptcy procedure starts	147	170	168	59	485

In period 2005–2008 (up to 09.04.2008) there were 261 starts of bankruptcy process which resulted in declaring firm bankrupt – there is an important share of previous bankruptcy process endings in those figures also (that means those bankruptcies have started before the year 2005). At the same time there are several cases, where the process has started but not ended in the viewed period. The previous points to serious time shift in starting and declaring bankruptcy.

As the object of reorganization is a firm with future vitality potential, then only bankrupt firms' group was used for analysis and the group where procedure was ended due to absence of assets was abandoned. It can definitely be argued, that in the abandoned group there are also vital firms, but as no single cases were studied specifically, such kind of generalization seemed to be reasonable. This in turn raises an important point for future quantitative analysis – considering the immaterial side

(competence, knowledge, relationships, image etc.) not listed in balance sheet of a firm might have some importance in getting more precise results.

The whole population of bankrupt firms from 2005–2008 has been viewed for the analysis. Most of the firms had their juridical address in Estonian capital Tallinn, which also corresponds to the share of firms registered in capital. Still juridical address is not always the firm's actual place of action. There was no connection between bankruptcy and the founding time of firm – the founding times' distribution did not have any extremes starting from the beginning of 1990ies.

Business fields of firms that have representation over 10 firms have been viewed in table 3. Still it must be noted, that again official registration in one field does not specifically mean activities in that field only and in some cases the official registration has even been confusing.

**Table 3.** Major business fields of bankrupt firms

Business field	Number of bankrupt firms	Share of business field from total number of Estonian firms (01.01.2009)
Building	54	11,4%
Wholesale	38	23,6% (with retail)
Logistics on roads	31	7,3% (with warehousing)
Retail (food, drinks, tobacco)	21	–
Forestry	20	11,1% (with agriculture and fishery)
Wood products	12	7,3% (all manufacturing industry)

Results in table 3 are similar to the overall distribution of Estonian firms – comparison is given with 01.01.2009 data of all firms registered in Estonia. To some extent it is surprising that there are more building sector firms than trade firms, but obviously this is connected to the fact, that building firms demand larger investments and turnovers are higher, which in turn makes them more opened to bankruptcy procedure due to limit of 2555 EUR claims to start the bankruptcy procedure in Estonia. At the same time this correlates with the real estate boom in Estonia, because the sector was very attractive starting from the years 2004–2005.

When starting to assess the amount of reorganizable firms, then it is important to leave aside those firms working ineffectively for a long time. The easiest option was to remove firms with negative equity from the population. Those firms should be submitted to liquidation according to Estonian business law, also negative equity normally reflects lengthy ineffective action and is not connected with sudden payment difficulties. Other selection methods (for instance using number of workers, different financial ratios etc.) were also considered, but they did not prove to be as good as the before mentioned. As discussed previously, the last submitted financial year report can be with some time lag, but it must also be accounted, that reorganization procedure would have started much before the firm went in bankrupt, so the mentioned aspect should was not considered problematic for the analysis.

Using the previously mentioned methodology the sample of firms that went bankrupt in 2005–2007 is formed as given in table 4 – this sample has also been used for following impact assessments. As previous world practice shown in theoretical background gives varied reorganization rates then additional calculations have been made on the assumption that only 5% of failed firms could be reorganized.

**Table 4.** The number of firms suitable for reorganization used for analysis

	2005	2006	2007
Number of firms suitable for reorganization	80	65	44
Number of bankrupt firms (incl. ending process due to absence of assets)	436	419	352
Share from total number of bankrupt firms	18,3%	15,5%	12,5%
Number of firms suitable for reorganization using coefficient 5%	22	21	18

Followingly the economic indicators (means, medians and totals) of firms used for analysis have been given. It can be said that firms used in analysis in an average are small firms (the median figures for the firms that went bankrupt in 2007 are the following – number of workers 5, total assets 138 thousand EUR, net sales 297 thousand EUR). Still there are firms in sample that have more than 100 workers per firm. In total there were 629 workers in firms that went bankrupt in 2007 – they will be unemployed after bankruptcy or have to find another job. The total net sales of those firms were about 44 million EUR and total assets 30 million EUR. Also the unemployment insurance payments in bankruptcy situation have been given in table 6.

**Table 5.** Characteristics of reorganizable firms (EUR)

Bankruptcy year of firms	2005	2006	2007
Total assets (average)	303 379	333 110	686 916
Total assets (median)	92 862	213 610	137 996
Total assets (total)	24 270 313	21 652 142	30 224 310
Equity (average)	98 370	59 883	139 617
Equity (median)	20 120	22 921	19 456
Equity (total)	7 869 627	3 892 388	6 143 154
Net sales (average)	618 405	524 761	999 739
Net sales (median)	234 586	381 001	297 104
Net sales (total)	47 617 220	33 059 918	43 988 526
Net profit (average)	-11 127	-34 957	53 365
Net profit (median)	-541	0	201
Net profit (total)	-878 995	-2 272 235	2 348 072
Number of workers (average)	11	14	15
Number of workers (median)	9	10	5
Number of workers (total)	799	774	629

**Table 6.** Unemployment insurance payments paid by unemployment fund (million EUR).

<b>Bankruptcy year of firms</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Unemployment subsidy	2,21	1,72	0,97
Social tax	0,73	0,57	0,32
<b>Total</b>	<b>2,94</b>	<b>2,29</b>	<b>1,28</b>

The calculation mechanism for measuring the economic impact of introducing the reorganization law is the following. We would assume that in all reorganized firms:

1. All jobs will be preserved and state can that way earn tax income. Average Estonian salary in that specific year has been taken into account from what personal income tax, social tax and unemployment insurance tax have been calculated.
2. No unemployment insurance must be paid in case of the reorganized firms.
3. Firms will pay value added tax to state which is 10% proportion calculated of value added tax paid by firm.
4. Of debt to creditors 10% can be paid out as dividends which results in dividend income tax payments.

The assumptions listed previously are to some extent hypothetical, because due to the absence of previous reorganization practice in Estonia there is no possibility to check those figures. For that reason the analysis also does not take into account VAT income to state from the purchases by workers using their salaries.

Summing the aspects in previous list the economic impact to state can be brought out (table 7), taking in turn into account the number of firms on the first row in table 4. In case we account for world practice then the number of firms should be smaller (last row in table 4) and total impact figures corresponding to that situation have been given in table 8.

**Table 7.** Impact of reorganization to state taking into account all reorganizable firms (EUR)

<b>Bankruptcy year of firms</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>Average</b>
Personnel taxes	2 545 257	2 683 646	2 495 892	2 574 932
Unemployment subsidies	538 008	354 646	160 578	351 077
VAT	857 110	595 079	791 793	747 994
Income tax from creditors	393 616	408 474	529 785	443 959
<b>Total impact</b>	<b>4 333 992</b>	<b>4 041 844</b>	<b>3 978 049</b>	<b>4 117 962</b>

**Table 8.** Impact of reorganization to state taking into account reorganizable firms as 5% of all bankrupt firms (EUR)

Bankruptcy year of firms	2005	2006	2007	Average
Total impact	1 191 848	1 305 827	1 627 384	1 375 019

When measuring the impact in comparison to Estonian national budget in the years given in previous table we can get the following results.

**Table 9.** Economic impact share to state budget

Bankruptcy year of firms	2005	2006	2007	Average
Share of state budget (impact from table 7)	0,14%	0,12%	0,10%	0,12%
Share of state budget (impact from table 8)	0,04%	0,04%	0,04%	0,04%

The impact measurement did not take into account the fact that those firms that survived at a specified year will create tax income in the future also – that is why the results could be summed in order to get adjusted impact. Still such calculation can lead to wrong conclusions, because in case of bankruptcy workers would find a job in one year and the tax income to state connected with workers would be restored anyway.

Additional difficulty measurable effects could be introduced, but this would not change the results remarkably. In conclusion it can be said that the Estonian example shows that the introduction of reorganization law has visible but quite low impact on state budget. At the same time introduction of such law has important role in guaranteeing advanced and modern juridical environment.

### Acknowledgements

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## Summary

### ECONOMIC IMPACT OF FIRM REORGANIZATION IN ESTONIA

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Current paper viewed the possible economic impact of introducing reorganization law in Estonia. Economic impact was described qualitatively in case of all parties except state, for which it was measured quantitatively and afterwards compared to state budget. Taking into account pre current economic recession bankruptcy figures the impact in absolute figures is important, but in comparison to state budget still not remarkable. The paper presented one possible impact measurement methodology using tax income from firms and avoiding unemployment insurance costs. Still more complicated and thorough methodologies could be introduced in future studies and using the data of current year 2009 the results given in this paper could already be checked in practice.

# REPORTING FOR SECURITIES IN THE CZECH REPUBLIC: MEASURING SIMILARITY LEVEL WITH IFRS

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## 1. Introduction

The paper is structured by framing the shifts in financial reporting paradigms for financial instruments within the trade literature, starting with previous researches on international accounting harmonization and continuing with specific issues concerning financial instruments. The research methodology presents the particular approach of the analyzed area, namely identifying the particularities of reporting for financial instruments in correspondence to IFRS, through both theoretical description and empirical analysis, and continuously linking the findings to the actual knowledge stage and theories developed in the field. The final part of the paper relates the conclusions of the study to national regulatory bodies and also to the international background without forgetting to include limitations of the study.

## 2. Literature Review

Summarizing previous researches in the field of accounting harmonization we notice them focusing primarily on two basic aspects – the reliability and the correctness of the evaluation (e.g. Aisbitt, 2001; Emenyonu & Grey, 1992 and 1996; Herman & Thomas, 1995). According to Alexander & Nobes (2004), the factors affecting the development of accountancy in a given country can be defined as follows: colonial and external influences, impact of capital providers, character of the legal system, impact of taxation, impact of the accounting profession. Beyond these aspects we should mention a set of conceptual approaches (Roberts et al., 2005; Radebaugh et al., 2006; Nobes & Parker, 2008; Elliott & Elliott, 2008) which emphasize a system of factors which are considered to be favorable or even determinant for the national accounting diversity.

Year 2002 represents an important moment for financial reporting, the Council of the European Union issuing an order imposing an obligation on companies listed on European stock exchanges to structure their consolidated financial statements according to the IFRS starting with year 2005 at the latest. If it wasn't for these uniform accounting standards, currently, there would be 27 different methods of financial accounting reporting by listed companies in the EU (Whittington, 2005: 129). Brown & Tarca (2005: 201) anticipate that the future of the IASB will definitely be connected with the successful introduction of the IFRS in Europe. Therefore we can appreciate that the decision of applying IFRS within the European Union represents an approach which implicitly generates a process of reducing the accounting diversity in order to reach a certain level of uniformity, in the regional economic and political context of the European community.

Hope et al (2006) analyze the institutional factors influencing countries' decisions to voluntarily adopt IFRS, using a sample of 38 countries, considering that a better understanding of the motivations for adoption would enable standard-setters to promote them more effectively to countries that currently don't employ IFRS. Their findings show that countries with weaker investor protection mechanisms are more likely to adopt IFRS, fact which is actually consistent with the view that countries with weak shareholder protection bond themselves to superior accounting standards in order to access international investors and/or markets. Another association is being found and validated, between the adoption of IFRS and access to national stock markets, this time a positive one (countries providing better access to their stock markets for international investors are more likely to adopt IFRS). They note that the adoption of IFRS is likely viewed as a means to improve disclosure policies and accounting systems, to enhance the integration of domestic markets into world markets, and to subsequently accelerate economic growth, improving financial reporting quality taking an important step through the adoption of IFRS by a country.

A key aspect for the approached area of accounting and reporting is that before the IFRS standards were adopted in the EU, it was stock exchanges in particular which required that listed entities submit financial statements in compliance with the IFRS or US GAAP. Previous researches dealing with the degree of disclosure (Cooke, 1992; Meek et al., 1995), or the probability of using multinational standards (El-Gazzar et al., 1999; Murphy, 1999; Ashbaugh, 2001; Dumontier & Raffournier, 1998; Leuz & Verrecchia, 2000; Leuz, 2003) indicate a positive correlation between the listing of accounting units on foreign markets and the degree of disclosure and use of multinational standards as the basis for financial reporting.

It is also acknowledged the fact that IAS 32, IFRS 7 and IAS 39 are most widely discussed in terms of their practical implementation. The greatest benefit of IAS 39 is considered to be the wide application of the fair value method for the measurement of financial instruments. Even though the historical cost was also used as basis of measurement for financial instruments we can't ignore the importance and volume of derivative transactions, whose value would be zero if the historical cost model was applied. Whittington (2005) therefore emphasizes that it is much more appropriate to measure derivatives according to their present values reflected in the fair value through the application of IAS 39. There are still concerns regarding the fact that the application of IAS 39 leads to a certain degree of volatility within the framework of economic results and equity capital, and such volatility may differ from the real economic volatility. Leftwich (1981) indicates that the application of different accounting rules is not usually connected with any changes of prices of financial instruments, unless the application of such rules has further economic consequences.

Pirchegger (2006) analyses whether accounting units primarily tend to note the high level of disclosure obligations in relation to hedge accounting and also the related costs. Nevertheless, the primary goal of the standard-issuing authority is the

incontestable effort to provide investors with highly relevant information, this motivating the including of the information on hedge accounting as an indivisible part of the financial statements. The bond between the economic and the accounting concept of hedging is also being analyzed. Melumad et al. (1999) indicates that the application of hedge accounting in compliance with the US standard SFAS 133 leads to deviations from optimum hedging in the economic sense, while Barnes (2001) draws attention to the fact that these deviations from economic hedging are the very consequence of the set hedge accounting model, pointing out that hedge accounting may motivate poorly performing companies to speculate and influence their economic results on a short-term basis. Jorgensen (1997) and Hughes et al. (2002) focus on the information and control effects of hedge accounting. Application of hedge accounting was found to bring a deviation from the optimum hedging strategy, unlike the exclusive application of economic hedging without the application of the principles of hedge accounting.

### **3. Research Design**

An empirical analysis was performed by testing the similarities and dissimilarities between the two sets of standards (Czech accounting practices and IFRS), taken two at a time in order to draw a well established conclusion regarding the comparability degree existent between them. The source of information for the empirical analysis was also the information gathered by closely analyzing the regulations mentioned above which were accordingly codified and assayed by using some statistical methods which are being detailed in the chapter dealing with the comparative approach of the national GAAP by reference to international reporting paradigms.

The findings of this study which come from analyzing formal harmonization in the area of financial instruments, are correlated to the current development stage of the national capital markets along with the international trade literature, and make some remarks on the national regulatory bodies.

### **4. Measurement of Similarities between Two Reporting Systems**

With the aim of identifying the eventual shift on national GAAP toward international reporting paradigms there was performed an empirical analysis with character of comparison between the national accounting system with the international accounting referential (IFRS). Research continues a previous version of this study by adding 3 identified elements, and reconsidered all others. Starting from this approach there was identified a series of issues regarding financial instruments organized within five big topics as follows: 1. Financial assets, 2. Financial liabilities, 3. Equity instruments, 4. Derivatives and 5. Hedge accounting. For each one of the identified elements we proceeded to achieve a comparison between the accounting treatment as it appears within two accounting referential considered for analysis. Thus, for each possible and/or existent accounting treatment within at least one of the considered accounting referential we have allocated the 1 or 0 value, where the 1 value shows that the considered accounting treatment exists within the

considered accounting referential, and the 0 value is given for the situation when the considered accounting treatment isn't found within the considered accounting referential (Strouhal et al., 2008a).

In order to achieve the proposed comparison, we have considered that the best analysis, in the case of this type of approach, is represented by the nonparametric correlation and the association degree between two or more than two considered variables.

Jaccards' association Coefficients have been used since the trade literature (Fontes et al., 2005; Mustață, 2008) frequently uses this measurement instruments when an analysis at the level of national accounting regulations is aimed. On the other hand, the two Jaccard Coefficients offer the possibility of quantifying both the association degree and the dissimilarity degree between different sets of accounting standards taken into consideration for analysis.

So as to dimension the association or compatibility degree between two or more accounting systems, the calculation formula for the Jaccards' Coefficients shows as follows:

$$S_{ij} = \frac{a}{a+b+c} \quad (1)$$

or

$$D_{ij} = \frac{b+c}{a+b+c} \quad (2)$$

where:  $S_{ij}$  represents the similarity degree between the two sets of analyzed accounting regulations;  $D_{ij}$  represents the degree of dissimilitude or diversity between the two sets of analyzed accounting regulations;  $a$  – the number of elements which take the 1 value for both sets of regulations;  $b$  – the number of elements which take the 1 value within the  $j$  set of regulations and the 0 value for the  $i$  set of regulations;  $c$  – the number of elements which take the 1 value within the  $i$  set of regulations and the 0 value for the  $j$  set of regulations.

With the purpose of raising the quality of the comparability analysis, or in other words to strengthen the character of the obtained results, there was also proceeded to using other correlation and/or association coefficients regarding both the similarity and dissimilarity degree as we have also proceeded in previous stages of the research (Strouhal et al., 2008a). Namely there was used Binary Euclidian Distance (as for reflecting the dissimilarity degree) and Roger and Tanimoto Coefficient (in order to show the similarity degree), which were added to the above mentioned Jaccards' Coefficients. The comparative illustration of the obtained results is shown within Table 1 and Table 2, also showing a high level of comparability regarding the issue of financial instruments.

As mentioned before, there was found a high level of comparability between the Czech accounting referential in correspondence to IFRS, where issues regarding financial instruments are concerned. Looking from the similarity point of view it is actually simply to also observe that the Czech regulations on financial instruments seem to be quite compatible with the international referential IFRS.

**Table 1.** Comparison analysis based on Similarity Coefficients

	Roger and Tanimoto Coefficient		Jaccard Coefficient	
	CZ	IFRS	CZ	IFRS
CZ	1.000	0.481	1.000	0.718
IFRS	0.481	1.000	0.718	1.000

**Table 2.** Comparison analysis based on Dissimilarity Coefficients

	Binary Euclidian Distance		Jaccard Coefficient	
	CZ	IFRS	CZ	IFRS
CZ	0.000	0.461	0.000	0.283
IFRS	0.461	0.000	0.283	0.000

## 5. Concluding Remarks

The results of the performed analysis show a high level of similarities between the national set of GAAP and IFRS. Accounting regulation is seen to include regulation through accounting standards as well as the regulations that rely on “accounting logic”, Laughlin (2007) considering the former to be designed by accountants whilst the latter may not be. The most effective analysis of the way organizations handle societal steering regulations is through detailed in depth case studies due, largely, to the empirical detail that is needed to thoroughly understand the subtleties of organizational reactions. This might be the case of formal harmonization, the findings of our study encouraging the support of the bonding theory (Coffee, 2002), explaining that adopting the foresights of international standards could signal to market participants that the firm is committed to disclosing more information to investors, to listing on foreign stock exchanges, or to absorbing international capital infusion (Hope et al., 2006). An analysis of the current development stage of the Czech capital market (Strouhal et al., 2008 b) would not support the necessity of such a high degree of similarity (as the one reached through our analysis) with the international referential, gathering the experience of transactions on developed capital markets, in the area of financial instruments. Still national regulatory bodies seemed to embrace the foresights of the international referential, therefore determining us to search for incentives of different nature in their decision making.

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## Summary

### REPORTING FOR SECURITIES IN THE CZECH REPUBLIC: MEASURING SIMILARITY LEVEL WITH IFRS

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Upon last 20 years we are facing the shift of the financial reporting paradigms from the historical costs concept towards fair value accounting, particularly in the field of the reporting for financial securities. Trade literature therefore speaks of a shift in paradigms (e.g. Barlev & Haddad, 2003) when it comes to the move toward fair value measurement. Since a financial reporting paradigm supposes a set of shared beliefs on the objectives of financial reporting and on the accounting principles by which these can be achieved, being grounded in elaborated assumptions, characteristically requiring a theoretical foundation or vindication, and once regulatory bodies adopt a financial reporting paradigm, it becomes the guiding

principle for accounting regulation (Hitz, 2007), it has been performed an analysis on the national GAAP of Czech Republic in correlation with the international referential, from the perspective of reporting for financial instruments, and conclude on the finding and their implications.

There were identified several key issues, which need to be discussed when thoroughly analyzing accounting regulations for financial instruments. Furthermore there were used statistical indicators in order to determine the level of similarities and dissimilarities between the Czech accounting rules and IFRS. All findings are being debated by making the correlation with the economic reality of Czech Republic.

# CASH FLOW PREDICTION: THE CASE OF LATVIAN COMPANIES

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## Introduction

The purpose of the paper is to test the hypothesis that operating cash flow has statistical significance in corporate cash flow prediction, while earnings have no statistical significance in corporate cash flow prediction, in Latvia. Explanatory power of earnings and cash flow to predict future operating cash flow will be compared. The main aim of financial statements is to provide information to investors, lenders and other users of annual reports for estimating future cash flow of a company.

The methods of the research include several techniques of statistical analysis like calculation of relative values, comparing and grouping of data, regression analysis, as well as testing of statistical hypotheses.

The study includes 5 Latvian enterprises. Annual reports are for the period from 1995 until 2005. When selecting companies for the research data base, three basic principles were taken into consideration:

- 1) **accessibility of financial report.** As a result public limited companies listed on Riga Stock Exchange are overrepresented.
- 2) **magnitude of cash flows.** It is important that the research should reflect the processes of Latvian economy in the best possible way. Large enterprise data are more significant in this aspect than data from medium and small companies because large enterprises characterise most of Latvian economic activity and cash flows. Therefore, when selecting companies, the list of TOP 500 Latvian companies by sales compiled by newspaper "Dienas Bizness" was used.
- 3) **credibility of data.** Research data must also reflect reality. One of the factors comprising corporate reputation is a reliable and accurate annual report. Therefore, I selected companies with the highest marks from Reputation TOP 100 of Latvian companies compiled by newspaper "Diena".

The author evaluated the marginal contribution of each explanatory variable with regression models 1, 2 and 3 for each selected company to determine whether adding a variable significantly increases coefficient of determination and improves model's future cash flow explanatory power. This analysis is the goal of using models 1, 2 and 3. The choice of independent variables in Model 3 was partially based on correlation analysis of cash flow ratios in Subatnieks (2006). The variables with low bilateral correlation were chosen.

According to Revina (2002), marginal contribution is important for practical purposes since the author must be sure that it is necessary to add an additional variable to the model.

At first, the following univariate models will be estimated:

$$OCF_{t+j} = \delta_0 + \delta_1 * E_t + \varepsilon_{t+j}, \quad (1)$$

where  $j = 1$ , OCF – net operating cash flow, E – earnings (the models will be estimated using two kinds of earnings (independent variables) – earnings before interest and taxes EBIT, and net profit p).

$$OCF_{t+j} = \theta_0 + \theta_1 * OCF_t + \varepsilon_{t+j}, \quad (2)$$

where  $j = 1$ .

Parameters of regression equations for specific companies – coefficients of regression – in this case, do not allow reaching the goal of the research. To evaluate whether adding cash flow as an independent variable to Model 1, or adding earnings as an independent variable to Model 2 provides material increase in model's significance in a particular company, a multivariate Model 3 will be applied:

$$OCF_{t+j} = \gamma_0 + \gamma_1 * OCF_t + \gamma_2 * E_t + \varepsilon_{t+j}, \quad (3)$$

where  $j = 1$ .

To arrive at relevant conclusions, next the observed F statistic must be computed:

$$F_{obs} = \frac{(R^2_{jaunais} - R^2_{vecais}) / k_1}{(1 - R^2_{jaunais}) / k_2}, \quad (4)$$

where  $F_{obs}$  – observed F statistic,  $R^2_{jaunais}$  – multivariate coefficient of determination,  $R^2_{vecais}$  – univariate coefficient of determination,  $k_1$  – the number of new regressors,  $k_2$  – n minus number of parameters in the multivariate model (Revina, 2002).

$F_{obs}$  allows for testing of the following null and alternative hypotheses on significance of independent variables added to the cash flow prediction model:

1.  $H_0: \gamma_1 = 0$   
 $H_1: \gamma_1 \neq 0$
2.  $H_0: \gamma_2 = 0$   
 $H_1: \gamma_2 \neq 0$

If  $F_{obs} > F_{cr}(k_1, k_2, \alpha)$ , the null hypothesis must be rejected, which means that the regression coefficient of the added variable is not equal to 0, therefore the variable should be added to the model (Revina, 2002).

With the help of models 1, 2 and 3, the author will test the hypotheses above on data of specific companies with the highest number of observations in the sample. To author's mind, it is expedient to conduct cash flow prediction for Latvian companies only one year ahead because of very fast changes in business environment, comparing with more economically developed countries. Also, one must mention that the use of lags of more than one year will reduce the probability of acquiring statistically significant results on specific companies due to the small number of observations. The inclusion of multiple lags in one model is also unacceptable because it usually generates serious multicollinearity problems.

The highest number of annual reports and most information on corporate earnings and cash flow measures author was able to gather from "Lattelecom" Ltd. – for 11 years (from 1995 until 2005), 8 annual reports were gathered from JSC "Latvenergo", JSC "Latvijas Balzams", JSC "Olainfarm" and JSC "Valmieras Stikla Skiedra". Financial statements of other companies in the sample incorporate period of less than eight years in a row. The only exception is JSC "Ventspils Nafta" whose gathered financial statements were for nine consecutive years (1997–2005). However, due to extraordinarily high variation in sales and changes in holding structure, 2004 and 2005 data became not representative, and some outliers appeared in the data. Therefore, the indicators of this company will not be studied.

The hypotheses of the research will be tested employing absolute measures of cash flow and earnings from financial statements, as well as relative measures of earnings and cash flows. To attain relative measures, the absolute measures must be deflated by some measure characterising the size of a company. The absolute measures of cash flow and earnings will be deflated by company revenue, which is the most appropriate measure in this case. In the models mentioned above, the ratio of operating cash flow to sales will be abbreviated as CFna, the ratio of earnings before interest and taxes to sales (operating profit margin) – as ROS, the ratio of net profit to sales (net profit margin) – as pNA. The use of relative measures, possibly, will reduce the multicollinearity of data.

Economic and, more specifically, finance literature has different absolute measures of earnings for different information about the respective company, which the user of financial statements wants to acquire. However, the most frequently used absolute measures of profitability for financial analysis are earnings before interest and taxes (EBIT) and net profit. Therefore, the author believes that it is necessary to compare the predictive ability of cash flow and these two earnings measures, which is done in the following sections of the paper. In this way one can avoid making wrong conclusions about the comparative cash flow predictive ability of cash flow and earnings, if both main earnings measures were not to be tested. A comparison of cash flow predictive ability of earnings and cash flow in five individual companies follows.

The paper does not give forecasts of cash flows for specific Latvian companies or reveal the peculiarities of cash flows in different industries. The purpose of the paper

does not include analysis of the impact of accruals and their components on cash flow prediction, but is restricted by the comparison of earnings and cash flows in an evaluation of future cash flow assessment efficiency.

### Communications company "Lattelecom" Ltd

Based on the data of "Lattelecom" Ltd., the main indicators obtained through calculation of parameters of Models 1, 2 and 3 and testing of hypotheses mentioned above are presented in Table 1.

**Table 1.** Hypotheses testing based on data from "Lattelecom" Ltd. (1995–2005;  $n = 10$ )

Data description	Primary variable	Added variable	$R^2$	Multi-variate $R^2$	$F_{obs}$	$F_{cr}(1; 7; 0.05)$	$H_0$
Absolute	EBIT	OCF	0.729	0.860	8.48	5.59	rejected
Absolute	OCF	EBIT	0.871	0.860	0.39	5.59	not rejected
Absolute	p	OCF	0.721	0.860	8.93	5.59	rejected
Absolute	OCF	p	0.871	0.860	0.39	5.59	not rejected
Relative	ROS	CFna	0.442	0.778	13.07	5.59	rejected
Relative	CFna	ROS	0.748	0.778	2.06	5.59	not rejected
Relative	pNA	CFna	0.363	0.725	11.51	5.59	rejected
Relative	CFna	pNA	0.748	0.725	0.33	5.59	not rejected

The number of observations in models of "Lattelecom" Ltd. is 10, which one fewer than the number of gathered annual reports. The explanation for this is the use of lag of one year in the models. The same principle is used with regard to the rest of individual companies. Due to the small number of observations, Table 1 presents adjusted  $R^2$ , not the actual  $R^2$ .

Calculated parameters, both from absolute and relative data, point to the same conclusion. The main conclusion is that adding absolute or relative variable of operating cash flow to univariate regression model, which initially contains only one independent variable – earnings or profitability, provides with a statistically significant improvement in model's explanatory power, therefore the null hypothesis on the equality of cash flow regression coefficient with 0 can be rejected with a probability of 95 %. It means that cash flow independent variable should be added to the model.

On the other hand, if we try to define the role of both earnings measures in cash flow prediction of "Lattelecom" Ltd., it is possible to arrive at exactly the opposite results. As shown by Table 1, adding both earnings before interest and taxes, as well as net profit measures to the cash flow prediction model, which initially contains operating cash flow independent variable, does not provide a statistically significant improvement. This conclusion pertains to absolute, as well as deflated data. The null

hypothesis on the equality of earnings or profitability coefficient of regression with zero cannot be rejected; therefore the variable of earnings or profitability should not be added to the model.

To my mind, there are several main reasons for successful cash flow prediction in "Lattelecom" Ltd. with models that include operating cash flow variable. First, the company was not growing during last few years. The sales have stagnated beginning from 2000, increasing a little one year, decreasing a bit the next (Annual Reports of "Lattelecom" Ltd.). The stationary character of data improves model's explanatory ability. Second, the annual reports of "Lattelecom" Ltd. are highly credible, in spite of the fact that its shares are not traded at the Riga Stock Exchange. Corporate management and accounting is adapted to the high standard requirements of the Scandinavian parent company. Third, one must mention that the author did acquire 11 annual reports of "Lattelecom" Ltd., which also played its role in improving the significance of cash flow prediction model.

Table 1 shows that coefficients of determination are higher for models that use absolute data of earnings and cash flows, and lower for models that use relative measures of corporate data. However, it does not mean that the first four models in Table 1 are more appropriate in cash flow prediction. Although, models with absolute numbers have a higher level of significance than models with deflated numbers, absolute data models have noticeable problems with autocorrelation of data, as pointed out by coefficients of autocorrelation. Also, these models have a critically low level of tolerance – around 0.1, as well as critically high level of variance-inflation factor (VIF) – around 10. According to Hair, Anderson, Tatham and Black (1998), this kind of level of both indicators points to multicollinearity problems of models with absolute data.

Because of this, it is impossible to avoid calculating model parameters with relative (deflated) data. When the switch to deflated data is made, the statistical significance of multivariate and univariate models is maintained, while autocorrelation and multicollinearity problems are reduced. Therefore, in the following calculations and analysis the emphasis will be on the interpretation of results from deflated data, too.

### **Electricity monopoly JSC "Latvenergo"**

Based on the data of JSC "Latvenergo", the main indicators obtained through calculation of parameters of Models 1, 2 and 3 and testing of hypotheses above are presented in Table 2.

In this case, the conclusion is the same regarding all tested hypotheses. Calculations do not provide with statistically significant conclusions on the impact of operating cash flow and earnings on future cash flow of JSC "Latvenergo". The main reason certainly is the small number of gathered annual reports – just eight. Moreover, using the lag principle in the models, the number of observations was only seven,

which is inadequate for insuring the significance of the model for this particular company.

**Table 2.** Hypotheses testing based on data from JSC “Latvenergo” (1997–2004; n = 7)

Data description	Primary variable	added variable	R <sup>2</sup>	multi-variate R <sup>2</sup>	F <sub>obs</sub>	F <sub>cr</sub> (1; 4; 0.05)	H <sub>0</sub>
Absolute	EBIT	OCF	0.106	0.004	0.49	7.71	not rejected
Absolute	OCF	EBIT	0.047	0.004	0.78	7.71	not rejected
Absolute	p	OCF	-0.177	-0.133	1.20	7.71	not rejected
Absolute	OCF	p	0.047	-0.133	0.21	7.71	not rejected
Relative	ROS	CFna	-0.200	0.038	2.23	7.71	not rejected
Relative	CFna	ROS	0.126	0.038	0.54	7.71	not rejected
Relative	pNA	CFna	-0.169	-0.023	1.71	7.71	not rejected
Relative	CFna	pNA	0.126	-0.023	0.27	7.71	not rejected

Due to the small number of observations, Table 2 presents adjusted R<sup>2</sup>, not the actual R<sup>2</sup>.

As observed F values in all cases were smaller than the critical F value, the null hypothesis on the subject of equality of cash flow and earnings variables' regression coefficients with zero cannot be rejected with a probability of 0.95. It means that adding these variables to the model does not provide a statistically significant improvement in its significance. This conclusion is made regarding both relative and absolute data.

The level of significance is higher for models that use past cash flow as the independent variable than for those that use past earnings data. Although this level is not significant at probability of 95 %, it still is more significant than the level provided by the deflated earnings variables. In the case of JSC “Latvenergo” too, the conclusions are mainly based on deflated data models due to autocorrelation and collinearity problems associated most often with cash flow prediction models of absolute (non-deflated) data.

To sum up, one can infer that future cash flow of JSC “Latvenergo” can be predicted more precisely if operating cash flow is used for this purpose, not earnings before interest and taxes or net earnings. However, the data is not statistically significant.

### **Producer of alcoholic beverages JSC “Latvijas Balzams”**

Based on the data of JSC “Latvijas Balzams”, the main indicators obtained through calculation of parameters of Models 1, 2 and 3 and testing of hypotheses above are presented in Table 3.

**Table 3.** Hypotheses testing based on data from JSC “Latvijas Balzams” (1998–2005;  $n = 7$ )

Data description	Primary variable	added variable	$R^2$	multi-variate $R^2$	$F_{obs}$	$F_{cr}(1; 4; 0.05)$	$H_0$
Absolute	EBIT	OCF	-0.199	-0.038	1.77	7.71	not rejected
Absolute	OCF	EBIT	0.135	-0.038	0.17	7.71	not rejected
Absolute	p	OCF	-0.123	-0.037	1.41	7.71	not rejected
Absolute	OCF	p	0.135	-0.037	0.17	7.71	not rejected
Relative	ROS	CFna	0.222	0.076	0.21	7.71	not rejected
Relative	CFna	ROS	-0.181	0.076	2.39	7.71	not rejected
Relative	pNA	CFna	0.025	-0.218	0.00	7.71	not rejected
Relative	CFna	pNA	-0.181	-0.218	0.85	7.71	not rejected

Due to the small number of observations, Table 3 presents adjusted  $R^2$ , not the actual  $R^2$ .

In the case of JSC “Latvijas Balzams” too, the conclusions are the same regarding all hypotheses tested. There are no statistically significant inferences about the impact of operating cash flow or earnings on future cash flow of this particular company. Again, the data of only eight annual reports was used for calculations. Moreover, while using the lag of one year in models, the number of observations was just seven, which is not enough to ensure the significance of the model for this corporation. This is one of the reasons for this kind of outcome in the models.

As the observed  $F$  values in all cases were smaller than the critical  $F$  value, the null hypothesis on the subject of equality of cash flow and earnings variables’ regression coefficients with zero cannot be rejected allowing for an error of 0.05. It means that adding these variables to the model does not provide a statistically significant improvement in its significance. This conclusion is made regarding both relative and absolute data.

If one compares the significance of univariate models that use deflated data, the past operating cash flow of JSC “Latvijas Balzams” cannot predict future cash flow as successfully as earnings measures. The  $p$ -value of the model, which has the deflated measure of operating cash flow as the only independent variable, is 0.786, while  $p$ -value of model with independent variable of return on sales is 0.161, and  $p$ -value of model with independent variable  $pNA$  is 0.332.

Possibly, one of the reasons for these results is the equity structure of JSC “Latvijas Balzams”, which has a definite impact on accounting principles of the company, in spite of the fact that shares are traded on Riga Stock Exchange. The assumption would be that Russian majority shareholders turn greater attention to the presentation of earnings measures, and not operating or any other kind of cash flow.

So, one can infer that, from the measures investigated, future cash flow of JSC "Latvijas Balzams" is best predicted by earnings before interest and taxes. Net profit has a lower cash flow predicting ability, and operating cash flow has the least ability to predict future operating cash flow. It must be added that the results obtained by models of data from this company are not statistically significant.

### Pharmaceutical company JSC "Olainfarm"

Based on the data of JSC "Olainfarm", the main indicators obtained through calculation of parameters of Models 1, 2 and 3 and testing of hypotheses above are presented in Table 4.

Due to the small number of observations, Table 4 presents adjusted  $R^2$ , not the actual  $R^2$ . The cash flow prediction models of this company have not provided statistically significant results on the role of earnings and operating cash flow in this process.

**Table 4.** Hypotheses testing based on data from JSC "Olainfarm" (1998–2005; n = 7)

Data description	Primary variable	added variable	$R^2$	multivariate $R^2$	$F_{obs}$	$F_{cr}(1; 4; 0.05)$	$H_0$
Absolute	EBIT	OCF	-0.194	-0.481	0.03	7.71	not rejected
Absolute	OCF	EBIT	-0.193	-0.481	0.03	7.71	not rejected
Absolute	p	OCF	-0.199	-0.490	0.03	7.71	not rejected
Absolute	OCF	p	-0.193	-0.490	0.00	7.71	not rejected
Relative	ROS	CFna	-0.179	-0.430	0.12	7.71	not rejected
Relative	CFna	ROS	-0.162	-0.430	0.06	7.71	not rejected
Relative	pNA	CFna	-0.193	-0.449	0.12	7.71	not rejected
Relative	CFna	pNA	-0.162	-0.449	0.01	7.71	not rejected

The conclusions are the same regarding all hypotheses tested using both deflated and non-deflated data. As observed F values in all cases were smaller than the critical F value, the null hypothesis on the subject of equality of cash flow and earnings variables' regression coefficients with zero cannot be rejected with a probability of 0.95. It means that adding these variables to the model does not provide a statistically significant improvement in its significance.

It was possible to obtain annual reports of JSC "Olainfarm" only for eight years, and using the data from these financial reports in respective models, the number of observations was seven, which, as expected, proved to be inadequate for making statistically significant inferences. Quite possibly, another factor that did not facilitate obtaining significant results was that in the last six years company sales did rise year-on-year. The absolute numbers in annual reports were not stationary.

However, the results depicted in Table 4 give an insight into cash flow prediction of the particular enterprise. Operating cash flow has a higher cash flow prediction ability here, which is followed by operating earnings, while net earnings have the least ability. This conclusion is confirmed by data from models of relative measures, where the level of cash flow model significance (p-value 0.701) is higher than significance of model with EBIT (p-value 0.777), and model with net profit – 0.874.

In the case of JSC “Olainfarm”, deflated data models allow for more precise and better founded inferences on the subject of cash flow prediction than non-deflated data models. This is evidenced by tolerance and variance-inflation factor coefficients that point to lower multicollinearity. However, the level of multicollinearity even in absolute data models is not high for this company.

To sum up, one can conclude that past cash flow can predict JSC “Olainfarm” future cash flow better than earnings measures, although regression coefficients in the models are not statistically significant.

### Glass fibre manufacturer JSC “Valmieras Stikla Skiedra”

Based on the data of JSC “Valmieras Stikla Skiedra”, the main indicators obtained through calculation of parameters of Models 1, 2 and 3 and testing of hypotheses above are presented in Table 5.

**Table 5.** Hypotheses testing based on data from JSC “Valmieras Stikla Skiedra” (1998–2005; n = 7)

Data description	Primary variable	added variable	R <sup>2</sup>	multi-variate R <sup>2</sup>	F <sub>obs</sub>	F <sub>cr</sub> (1; 4; 0.05)	H <sub>0</sub>
Absolute	EBIT	OCF	-0.174	0.235	3.67	7.71	not rejected
Absolute	OCF	EBIT	0.124	0.235	1.73	7.71	not rejected
Absolute	p	OCF	-0.126	0.185	2.91	7.71	not rejected
Absolute	OCF	p	0.124	0.185	1.38	7.71	not rejected
Relative	ROS	CFna	-0.179	-0.300	0.54	7.71	not rejected
Relative	CFna	ROS	-0.145	-0.300	0.40	7.71	not rejected
Relative	pNA	CFna	-0.200	-0.370	0.38	7.71	not rejected
Relative	CFna	pNA	-0.145	-0.370	0.18	7.71	not rejected

Due to the small number of observations, Table 5 presents adjusted R<sup>2</sup>, not the actual R<sup>2</sup>.

Cash flow prediction models do not provide statistically significant conclusions on the role of operating cash flow and earnings in determining future cash flow of JSC “Valmieras Stikla Skiedra”. The conclusions are the same regarding all hypotheses tested using both deflated and non-deflated data. As observed F values in all cases were smaller than the critical F value, the null hypothesis on the subject of equality

of cash flow and earnings variables' regression coefficients with zero cannot be rejected with a probability of 95%. It means that adding these variables to the model does not provide a statistically significant improvement in its significance.

The financial reports of JSC "Valmieras Stikla Skiedra" were gathered only for eight years, and using the data from these reports in the relevant models with a lag of one year, the number of observations was seven, which is inadequate for making statistically significant inferences. Also, the fact that during the whole period this company steadily improved its sales figures does not facilitate making statistically founded conclusions, although, it obviously can be viewed extremely positively from the point of view of financial analysis.

By comparing the significance of company's univariate models of cash flow prediction, one can infer that the model with operating cash flow as an independent variable has higher significance (p-value 0.643), followed by the model with earnings before interest and taxes (0.778), and the lowest significance is observed in the model with net earnings (p-value 0.995). These parameters are calculated from deflated data models, since using deflated numbers in the models is more appropriate due to autocorrelation and multicollinearity, as mentioned above. Transforming multivariate regression models of non-deflated data of JSC "Valmieras Stikla Skiedra" into deflated data models significantly increases coefficients of tolerance and decreases VIF coefficients, which indicates lower multicollinearity.

On the whole, one can conclude that operating cash flow of JSC "Valmieras Stikla Skiedra" is the most precise predictor of cash flow one year ahead, followed by earnings before interest and taxes, and net profits as the least precise predictor.

## Conclusions

From the five analysed companies, statistically significant results were acquired only regarding "Lattelecom" Ltd. With regard to joint-stock companies "Latvenergo", "Latvijas Balzams", "Olainfarm" and "Valmieras Stikla Skiedra", I was not able to obtain statistically significant results. To author's mind, the main reason is the inadequate number of observations of these corporations. Of course, one solution in this case would be to use quarterly, not annual data in the models. However, it was not possible. The majority of companies traded on Riga Stock Exchange began filing quarterly reports only from 2004. Individual corporations that publicised quarterly reports before 2004 did not include information on cash flow. Non-public joint stock companies and limited liability companies, as well as other commercial entities, do not publish quarterly data. Moreover, using quarterly data may create problems with seasonality of data that could, possibly, be solved by introducing a lag of four or eight quarters.

Although there are no statistically significant data on four companies, the results of the research gives an overview of cash flow prediction of Latvian corporations. Turning the main attention to the deflated data models, from the five analysed

companies, in four coefficient of determination is higher for univariate regression model containing operating cash flow independent variable, comparing with model containing earnings before interest and taxes independent variable, as well as with model containing net income independent variable. Only in one of the studied companies – JSC “Latvijas Balzams” – there is the opposite situation. Therefore, the conclusion is that using past and present observations of operating cash flow in cash flow prediction provides more precise results than using different measures of past and present earnings.

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## Summary

### CASH FLOW PREDICTION: THE CASE OF LATVIAN COMPANIES

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The paper is an empirical study, which deals with the subject of cash flow prediction in Latvian enterprises. The author proposes a hypothesis that operating cash flow has statistical significance in corporate cash flow prediction, while earnings have no statistical significance in corporate cash flow prediction in Latvia. The purpose of the paper is to test the aforementioned hypothesis. The methods of the research include several techniques of statistical analysis like calculation of relative values, comparing and grouping of data, regression analysis, as well as testing of statistical hypotheses. Based on the data analysis of annual reports of Latvian companies, author of the paper concludes that cash flow has higher cash flow explanatory power than earnings. In the majority of firms, cash flow predictive ability is higher for a univariate regression model that includes operating cash flow independent variable than for a model that includes earnings before interest and taxes independent variable and also than for a model that includes net income independent variable. Findings of the study confirm the proposed hypothesis.

# ACCOUNTING TO SMALL AND MIDDLE ENTERPRISES IN LATVIA

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## Introduction

In Latvia, the small and middle enterprises form a great deal of economy and play an important role in both the creation of GDP and the employment. According to statistical data, 99.4% of economically active enterprises answer to definition of small and middle enterprises in compliance with the classification of the EU. [6].

It is possible to be employed in economic activities, using different organisational legal forms. Mostly, there become registered limited liability companies. During the last years, the number of registered sole traders in Latvia has been growing, but the registration of individual enterprises, farms and fishing enterprises has been decreasing. Often the economic activity is carried out by registration in the State Income Service (SIS).

The legal form is defined by the fact, if the owner desires to **use personal property** to carry out economic activities and to bear full material responsibility on liabilities of his enterprise. If the property is not separated, the economic activities are carried out in the status of a physical person, being registered in the commercial register as sole trader or in the SIS as performer of economic activities.

In its turn, if the owner desires to **separate the personal property** from economic activities, then there becomes registered a legal person, whose liability is limited, mostly as a limited liability company. The accounting, as well as the income tax on the income from economic activities differs on the basis of the fact how the economic activities are carried out, i.e. in the status of a physical person or a legal person. The physical persons can have a single entry accounting, as they are taxpayers of the personal income tax.

Everyone, carrying out economic activities in the status of a physical person, is to be registered in SIS as self-employed, i.e. as the payer of social contribution, if the income from economic activities (income minus expenditures) exceeds 180LVL (257 Euros) per month. According to legal acts in force, the term *self-employed* becomes presently related only to the state social contribution.

## Single entry and double entry system in accounting

At registration of economic activities, both the physical and the legal persons take on responsibilities to carry out accounting. It means to document and register the economic activities, to calculate the financial results of economic activities and to

prepare the necessary tax, financial and statistical reports. The necessity of carrying out of accounting is defined by the law **“On Accounting”**.

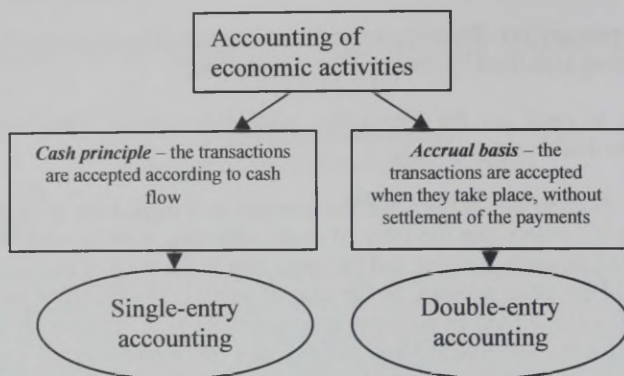
It is possible to carry out the accounting, using two systems – the single-entry system and the double-entry system.

The law **“On Accounting”** defines that the accounting is carried out in double-entry system, when it foresees that the entry of every economic activity must be entered into at least two accounts, i.e. one and the same sum in the debit of one account and in the credit of the other account. In the case of using of double entry system, the enterprise elaborates a chart of accounts and, according to it, registers all economic activities. The law **“On Accounting”** defines that the accounting on preferential conditions or the using of the system of single entry may be carried out by

- sole traders, individual enterprises, and farmers the turnover or income of which from economic activities for the previous year does not exceed 200 000LVL (284 576 Euros);
- other physical persons carrying out economic activities;
- religion organisations, the turnover or income of which from economic activities does not exceed 25 000LVL (35 572 Euros) per annum.

The condition, if it is allowed to carry out the accounting without using of the double-entry system, depends on the defined legal form and the kind of income tax paid by the enterprise. The limited liability company and the joint-stock company is not allowed to carry out a single-entry accounting, notwithstanding how large is the turnover, as well as the enterprises, being registered as payers of corporate income tax. The single-entry accounting is allowed to all payers of personal income tax, the income of which in previous year had not achieved 200 000LVL (284 576 Euros). If the payer of personal income tax has started carrying out of accounting in the double-entry system, it should be done at least five years in succession; if in the fifth year the income is less than 200 000LVL, then in the next year it is possible to start the single-entry accounting. In practice, the accounting in a single-entry system is carried out by most of the farmers, by a part of individual enterprises and sole traders, as well as by all physical persons carrying out economic activities.

Everyone, carrying out the single-entry accounting, except religious organisations, has in the process of carrying out of accounting in a single-entry system to disclose in registers of enterprise’s accounting the cash flow, the sources of its formation and its use, as well as every change of property status, being created in result of income or expenditures of the money. The rules define the order, in which there is to be accounted the income and expenditures of economic activities, stocks, fixed assets and immaterial investments, as well as the order of calculation of depreciation of fixed assets and the order of filling in of other accounting registers. [1] In accounting, two principles are used for accounting of income and expenditures: the cash principle and the accumulation principle (Figure 1).



**Figure 1.** Accounting principles

According to the **cash principle**, the income becomes accounted when the payment on transactions is received, but the expenditures, when they are paid. According to the cash principle, the transactions are registered in accordance with the cash flow, and it is used in accounting of cash transactions and banking transactions, as well as in the single-entry accounting.

According to **Accrual basis**, the income becomes accounted, when the selling of goods and service rendering has taken place, even then, if the payment on transaction is not yet received, but the expenditures, in their turn, in the period to which these expenditures are related. Carrying out the accounting in double-entry system uses the accumulation principle and calculating of payments of value added tax in the budget.

The double-entry accounting has several advantages, because it's using provides:

- information about enterprise's resources and all sources of their financing, among them also about the equity or about the resources invested in economic activities by the owner himself;
- preparation of a more detailed accounting information;
- data for calculation of actual costs of goods, labour and services and for analysis of economic activities;
- accumulation of information for preparation of financial reports and so on.

The law "On Accounting" defines that the accounting has to provide a differentiation of income and expenditures accordingly to reporting periods. The differentiation of income and expenditures differs on the basis of the fact, which of the principles of accounting is used. For example, if the finished products have been sold in November, but the money is received in February of the next year, then according to the cash principle the income becomes registered in February, i.e. then, when the money is received really, but according to the accumulation principle – in November, i.e. then, when the income is gained. The expenditures are registered

similarly. For example, the employees' wages that have been calculated for December, but paid out in January are accounted, according to the cash principle, in January, but in accordance with the accumulation principle in December, i.e. in the month, in which the expenditures have been created.

The single-entry accounting is a simplified accounting of economic activities, which may be carried out by the entrepreneur without professional knowledge in accounting. The prepared by it information is foreseen mainly for calculation of personal income tax and filling in of tax declarations. This system does not provide the users of accounting data with all kinds of information necessary for decision making. Therefore, sometimes also the entrepreneurs, being allowed according to the law "On Accounting" to carry out the single-entry accounting are recommended to make use of double-entry system, especially, if the accounting is carried out by a professional accountant.

The carrying out of accounting in double-entry system have to start obligatory all enterprises, the income of which from economic activities in previous year has exceeded the level defined in the law "On Accounting". In the line with the accounting system, there changes also the accounting principle of income and expenditures, i.e. from the cash principle to the accumulation principle.

Sometimes, the double-entry system may be recommended to payers of value added tax (VAT). It diminishes the labour-intensity and the making of mistakes, because there is not a necessity to account the VAT transactions in two different registers according to two different accounting principles:

- 1) in the register book of income and expenditures of economic activities according to the cash principle;
- 2) in the register book of PVN according to the accumulation principle.

### **Register of accounting**

The task of registers is to systematize the included in documents information for economic transactions. The transactions are registered chronologically on the basis of justifying documents. To avoid a repeated entry, there is indicated the serial number on every document, by which it is fixed in the register.

At the end of every month, there are calculated the totals of transactions, but at the end of the year the balance is transferred to registers of the next year.

Every entrepreneur may use the form, contents, number and preparation form of accounting registers, except the cases, when it is regulated by normative acts. In the single-entry accounting, the synthetic register is **the register book of income and expenditures of economic activities**, in which there are fixed all economic activities. The register book is established and filled in according to the rules defining that in single-entry accounting there must be, additionally to the register book of income and expenditure of economic activities, created also registers for

accounting of fixed assets and immaterial investments. There are also indicated the order of filling in of accounting registers of stocks, debtors and creditors, however, these registers are not obligatory, therefore, they must be created in the case of necessity. [1]

In the single-entry accounting, it is allowed to simplify the accounting of cash, and not to use a [3]:

- cashbook;
- registration journal of cash income and expenditures orders.

The accounting registers are designed so that they accumulate the information necessary for preparation of reports. For example, the register book of income and expenditures of economic activities is designed so that it enables on the bases of included in it data to prepare the annual income declaration, but the registration book of VAT, in its turn, to prepare the declaration of VAT.

### **Reports of accounting**

The concluding stage in accounting is the preparation of reports. In accounting, the financial and tax reports are prepared.

Only those, carrying out the double-entry accounting, must prepare the financial reports. These reports reflect the financial activities of the enterprise and the property situation. Most enterprises prepare them according to the law "On Annual Reports", but the sole traders and other payers of income tax prepare them according to the rules related to financial reports of sole traders [4].

In the single-entry accounting, there must be prepared mainly the **tax reports** or tax calculations or declarations to find out the tax sum that must be paid into the budget. Every kind of taxes has its own report, in which the tax laws and the regulations of the Minister Cabinet regulate the information that must be included and the terms to be submitted. According to the terms defined in normative acts, the tax declarations are to be submitted to the territorial institution of the State Revenue Service, in which the person is registered as the taxpayer. [1, 2, 4]. The accounting documents, registers and reports have to comply with the laws and normative acts according to the contents, but the form is subjected to the content.

The manager or the owner is responsible for maintaining and protecting of source documents, registers and other accounting information against destroying and extinguishing. The accounting documents and registers are arranged systematically and maintained up to the data fixed in the law "On Accounting". If the documents are lost because of theft or natural disaster, then a statement is necessary, in which there is indicated what documents are lost and why they are lost.

The accounting of every sole trader or performer of economic activities will slightly differ on the basis of circumstances what kind of transaction will be carried out, and if the income will be received in cash or through bank accounts.

### **Additional registration in the territorial institution SIS**

By registration of economic activities, the person becomes a taxpayer. An individual registration in SIS is necessary to become a:

- 1) self-employed – socially insured person;
- 2) payer of VAT.

As **self-employed, paying the social contribution**, one is to be obligatory registered, if his income (income minus expenditures) from economic activities per month has made the minimal sum (in 2009 it makes **180LVL or 257 Euros**). An exception is made by the farmers and managers of immovable property, having reached the retirement age or being invalids of the I or II group, as according to the law “On State Social Insurance” they are not obliged to pay social contributions.

A repeated registration in SIS is to be carried out, if the turnover (transactions subjected to VAT) makes a sum of **10 000LVL (14228 Euros)** during a period of 12 months and it is necessary to become a **payer of VAT**. It must be done according to the Item 3 of the law “On Value Added Tax”. Because the VAT is calculated according to the accumulation principle, but the single-entry accounting is carried out according to the cash principle, it is impossible to find out on the basis of register book of income and expenditures, when the date of registration as payer of VAT has set in. Therefore, the turnover or income must be controlled according to invoiced documents, i.e. invoices, bills, receipts or tickets, as well as the sums received through the cash register. As the payer of VAT one is obliged to registered during a month after the date, when thy stated by the law turnover has set in. In order to do it, a standard type application must be submitted to the territorial institution of the SIS.

### **Accounting of the income tax**

In Latvia, the performers of economic activities are subjected to two kinds of income tax: the personal income tax and the corporate income tax. The personal income tax has three kinds of the rate:

- a payroll tax of 23% (since 01.01.2009), which is imposed on income based on employment relationships of a physical person;
- a 15% tax, which is imposed on income from economic activities of a physical person;
- a fixed tax, which is imposed on income from economic activities of a physical person, if this income does not exceed 10 000LVL (14228 Euros) per annum.

Physical persons, being the payers of 15% income tax, usually carry out the accounting based on single-entry principle, but if the turnover exceeds 200 000LVL (284 576 Euros), then in accounting of transactions the double entry must be used.

These performers of economic activities can employ workers according to the existing legislation. For the year of account, the declaration of personal income tax is made together with appendices, in which the results of economic activities per annum are entered. In Latvia, such tax rate has been implemented since the January 1, 2008, lowering the previous rate of 25%, however, the performer of economic activities is not allowed to apply the untaxed minimum as regards him and dependents, as it is allowed to be done by a payroll taxpayer. Practically, it means that if 10 percentage points lower the tax rate the taxable income per annum becomes increased considerably.

According to payers of the fixed income tax, the accounting of economic activities is eased considerably, because they account only the income from economic activities without taking in account the expenditures. If the income per annum exceeds 10000LVL (14228 Euros), then in the next year of account it becomes necessary to be registered as the payer of income tax. To the payer of this tax, it is easier to forecast the tax payment, because it is based on the income of economic activities only. The amount of the tax is calculated on the basis of a schedule, in which the incomes per annum are given and, according to them, also the sum of the tax. For example, the sum of the tax will be 275LVL (391 Euros), if the income per annum makes from 5000 to 5500LVL (from 7114 to 7825 Euros).

But also the payers of the fixed personal income tax cannot apply the untaxed income of a physical person, when calculating the tax, as well as they cannot employ workers for their economic activities. To the payers of personal income tax there exist also other restrictions, because the payers of this tax cannot be performers of professional activities or representatives of regulated professions (doctors, lawyers, flyers, and veterinarians) and representatives of creative professions, being obtainers of author's fees.

Already for a certain period, the tax rate of the corporate income tax makes 15% of the taxable income per annum; legal persons, i.e. the limited liability companies and joint-stock companies, carrying out only the double entry accounting, pay the tax.

## Conclusions

1. In Latvia, the small and middle enterprises make 99.4% of the number of economic active enterprises.
2. It is possible to carry out the accounting by using of two basic systems: the single-entry accounting and the double-entry accounting.
3. The single-entry accounting can be carried out by all payers of personal income tax, the income of which for the previous year has not made a sum of 200 000 LVL (284 576 Euros).
4. If the payer of personal income tax has started to carry out the double entry accounting, then he has to continue with it for five years.
5. The limited liability companies and joint-stock companies carry out the double entry accounting without regard to the amount of turnover.

6. In accounting, there are used two principles to account income and expenditures of economic activities: the cash principle and the accumulation principle.
7. The double-entry system may be recommended to the payers of value added tax.
8. The performers of double-entry accounting make financial statements.
9. The performers of single-entry accounting prepare tax accounts.
10. In Latvia, the performers of economic activities are subjected to two kinds of income tax: to personal income tax and to corporate income tax.
11. Physical persons, carrying out economic activities with accounting of income and expenditures, pay the personal income tax of 15%.
12. Physical persons, being the payers of fixed personal income tax, carry out a preferential accounting.
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3. MK 21.10.2003. noteikumu Nr.584 "Kases operāciju uzskaites noteikumi"
4. MK 08.05.2007. noteikumiem Nr.301 "Noteikumi par individuālo komersantu finanšu pārskatiem"
5. [www.csb.gov.lv](http://www.csb.gov.lv)
6. [www.vid.gov.lv](http://www.vid.gov.lv)

### Summary

#### ACCOUNTING TO SMALL AND MIDDLE ENTERPRISES IN LATVIA

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In Latvia, 99.4% of all economically active enterprises are small and middle enterprises. The accounting may be kept using two systems – single-entry accounting and double-entry accounting. The single-entry accounting is allowed to all taxpayers of income tax, the income of which in the previous year had been less than 200 000LVL (284 576 Euros). If the taxpayer of income tax starts double entry accounting, it must be continued for five years. The double-entry accounting is used by limited liability companies and by joint-stock companies irrespective of the amount of turnover. In accounting of receipts and expenditures of economic activities, two main principles are used: the cash principle and the accumulation principle. The double-entry accounting may be recommended to taxpayers of value added tax. The users of double-entry accounting prepare financial reports. In Latvia, the economically active persons are subjected to two kinds of income tax – the personal income tax and the corporate income tax. Physical persons, carrying out economic activities with accounting of receipts and expenditures, pay an income tax of 15%. Physical persons, i.e. taxpayers of a fixed income tax, use a preferential accounting. Since 2004, the rate of corporate income tax in Latvia makes 15%.

**Section II**  
**MANAGEMENT ACCOUNTING AND**  
**PERFORMANCE MEASUREMENT**

# PERFECTION OF MANAGERIAL CONTROL IN THE WORK OF REPAIR SERVICE

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## Introduction

The problems of rebuild service management are becoming very important in the activity of a company. Annual costs for mechanical service (MS) and fettling are 10–25% from initial cost of main funds, and the share of costs in the cost composition of output can be 6–8%. The number of workers, involved in repair service, is about 20–30% from total number of indirect employees (Пшенников, 2007). Despite this fact, repair services at the industrial enterprises are paid little attention. It can be proved by their low level of available technology, high per unit and total costs, low quality of the repair works.

The objective of this article is to suggest a methodology with the help of which it be possible to evaluate the activity results for control and motivation in the system of process control of repair service.

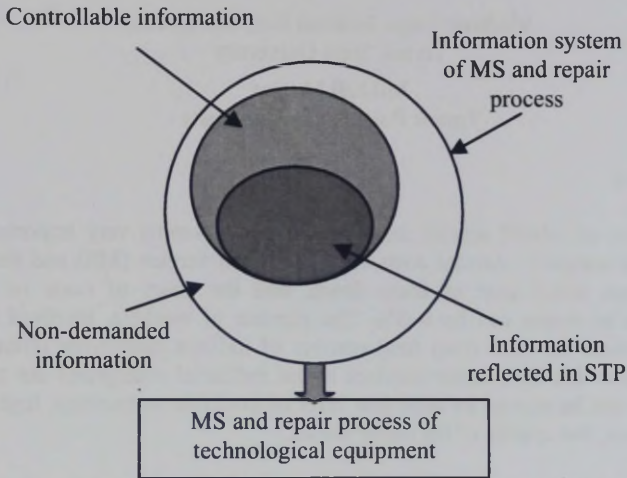
## 1. Information system of mechanical and repair service and process management.

Different kinds of information (which should be supplied by appropriate information system – IS) are necessary for efficient managerial activity in the sphere of MS and repair.

IS of the MS is total information, circulating in the repair service of an enterprise. The information can be generated in the process of its activity and it affects the results of this activity (Федоров, 2003).

The form of information doesn't play a big role, it can be in electronic form, in paper form or in the form of knowledge and experience of employees. IS takes into account all kinds of information in repair service, in an explicit and implicit form. These datum can be kept track of and decisions can be made on the base of these datum. Otherwise decisions are made without reliance on such information but in reliance on hands-on experience and cultural traditions. The part of IS is controlled by managerial staff and it is used by them in decision making. Let's call such information controllable. The other part of IS is out of view and it can't be analyzed or controlled whether anyone knows about it, pays attention to it in decision making or not. This is a field of non-demanded information. So one of the purposes in MS and repair management is to increase the part of controllable information in repair

service of an enterprise followed by its description in a standard technological process (STP) (picture 1).

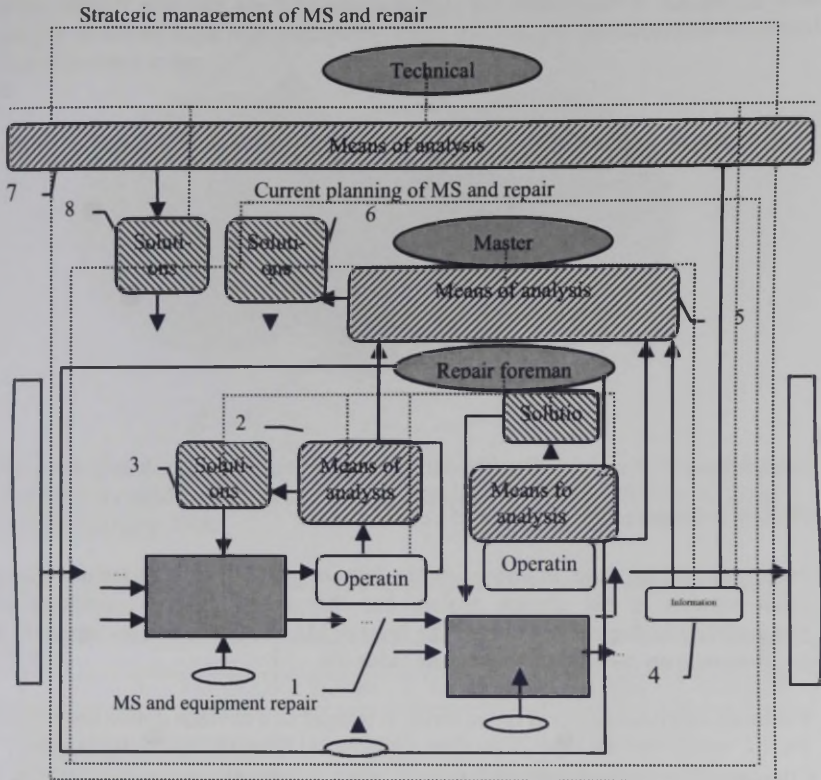


**Picture 1.** Information system of MS and repair process.

Structural and functional analysis of this process was carried out at the open joint stock company 'Tomskneftehim' for solving a problem of effectiveness of MS and repair process management (Tomsk city) (pic. 2).

As a linguistic support, international standards of modeling IDEF (Team Definition) were used to analyze processes from three points of view at the same time – IDEFO (Integrated Definition for Function Modeling), IDEF3 и DFD (Data Flow Diagram).

Running a company as a web of processes, it is necessary to control the quality performing of every component in this process (Робертс, 2003, Свиткин, 2002). The principles of construction of "the means of analysis" for complex evaluation in the MS activity are described in the following part.

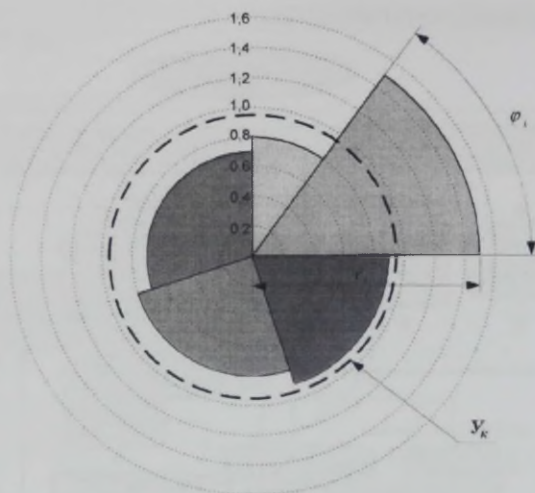


Picture 2. MS and repair process management cycle (fragment).

## 2. Perfection of managerial control methods in repair service activity.

For complex evaluation of MS and repair service process it is necessary to use relative indexes (Николаева, and Шебек, 2003). On this basis, measured quantities of complex evaluation of MS and repair process are: technical level of repair service (TLRS), financial damage to the main production because of the idle time of equipment and emergency maintenance; efficiency and effectiveness index (EEI) of repair service.

In our opinion, the most suitable monitoring tool is circular chart which is plotted with consideration of relative technical and economical index of MS and repair process, and their coefficients of ponderability. These charts give an idea of organization level of MS and repair process, they are easy to perceive and allow keeping track of the time history of the quality indexes (picture 3).



**Picture 3.** Construction sequence of a circular chart.

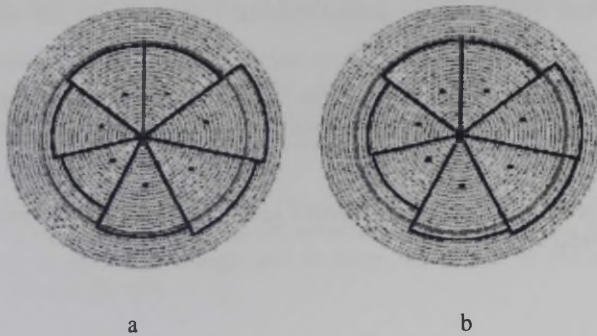
Each index in the chart is imaged in the form of round sector, its radius is index value relative to the chosen analog, but the central angle – coefficient of ponderability in degrees or radians. The level of MS add repair process organization is determined on basis of complex mean value  $Y_k$ .

The value of mean weighted round index is imaged as a circle in dotted line (pic. 3).  $Y_k < 1$  means that the level of process organization is lower than relative analog. Circular charts in the monitoring process allow a manager: to see if something is going wrong in MS, to compare the results of the work regularly and to find out the tendency in parameter change and to judge the results of the work in different subdivisions of the MS.

After the period of registration of indexes, the chart allows the manager of the MS and repair process to determine standard value of each of them. Moreover it is possible to establish their purpose. Thanks for regular analysis a manager of the MS and repair process can take necessary measures. Then the goals for each workshop and equipment can be set, and the manager of each subdivision has an opportunity to compare achieved results to objectives and discuss the measures that should be taken.

In picture 4 there are circular charts which characterize the MS and repair service organization in repair and machine shops producing polyethylene at 'Tomskneftehim' plotted on the basis of EEI activity for the quarter (January – April 2008) (table 1).

In the table 1 you can see EEI which reflect the connection of equipment with quantity of labour force and spare parts. There you can see the calculation results of relative indexes value.



**Picture 4.** Circular charts which characterize the MS and repair service organization in repair and machine shops producing polyethylene at ‘Tomskneftehim’: a) January 2008; b) February 2008.

**Table 1.** EEI of the MS and repair process in repair and machine shops producing polyethylene at “Tomskneftehim”

N	Index	Value			
		01.2008	02.2008	03.2008	04.2008
1	Degree of failure rate	0,744	0,756	0,810	0,797
2	Wage share of workers and MS and repair expense	0,925	0,894	0,914	0,873
3	Breakdown time	0,870	0,886	0,895	0,871
4	Wear factor index	0,801	0,843	0,900	0,850
5	Operational availability coefficient	0,635	0,667	0,685	0,661
6	Available repair parts	0,691	0,689	0,751	0,720
7	The level of equipment work load	0,740	0,762	0,792	0,753
Ук		0,778	0,790	0,825	0,793

The coefficients of ponderability are considered to be equal ( $a_1 = a_2 = a_3 = a_4 = a_5 = a_6 = a_7$ ), but for each repair subdivision and for concrete equipment they should be established by means of expert evaluation (Никитин and Филончева, 2004, Фатхутдинов, 2007). EEI should also be chosen by expert commission taking into consideration the characteristics of MS and repair process at every enterprise. As it was mentioned above after the period of registration of indexes, the manager of the MS and repair process should determine standard value of each of them.

### 3. Conclusion

Approbation of the methodology in MS and repair service evaluation shows, that it can play important role in current service decision making in the MS and repair processes.

Because of the complex structure of the repair service of 'Tomskneftehim' monitoring and plotting of circular charts should be done in every repair subdivision – workshops, sites.

MS and repair processes should be monitored according to hierarchy of mechanical installations, production.

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### Summary

#### PERFECTION OF MANAGERIAL CONTROL IN THE WORK OF REPAIR SERVICE

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The problems of rebuild service management are becoming very important in the activity of a company. The objective of this article is to suggest a methodology with the help of which it be possible to evaluate the activity results for control and motivation in the system of process control of repair service.

One of the purposes in mechanical service (MS) and repair management is to increase the part of controllable information in repair service of an enterprise followed by its description in a standard technological process. As a linguistic support, international standards of modeling were used to analyze processes.

For complex evaluation of MS and repair service process it is necessary to use relative indexes. In our opinion, the most suitable monitoring tool is circular chart which is plotted with consideration of relative technical and economical index of MS and repair process, and their coefficients of ponderability.

Circular charts in the monitoring process allow a manager: to see if something is going wrong in MS, to compare the results of the work regularly and to find out the tendency in parameter change and to judge the results of the work in different subdivisions of the MS.

Approbation of the methodology in open joint stock company 'Tomskneftehim' shows, that it can play important role in current service decision making in the MS and repair processes.

# REFLECTIONS OF EXTERNAL ENVIRONMENT IN PERFORMANCE MEASUREMENT SYSTEM

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## Introduction

Performance measurement system in an organization (PMS) is unique set of measurement, analysis and planning tools. Those tools are modern methods of management accounting used in nowadays organizations. For different companies, PMS plays a particularly important role in operations and in business strategy implementation. A PMS provides the requisite information for the monitor, control, evaluation, and feedback functions for operations management. Indeed, a successful PMS can provide a proactive guide for operations and strategic management (Gimžauskiene, Valančiene, 2005; Valančiene, Gimžauskiene, 2007). In order to meet informational demand of decision makers organization needs continual improvement of the system itself. Continuous improvement means organizational changes. Propositions listed above leads to the conclusions that performance measurement system (PMS) is useful for data accumulation and transformation into valuable knowledge if organizational changing process is ensured.

The most popular theoretical approach for PMS studies is contingency theory. Contingency theory postulates that the effectiveness of the organization in coping with the demands of its environment is contingent upon the elements of various subsystems. Several authors suggest that a contingency framework may provide a more holistic approach to the design of PMS. But do contingency approach could disclose peculiarities of PMS changes as a result of continuous its improvement? The last decade complexity theory has been advocated as a way to help understand organizational change and innovation. Changes of performance measurement system analyzed according to contingency and complexity theories will let us disclose how external environment and organizations reaction to it shapes internal environment and to what level it is reflected in PMS.

The **research question** of this article is formulated as following:

*How performance measurement system reflects external environment and organization's reaction to it?*

**The aim of this article** is to disclose the dimensions according to which changes of performance measurement system could be analyzed.

The first part of this article presents theoretical background and interpretations of performance measurement system form contingency and complexity theories point of view. In order to point out the external and internal environment of organization influence on performance measurement changes, pilot quantitative research was performed. The purpose of the research was to ground the main dimensions

according to which changes of performance measurement system could be analyzed and to point out the character of different performance measurement systems elements according to them. Results of the research in Lithuanian organizations are presented in the second part of this article.

### Theoretical background and development of the hypothesis

#### *Contingency theory and internal/external environment of organization*

Contingency theory is one of the theories which help to analyze in what way PMS fits to organization's internal environment (Gimžauskienė and Klovienė, 2008 (a,b)). PMS studies are characterized by a contingency approach: each organization has to choose the most suitable system by taking into account some contingency variables such as strategy, objectives, structures, culture, technology, etc. In the literature on PMS many normative models are proposed (Hudson, Smart and Bourne, 2001).

In order to identify the contingency factors influencing PMS in organizations, an in-depth literature review of PMS literature was carried out (Garengo and Bititci, 2007). In order to find out the main contingency factors, the information collected through the literature review was aggregated using the categorical aggregation and interpretation technique, which brings instances together until something can be said about them as a group (Biazzo and Bernardi, 2003). The following five contingency factors, that may influence the implementation and use of performance measurement, were identified by Garengo and Bititci (2007):

- In order to study *corporate governance structure* in organizations, two key dimensions have to be considered: the role of the board of directors and the influence of ownership on corporate governance. The nature of the corporate governance structure impacts the perceived value of a performance measurement system as a decision-making support tool.
- The introduction of powerful technological tools has often led companies to focus their attention on technology – called hard aspects – and to neglect managerial practices and human behavior – called soft aspects (Garengo et al., 2005). The relationship between PMS and MIS is advanced information system practices create a context that favors the use of a performance measurement system.
- The relationship between performance measurement and *business models* can be analyzed according to the model developed by Bititci and Martinez (2001) – the value matrix. Business models are highlighted as a key contingency factor. Companies start to use performance measurement to support changes in its business model (Beeson and Davis, 2000; Grobman, 2005).
- *Organizational culture* is defined as the deepest level of basic assumptions and beliefs that are shared by members of an organization and considered to be one of the most stable and inertial factors in an organization (Stacey, 1996; MacIntosh and MacLean, 2001). Management style influences the level of delegation, the approach and time required to make decisions and the control of activities (Quinn, 1984; Gimžauskienė and Klovienė, 2008 (a)). PMS use promotes the introduction of an achievement culture and a consultative

management style. During the implementation process an authoritative management style is required for the successful implementation of a PMS.

- The *environmental* impact on performance measurement can be investigated indirectly because environmental dynamics affect business strategy consequently it is enough to analyze the influence of strategy.

Summarizing it could be stated, that contingency theory postulates that the effectiveness of the organization is contingent upon the elements of various subsystems – PMS is one such subsystem. Contingent theory is based on the premise that there is no universally appropriate accounting system which could be applied equally to all organization in all circumstances (Gimžauskienė and Klovienė, 2008 (a,b)). Efficiency and effectiveness of PMS depends on what level it ensures strategy measurement, evaluation and dissemination through functions and processes of organization and translation of it into operational terms in different management levels. This leads to the conclusion that environment is the most important variable which affects the choice of PMS as it affects strategy. Environment could be described according to the level of the uncertainty. The greater environment uncertainty the more difficult it is to configure the system for effective performance evaluation. Environmental uncertainties could not be explained using contingency theory alone as they influence PMS indirectly through internal organizational factors.

#### *Complexity theory and external environment of organization*

The second theory which can explain changes of PMS in organization is complexity theory (Rooney and Hearn, 1999; Valančienė, Gimžauskienė, 2008). The space of complexity is that state which the system occupies and which lies between order and chaos (Bechtold, 1997; Jenner, 1998; Tetenbaum, 1998). It is a state which embraces paradox; a state where both order and chaos exist simultaneously. It is also the state in which maximum creativity and possibility exist for organization to realize and explore (Letiche, 2000; Macbeth, 2002).

Managers and organization leaders tend to see organizations and them as members of those organizations, as separate from their environment. They seek to control that environment and experience frustration when it behaves in a way that is incongruent and in conflict with the operations of their organizations. The study of complexity reveals that they are in dynamic reaction with our environment and are very much part of the process that creates that environment. They do not exist in isolation but they exist and have their being within a web of relationships. If they accept that they are participants in this creative process of their environment, they must allow the flow of events rather than trying to swim against the current by trying to control the flow. The study of complexity further reveals that complexity is in fact the result of simplicity (Brodbeck, 2002; Styhre, 2002). Complexity theory suggests that there is a quasi equilibrium state, just short of the point where a system would collapse into chaos, at which the system maximizes its complexity and adaptability (Houchin and MacLean, 2005; Miguel and Joao, 2006).

This point is referred to in the literature as the edge of chaos. The edge of chaos is a useful construct to explain some of the apparent paradoxes of management. One of the paradoxes of management or organizations is that stability and flexibility are both seen as creating organizational effectiveness, even though these two constructs are opposites. Complexity theories reconcile this. Using this concept in the organizational context, organizations that are too stable fail to respond to changing conditions in the environment are at a competitive disadvantage, and eventually go belly-up. Organizations that are changing too much also disintegrate. Yet there is an optimal place between these two that promotes survival, the edge of chaos, where the organization is the most creative, promotes the most learning and adaptation and, as paraphrased by Ralph Stacey, gets to the future before your competitors do (Smith, 2005; Burnes, 2005).

Good managers and organization leaders know when to change communications rules to move the organization to the edge of chaos (either away from chaos or away from stability) in order to promote organizational changes. Complexity theory deals with the nature of emergence, innovation, learning and adaptation (Keene, 2000). According to complexity theorists such as Stacey (1996) the concept of the organization moving from one stable state to another as a result of change is flawed. The best use of complexity theory for understanding organization development may be as a metaphor giving us new insights, rather than trying to search for common principles across a variety of very different systems (Manson, 2001). Summarizing it could be maintained, that complexity theory let us study the process of changes and answer the questions – in what way organization at the particular moment deals with chaos and uncertainties and to what extent it seeks for stability and order?

#### *Hypothesis of the research*

Combining main presumptions of complexity and contingency theories it could be maintained that level of external environmental uncertainty and organizations reactions to it could be dimensions according to which features and content of PMS in different organizations could be researched. Those two dimensions form four different types of internal organization's environment peculiarities of which performance measurement system should reflect. According to complexity and contingency dimensions it could be hypnotized that character of external environment and organization to it could be defines frequency and extensive of usage of performance measurement tools:

- Static external environment and organizations attempt to simplify it, forms internal environment where extensive of usage of performance measurement system tools is at the moderate level and frequency of usage of performance measurement system tools is at the lowest level and static environment defines low informational demand, attempt to simplify the situation.
- Static external environment and organizations attempt to absorb it, forms internal environment where frequency of usage of performance measurement system tools is at the low level but extensive of usage of performance measurement system tools is at the highest level.

- Dynamic external environment and organizations attempt to simplify it, forms internal environment where extensive of usage of performance measurement system tools is at the moderate level and dynamic environment defines high informational demand, attempt to simplify the situation – frequency of usage of performance measurement system tools is at the low level.
- Dynamic external environment and organizations attempt to absorb it, forms internal environment where frequency and extensive of usage of performance measurement system tools is at the same level.

## Research method and results

### *Research method*

In order to point out the external and internal environment of organization influence on performance measurement changes, quantitative research (survey) was performed. Survey was performed in Lithuanian organizations, which were chosen by handy selection method. The purpose of the research is to analyze the usage of performance measurement system in Lithuanian organizations, what factors (internal, external) influence the changing process and frequency of performance measurement system according to different aspects of organization and how performance measurement system fits to these changes.

Without general information about organizations (*the industry/sector in which organization operates, ownership structure, number of employees*), external environment of organization was analyzed according to frequency of changes, it means an environment is static or dynamic and in this case respondents need to mark frequency of listed changes using Likert scale (*changes in client needs, in product/service priority characteristics, in pricing policy, in competitor's pricing policy, in product/service characteristics, in competitor's product/service characteristics, in technology of production, in life cycle of products, in competition, in strategy, in competitor's strategy, in market members, in new products market development*).

Reaction to environment was analyzed according to its complexity – organization try to absorb or simplify ongoing changes. Complexity was analyzed in two ways using yes/no answers. First, according to organization's reaction when performance results do not fit to its purposes. In this case respondents ought to check what changes are made in strategy, objective, tactic targets (*creates new strategy, creates and seeks new targets, corrects strategy, corrects targets and tactic tasks, identify not fitting problems, improves future activities*). Second, according to how many purposes organizations try to adjust (*individual employee's purposes, individual client purposes, director's purposes, shareholder's purposes, organization's purposes*).

In performance measurement methods case, using Likert scale, respondents first, ought to mark the frequency of different management accounting methods usage (*traditional accounting methods, activity based costing, strategic planning, pricing methods, middle period planning, budget planning, balance scorecard, analytic*

*methods*). Respondents marked the most suitable situation for their organization. Second, respondents ought to mark the extensive of different management accounting methods usage (*track progress towards goals, review critical performance elements, monitor results, compare outcomes to expectations, tie the organization together, focus on critical issues, develop a common vocabulary in the organization, enable communication between the different segments of the organization, continuously challenge the results, action plans, make strategic decisions once the need for a decision is identified and an immediate response is required, response to strategic challenges, reach decisions in complex, anticipate the future directions, make the final decision, ensure the common understanding of the business*).

According to research information a matrix was prepared in which organizations were divided into four groups – static environment of organization and it tries to absorb ongoing changes; static environment of organization and it tries to simplify ongoing changes; dynamic environment of organization and it tries to absorb ongoing changes; dynamic environment of organization and it tries to simplify ongoing changes. Conclusions and interpretation were made analyzing PMS extensive and usage results in four different groups.

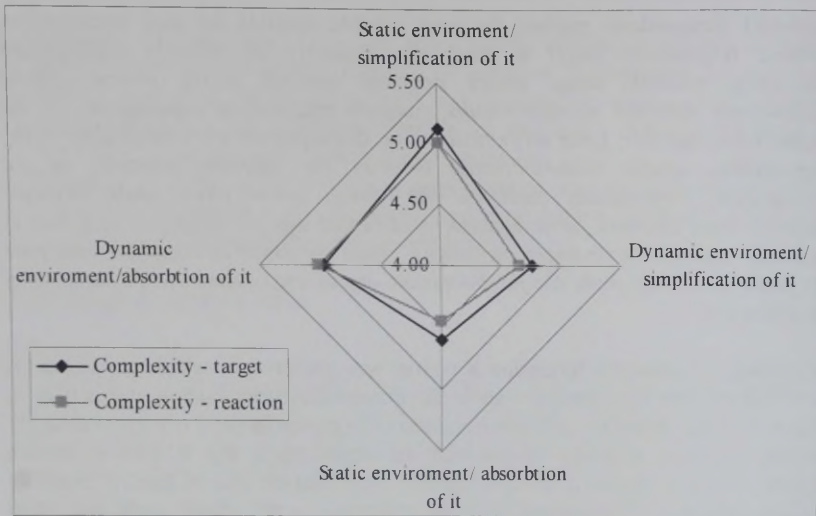
#### *Results and interpretation*

Postal questioner was undertaken to collect data in this survey. The research population is confined to Lithuanian organizations. The survey covers a total sample of over 30 organizations.

Resuming research results, it could be stated that ongoing changes in client needs, product/service characteristics, in new products market development and in competition are the most frequent and show dynamic environment of organization. Research results show that 37 percent of all organizations have dynamic environment and 63 percent – static environment of organization.

According to research result it could be stated that changes or not in organization strategy, targets and tasks show organization's reaction to environment. Research results show that 67 percent of all organizations try to absorb ongoing changes in organizations environment – creates new strategy, creates and seeks new targets. Those four types of organizations will be used for future analysis.

Analyzing research results in complexity case – reaction and targets – a strong correlation (0.813\*) between them was found. Research results in reaction and targets complexity case (see figure 1) show that both ways are suitable to analyse organizations complexity of behaviour.



\*indicates significant at .00 level

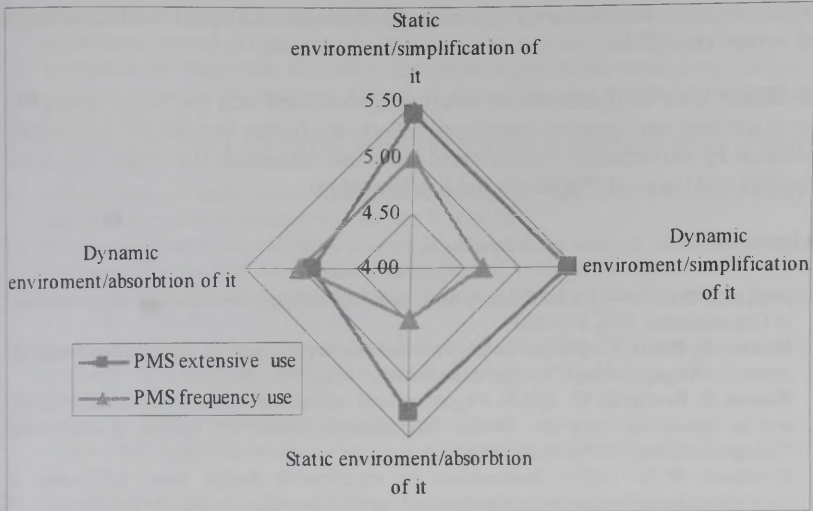
**Figure 1.** Reaction and targets complexity

Analyzing research results in performance measurement methods case – frequency and extensive – a strong correlation (0.708\*\*) between them was found too. According to research results in performance measurement methods case (see figure 2) it could be stated that:

- Organizations which external environment is dynamic and it tries to absorb ongoing changes, frequent use of performance measurement methods directly influence a wide use of information which performance measurement methods provide. On the other hand it could be stated that such kind of organizations usefully adapt all information which PMS methods provide for decision making process.

According to research results quite different situation is found in other types of organizations:

- Organizations which external environment is static use less PMS methods and given information use to a wide range of decisions. On the other hand static external environment of organizations form low informational demand (everything is clear) and organizations don't need new or more PMS methods for decision making processes.
- Organizations which external environment is dynamic and organizations attempt to simplify it, forms internal environment which show that organizations have high informational demand (PMS information use to a wide range of decisions), but try to simplify an environment (use a small number of PMS methods).



\*\*indicates significant at .00 level

**Figure 2.** Frequency and extensive of performance measurement methods

According to this it could be stated that usage of PMS depends upon external environment and organization's reaction to it as those factors determine the demand and opportunities of usage. The larger attempt to absorb external environment challenges the higher demand for information generated by performance measurement tools. On the other hand the higher level of dynamism of external environment limits opportunities for adequate usage of it.

## Conclusions

**According to theoretical prepositions it could be stated that changes of PMS reflects internal and external environment of organization and organization's reaction to it.**

The external environment of organization is changing all the time. Such changing external pressures from stakeholders in the social and economic environment influence organization's behaviour.

Environmental uncertainty and organizations reaction to it are important dimensions which affects the choice of PMS. The greater environment uncertainty, the greater demand for information, the more difficult it is to prepare measures which could then become the basis of performance evaluation.

**According to research results it could be stated that usage of performance measurement system depends upon external environment and organization's**

## reaction to it as those factors determine the demand and opportunities of usage and extensive of PMS.

The higher level of dynamism of external environment and the larger attempt to absorb external environment challenges, reflects the higher demand for information generated by performance measurement tools and influences the higher and equal extensive and usage of PMS tools and its information.

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## Summary

### REFLECTIONS OF EXTERNAL ENVIROMENT IN PERFORMANCE MEASUREMENT SYSTEM

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This article presents results of empirical research performed in Lithuanian organizations. Theoretical background is based on assumptions that changing environment of organizational performance has a direct impact on changes in performance measurement, which, in turn, are realized in close connection with projects on re-organizing internal management systems. The main feature of modern PMS is application theoretical descriptive method into practices, incorporation of it to decision making process, and improvement of the system according to changing external conditions and internal potential of organization. Those processes means organizational changes based on relations with the environment. The dimensions that lead to deeper analysis of relations between performance measurement system and its external and internal environment of organization were disclosed in this article.

According to this aspect, changes of performance measurement system could be analyzed according to complexity theory, which will answer the question – does organization adapt to its external environment. Contingency theory will answer the question – does PMS fit to organization's internal and external environment.

According to theoretical aspects, the **research question** of this article is formulated as following: How performance measurement system reflects external environment and organization's reaction to it?

**The aim of this article** is to disclose the dimensions according to which changes of performance measurement system could be analyzed.

The first part of this article presents theoretical background and interpretations of performance measurement system from contingency and complexity theories point of view. In order to point out the external environment reflections in performance measurement system, pilot quantitative research was performed. The purpose of the research was to point out the character of different performance measurement systems elements according to external environment and organizations reaction to it dimensions. Results of the research in Lithuanian organizations are presented in the second part of this article.

# PERFORMANCE MEASUREMENT AND MANAGEMENT DRIVERS: EVIDENCE OF ESTONIAN COMPANIES

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## Introduction

In the conditions of intensified competition companies management need to have objective information about the formation and shape of their performance delivered in mandatory financial statements in order to be consciously competitive on the market. Therefore, the need for developing management accounting systems (MAS), which could provide information about main impacts on companies performance, has grown rapidly in Estonia and all new European Union (EU) member states. To be able to make generalisations about the directions of development of MAS, both researchers and practitioners need more systematic information about the currently operating management accounting systems and the factors influencing them. Traditional management accounting practices, including cost accounting issues and profit-based performance measurement, are financially-oriented. More contemporary management accounting methods combine both financial and non-financial information and take a strategic focus. Emmanuel *et al.* (1990) and Otley (1999) have been stated that performance evaluation serves as an important function of management accounting. Therefore, the present study is focused on the contingencies that influence companies' performance management and management accounting systems in Estonian largest companies.

The aim of the paper is to describe and analyse the performance measurement and management practices in the Estonian companies exploring the main impacts on these systems using a contingency theory framework. Considering enormous changes in social and economical environment it will be reasonable to expect significant changes also in the management accounting systems.

Over the last decades, management accounting has emerged as a comparatively popular research topic in market economy countries. Different surveys on management accounting have been carried out in several European countries and their results have been reported in various publications (Bhimani, 1996; Drury *et al.*, 1993; Lukka and Granlund, 1996; Amat *et al.*, 1994).

In the Eastern and Central European countries, proceeding from the information at the authors' disposal, initial surveys of the design of companies' management accounting systems have been carried out in Poland (Sobanska and Wnuk, 1999; Szychta, 2002 etc.) and in Estonia (Haldma and Lääts, 2002). To sum up, mainly the investigations on management accounting in the Eastern and Central European countries indicate state-of-the-art-type studies (except Varmosi, 2000). One of the characteristics of these studies is the fact, that the findings are reported mainly without using any theoretical framework. In the transition economies, research

projects on management accounting practices using the contingency approach were conducted by Anderson and Lanen (1999, India), Luther and Longden (2001, South Africa), Haldma and Lääts (2002, Estonia). Consequently, the development of the management accounting practices in the Eastern and Central European countries has not yet been studied in detail.

The paper is organised as follows. The next section outlines the elements of the contingency theory of management accounting, subsequently discussing a research sample. The fourth section presents our findings on performance measurement and management practices and its driving forces in Estonian companies in four perspectives: companies' market environment, performance measurement indicators and tools, used financial and non-financial measures, design of the performance measurement systems. Finally, the fifth section presents some concluding remarks on the evolution of performance measurement and management practices in Estonian companies.

### **The contingency approach framework**

The contingent approach to management accounting is based on the premise that there is no universally appropriate accounting system applying equally to all organisations in all circumstances (Emmanuel *et al.*, 1990, p. 57). The effectiveness of the design of the accounting systems depends on the ability to be adaptive to changes in external circumstances and other internal responses.

The survival and success of the organization is based on adaptation to both external and internal forces. The contingency based approach assumes that management accounting systems are adopted to assist managers achieve some desired company outcomes or goals. The appropriate MAS design is influenced by the operating context. If the MAS is found to be appropriate then it is likely to provide enhanced information for the individuals who take improved decisions and better achieve organizational goals.

The major external factors that have been examined at the company level in management accounting and control (including cost accounting) research are external environment (Khandwalla, 1977; Merchant, 1990; Chapmann, 1997, Hartmann, 2000), and national culture (Harrison, 1992; O'Connor 1995). The most widely stressed research aspects are environmental uncertainty and hostility. The hardly predictable environmental elements have their own impact on organisational structure, performance evaluation, budgeting and budgetary control, and are associated with more open and externally focused management accounting systems.

The most common internal factors that have been examined in relation to management accounting are organisational size (Bruns and Waterhouse, 1975; Merchant 1981), technology (Khandwalla, 1977; Dunk, 1992), and companies' strategy (Miles and Snow, 1978, Gupta and Govindarajan, 1984; Simons, 1987; Chenhall and Morris, 1995).

As organisations become larger the need for managers to handle greater quantities of information increases (see Child and Mansfield, 1972; Chenhall and Langfield-Smith, 1998). Khandwalla (1972) found that large firms were more diversified in product lines, were more divisionalized, employed mass production techniques and were using more sophisticated controls. According to Merchant's study (1981) large companies are more decentralised and use more sophisticated budgets in a participative way. In the present paper we focus on environmental and organisational aspects. These elements and their different impact to companies' performance measurement and management practices are further expanded.

### **Research method**

The study aimed at the design of the performance measurement indicators and tools and influencing contingencies on performance management aspects in the Estonian companies. The survey was carried out during six months in 2006–2007 by the Department of Accounting at University of Tartu. The survey questionnaire was designed in the framework of Central and Eastern European Performance Panel. The framework involves representatives of new member states, joining the European Union in 2004. This investigation was initiated by professor Peter Horvath (International Performance Research Institute, Stuttgart) and was coordinated by the Corvinus-University (Budapest). In Estonia the survey was administered to 120 companies selected from the Business Daily list of largest Estonian companies. These firms were either strategic business units (divisions of larger corporations) or companies in their own right. To develop an accurate mailing list, each company was telephoned and the names and addresses of business units were identified, as well as the name of the most suitable person within each business unit to complete the survey. These were typically financial directors or chief executives. These steps were considered important to increase the accuracy of the survey responses.

The mailing resulted in 61 useable responses or a 51% response rate. It seems to be acceptable comparing with other surveys carried out in the area (Reichmann and Kleinschnittger, 1987; Drury et al., 1993; Andersen and Rohde, 1994). On the basis of the received surveys we carried out a statistical analysis using one-way analysis, two-way analysis.

The responding companies in Estonia represented 5 different branches of activity (manufacturing, wholesale, financial services, services and others). Demographic features of the of the business including industry and size are summarized in Table 1.

**Table 1.** Demographic data

<b>Industry classification</b>	<b>Number of companies</b>
Manufacturing	32
Wholesale	10
Financial services	7
General services	7
Others	5
<b>Total</b>	<b>61</b>
<b>Size of companies, revenue (1,000 EUR)</b>	<b>Number of companies</b>
Up to 19999	14
20000–29999	18
30000–60000	19
More than 60000	10
<b>Total</b>	<b>61</b>

As the population of the study comprised the country's largest companies, the findings of this study are related to this group of the Estonian companies and should not be interpreted as relating to the general population of companies. In as much as size is associated with the availability of resources to experiment with a range of management and accounting practices, it is likely that the sample included a greater proportion of companies employing "advanced practices" than the total population of companies.

## Survey results and discussion

### Market environment

Although the list of respondents consist the Estonian largest companies, the market environment has substantially changed for them. Our analysis revealed, that three years ago, in the period when Estonia joined the EU, 75% of the responding companies defined their market development stage as growing one. Now, three years later, for 23% of these companies the growth stage has changed to maturity stage. Only one company defined the market development as a declining one. Therefore, we can summarize that during last three years the companies have substantially moved from growth stage to maturity stage. It means also, that the companies entered into the environment with higher competition, which needs more competitiveness in their future development. As it was stated by Haldma and Lääts (2002, p. 389), increased competition and raised production quality standards required adoption of a more sophisticated and market-sensitive internal MAS. The companies defined the major changes in their market environment during last three years as following. Firstly, for almost a half of the companies the customer needs have changed. Secondly, this process was followed by the changes in product characteristics (in 50% of the cases). Thirdly, these processes affected the need for changes in their pricing policy, which has taken place in every third company.

Therefore, we can conclude that the external environment affects the nature of the accounting system, for any particular accounting system chosen aims to facilitate the company's adaptation to the environment it faces.

### Performance measurement indicators and tools

We started our study on performance measurement and management with the analysis of the usage of performance measurement indicators and tools. The list of performance indicators included 16 items and 25 different performance measurement tools and methods. Each practice was ranked in order of the percentage of respondents who indicated their business had adopted the practice. We also analysed how intensive was the usage of the corresponding items three years ago.

To help discussion, the performance indicators are divided into three groups: the items, which are used by more than 80% of the respondents are classified as *relatively high adoption*, the items, which are used by 60–80% of the respondents are classified as *relatively moderate adoption* and the remaining, which are used by less than 60% of the respondents are classified as *relatively low adoption*. The first group of performance indicators, which were adopted in majority (more than 80%) of companies, included the following items: revenue, net income and cost efficiency. The second group items, which are adopted in more than 60% and less than 80% of companies, included the longest list on items: earnings before interest and taxes, return on investment (ROI), on time delivery, customer satisfaction, sustainable growth, and strategic reaction capability (fastness of the reaction to new market threats). The lowest adoption rate had the following items: economic value added (EVA), market share, employee satisfaction, customer profitability and two items of strategic reaction capability: fastness of the reaction to new customers' needs and fastness of the reaction to competitors' actions. The classification scheme is not meant to imply that adoption are either high or low in any absolute sense. For example, most items in the low adoption group were used by more than 50% (except EVA) of the sample.

Using the same classification basis we classified also the performance measurement tools and methods into corresponding groups. The group of performance methods, which were adopted in majority (more than 80%) of companies, included the following items: traditional costing methods (direct costing, variable costs, standard costing), strategic planning, mid-term tactical business planning, monthly reporting, key performance indicators and performance-based incentives for non-executives. The group of methods, which are adopted in more than 60% but less than 80% of companies, included only three items: contribution margin analysis for products or services, forecasting till the end of the term/business period and quality management (ISO, EFQM). Among the third group of items there are methods which are in use in more than one third of the companies: activity-based costing (ABC), transfer pricing based on market prices, contribution margin analysis of clients or customers, contribution margin analysis of business units, discounted cash flow, flexible

budgeting rolling forecasting (budgeting). In the rest of cases (transfer pricing, EVA calculation, balanced scorecard and early warning system) the adoption rate was lower than one-third.

As it was stated above, activity-based costing is classified among the methods with lowest usage in current investigation. The implementation rate of ABC has been low internationally (see Chenhall and Langfield-Smith, 1998). At the same time, ABC has gained a high profile as a method to enhance the accuracy of product costing and to understand the way in which resources are used across the companies' value-chain. Virtanen *et al.* (1996) and Bruggeman *et al.* (1996) suggested a growing adoption of ABC for the next future. This statement is supported by the findings of current study. Haldma and Lääts (2002, p. 391) found that only 7% of the Estonian manufacturing companies used ABC. At the same time the introduction of the ABC system was one of the main areas needing improvement (*ibid.*, p. 387). Although in the current study ABC is classified among the methods with lowest usage, it was implemented in 56% of the companies in 2006. During the last three years the implementation rate has grown 25% in the largest Estonian companies which confirms the growing adoption of this needed tool.

In 2002 Haldma and Lääts claimed that Estonian companies' performance measurement system was more manufacturing-oriented rather than market-oriented, while more than a half of the surveyed companies based their performance measurement on the product groups (52% of the respondents), much fewer on their client groups (20%) and quite few on the sales regions (17%) (see Haldma and Lääts, 2002, p. 390). To measure the performance of the aspects mentioned above, more than one fourth of the companies used the contribution margin approach. Our current analysis revealed, that contribution margin analysis of products or services was used by 75% of the companies and contribution margin analysis of customers (clients) was used by 53% of the companies. Although it supports the findings of Haldma and Lääts (2002) concerning the preference of manufacturing-orientation in their performance measurement, it is also evident that the usage of both analysis, as contribution margin analysis of products as well as contribution margin analysis of customers have additionally introduced in 25% of the companies. This tendency shows that the Estonian companies' management accounting systems have to provide more detailed cost information in order to help managers to take decisions and manage performance. Consequently, cost accounting serves as an information basis for the performance measurement systems. At the same time, the market and client aspects have influenced the performance measurement system more than before.

There is considerable evidence that size is an important factor influencing the adoption of more complex administration and accounting systems (see Chenhall and Langfield-Smith, 1998). Haldma and Lääts (2002) found this factor as relevant for the Estonian manufacturing companies. The current study examines the practice of a sample companies drawn from Estonian largest companies. We found that implementation of some customer-oriented measures and tools, as customer

profitability and contribution margin analysis of customers, has been considerable grown in smaller section of the sample during last three years. Although our analysis revealed that early warning system has adopted in 25% of the sample, it has been implemented mainly in the largest section of the sample.

### **Financial versus non-financial measures**

There is clear evidence from several investigations that financial performance measures are of primary importance (see, Barker and Noonan, 1996, Groot 1996; Ramos, 2000), in particular cost-based performance criteria (see Bruggeman *et al.*, 1996, Israelsen *et al.*, 1996). These trends have been characteristic also for Poland (see Szycha, 2002.) and for Estonia (see Haldma and Lääts, 2002, Päril, 2006). The findings of the current study confirm the importance of financial measures of performance. In the last chapter it was pointed out that the group of performance indicators, which were adopted in majority (more than 80%) of companies, included only financial measures: revenue, net income and cost efficiency. Although return on investment (ROI) has been used by 64% of the respondents, the importance of this measure has been increased more than other financial measures, while 14% of the companies started to use this item during last three years.

The financial performance measures continue to be useful, but the growing importance of non-financial measures is noted by number of authors (see Kaplan and Norton, 1996, Chenhall and Langfield-Smith, 1998, Ittner and Larcer, 1998; Brignall and Modell, 2000, Vaivio, 1999). The findings of the current study confirm the growing importance of non-financial measures of performance. As it was pointed out, the group of performance indicators with relatively high adoption (used by more than 80% of respondents), didn't include any non-financial measures. The second group of items, which were adopted in more than 60% and less than 80% of companies, included several non-financial items: on time delivery, customer satisfaction, sustainable growth and strategic reaction capability (fastness of the reaction to new market threats). At the same time, the list of measures, which importance have been increased almost for 20% of respondents while they started to use these items during last three years, consist mainly (besides ROI) the non-financial measures – employee satisfaction, customer profitability, sustainable growth and fastness of the reaction to competitors' actions.

Also our analysis revealed, that in more than 80% of the companies there are used financial-perspective and customer-perspective measures, a little less companies (72%) use also business process perspective measures. Innovation-perspective measures are used in less than half of companies (47%). Although the usage of above measures (except innovation measures) seems to be quite intensive, the balance scorecard as a tool, integrating these measures, is used in 31% of the companies. Most intensively the balanced scorecard is used in the companies owned by foreign capital. Consequently, there is a need to better integrate different measures into one complex performance measurement system.

## **Design of the performance measurement systems**

Our analysis revealed, that in majority of companies (83%) the implementation of performance management systems (PMS) are supported by a comprehensive set of rules and manuals on the use of PMS. These formal set of rules have been first introduced in 50% of the companies during last three years. The companies stated also that the staff members follow these rules of operation and decision-making. What concerns the decentralization of PMS, 69% of the respondents mentioned that the decisions tend to be made at high level of management. At the same time, the managers have relatively high level of autonomy (in 82% of companies), which has increased in 20% of the companies during last three years and only in 25% of the companies there was some evidence that individual decision-making is somehow discouraged. The companies estimate in 86% of cases their colleagues in performance management and management control areas as competent experts, only in 17% of cases they found that management control staff has too narrow set of activities.

In majority of companies (72%) the performance indicators link current operating performance with strategic objectives. This tendency has increased in almost 20% of the companies during last three years. At the same time there is a real lack of usage of leading indicators (early warning signals), while perspective indicators are used only by 36% of the largest Estonian companies. In majority (67%) the PMS provide management with the indicators of past performance. Consequently, organizational aspects have substantially influenced the development of PMS systems in Estonian companies.

## **Conclusion**

Our study analysing the development of the performance measurement and management practices in Estonian largest companies and using contingency approach revealed the following issues:

- The market and client aspects have influenced the performance measurement system in Estonian companies more than ever before. The implementation of customer-oriented measures and tools, as customer profitability and contribution margin analysis of customers, has been considerable grown in smaller companies during last three years.
- The analysis revealed a growing adoption of ABC for the next future. It was implemented in 56% of the companies in 2006 and during the last three years the implementation rate has grown 25%.
- The financial performance measures continue to be useful, but the importance of non-financial measures has grown substantially, in particular such measures as on time delivery, customer satisfaction, sustainable growth and strategic reaction capability (fastness of the reaction to new market threats);
- The analysis revealed, that in majority of companies the implementation of performance management systems are supported by a comprehensive set of rules

and manuals on the use of PMS. These formal set of rules have been first introduced in 50% of the companies during last three years.

- Although the usage of financial-perspective, customer-perspective, business process perspective and also innovation-perspective measures seems to be quite intensive, the balance scorecard as a tool, integrating these measures, is used in less than one third of the companies. Consequently, there is a need to better integrate different measures into one complex performance measurement system.

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## Summary

### PERFORMANCE MEASUREMENT AND MANAGEMENT DRIVERS: EVIDENCE OF ESTONIAN COMPANIES

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During the last decade rapid economic and social changes have influenced companies' need for more objective management information in Estonia and other Central and Eastern European countries. Therefore the need for development of performance measurement and management systems has grown rapidly. The objective of the paper was to investigate the performance measurement and management practices characteristics in the Estonian companies and to explore the main impacts on these practices using a contingency theory framework. The empirical results were gathered through questionnaire survey carried out in 61 largest Estonian companies.

The study, which was carried out within the Central and Eastern European Performance Panel, outlines the general features of the performance measurement and management systems in Estonian companies and impacts of environmental and organisational aspects on performance measurement and management practices. In our investigation we concentrate on financial as well on non-financial performance indicators.

A certain part of the analysis is dedicated to the performance measurement tools and methods and how they are integrated into the companies management system. Within this framework we analyse, from one side, the formalization and decentralisation of performance measurement and management systems and, from other side, how performance indicators are used to monitor the results and to implement strategy. The study of influences as external and as well as internal changes will provide valuable guidance in conceptualising issues in performance measurement and management systems design in Central and Eastern European countries.

# USE OF DIFFERENT ACCOUNTING METHODS IN RAILWAY UNDERTAKINGS

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## Introduction

With its accession to the European Union (EU) on 1 May 2004 the Republic of Estonia undertook the obligation to adhere to EU regulations on transport and competition. The transport *acquis* of the EU provides for three main principles to which the organisation of rail transport in the EU countries should adhere to:

- 1) separation of infrastructure management and transport activities at least at the level of accounting (vertical separation);
- 2) separation of rail freight and passenger transport at least at the level of accounting (horizontal separation);
- 3) separation of infrastructure capacity allocation, infrastructure access fee determination and issuing of safety certificates and activity licenses from rail transport companies (institutional separation) (Scherp, 2005).

Most countries of the European Union use the organisational separation method; however, this method is not practiced in other continents (e.g., Northern America and Australia) where the separation of accounting is considered sufficient (Thompson and Perkins, 2006). Meanwhile, when vertical and horizontal separation are realised just partially, i.e. at least at the level of accounting, there rises the problem how to guarantee the transparency of accounting. In his previous works (Koppel, 2006) the author has raised the hypothesis that the best results could be achieved by activity based accounting in case of which the identification of infrastructure management costs does not require the separation of vertically integrated railway undertakings neither organisationally nor fully.

Therefore, the objective of the present research is to find for integrated railway undertakings a cost model that would, considering the restrictions laid down in legislative acts, ensure the separation of accounting between various areas of activity. The article uses the example of the largest railway undertaking in Estonia, Estonian Railways Ltd, a vertically integrated freight railway that is engaged in both infrastructure management and provision of freight transport services. The charging of services ensuring access to the railway infrastructure is regulated by the government. The pricing of freight transport services is based on market conditions, as rail transport in Estonia is open for free competition.

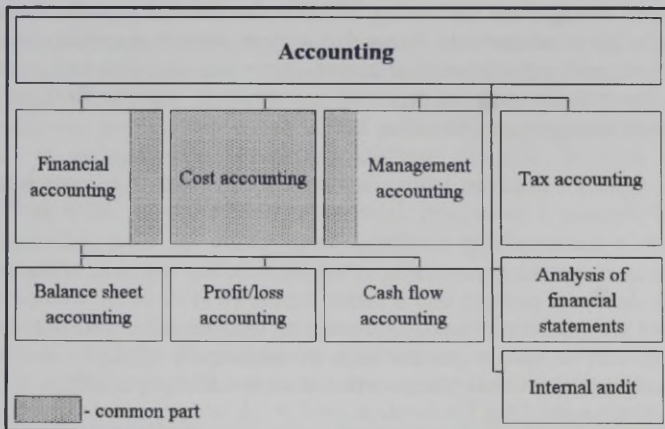
## 1. Interaction of financial, cost and management accounting

The author finds that a good definition of a financial model is provided in the Estonian Postal Act: "A cost model is a description of a cost accounting system, which explains the cause-and-effect relationship between resources, activities and

services for provision of services, and the bases and principles determining the selection and volume of drivers". The accounting system of each company (including an integrated railway undertaking) incorporates the areas of planning and financial management. The components of a accounting system include the process descriptions and procedural rules of accounting and data processing, previously formulated short-, medium- and long-term plans and the budgets supporting such plans, as well as financial and management reports (Haldma, Listra and Mullaste, 2003). Thus, an accounting system must be able to integrate the operating results of a company minimally at the following levels:

- By services and groups of services;
- At the level of areas of activity (in case of an integrated railway infrastructure manager at least at the level of infrastructure management and other activities);
- At the level of the company as a whole (Lääts and Peets, 1999).

Information necessary for executing the aforementioned tasks is derived from accounting, the main components of which are financial, cost and management accounting (see Figure 1). Financial accounting is defined as a process of reflecting the information that characterises company's operation processes, which includes the following: 1) identification and gathering of information on economic transactions; 2) evaluation, specific processing and collection of economic information; 3) preparation of periodic accounts to characterise company's financial status.



**Figure 1.** Accounting and its components

Management accounting is defined as the part of management activities that includes identification, measuring, gathering, analysis, processing, interpretation and exchange of financial information and which is used for management, planning and monitoring of the activities of an organisation (Siegel, Shim and Dauber, 1997). Cost accounting is a process that involves preparation of budgets to the elements of

an organisation, and the spotting and analysis of differences between actual and budgetary costs. Cost accounting does not include expenses connected with future products (e.g. research and development costs) or costs related to unused capacity. The latter are treated as investments aimed at future profit (Storey, 1995).

The definitions above indicate that both management and cost accounting use the data derived from financial accounting. Cost accounting consolidates financial and management accounting by arranging the recording of expenses in the accounting process and by analysing expenses and implementing such analysis in the management accounting of a company (Haldma and Karu, 1999). Written sources underline that management accounting is aimed at “internal consumers” within a company. The author of the present article is of the opinion that the main difference between management/cost accounting and financial accounting is the broader way of expressing economic information in case of the latter, its orientation towards the present and future instead of the past and use of natural indicators besides the monetary ones, allowing to perform the planning of a cost model not only on the basis of the requirements arising from legislative acts regulating accounting.

## **2. Cost model for vertically integrated freight railway**

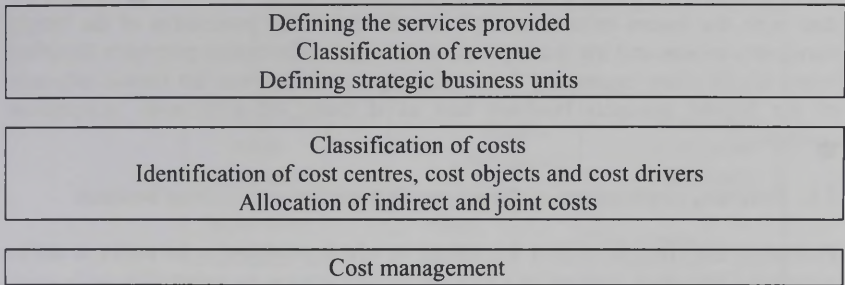
### **2.1. Limitations**

EU legislation provides several general guidelines for organisation of rail infrastructure management accounting. EU directive 2001/12 provides that member states take required measures to ensure that separate income statements and balance sheets are prepared and published on business activities related to transport services provided by railway undertakings and on business activities related to rail infrastructure management (Directive, 2001).

Therefore, certain restrictions arising from specific law have to be considered in the process of planning a cost model. Estonian legislative acts lay down the following restrictions for the accounting of railway undertakings.

- A railway undertaking possessing an essential facility is also an undertaking in a market dominant position and is under Article 18 (1) 2 of the Competition Act required to “...maintain separate records on revenue and expenditure related to each product or service on the basis of consistently applied and objectively justified principles of calculation which shall be clearly specified in the internal rules of the undertaking.”
- The Railways Act requires railway undertakings managing a public railway infrastructure and providing rail transport services to keep in their financial accounting separate sets of revenue and cost records for railway infrastructure management and freight transport.
- The [national] methodology for calculating railway infrastructure user fee provides that the total costs of a railway infrastructure manager cannot include the depreciation of non-current assets acquired for grant aid, cost of bad debt, donations, changes in the value of assets, penalties and arrears arising from

legislative acts and other unjustified expenses. The cost accounting system has to ensure that the cost of a service would not contain any costs that were not necessary for the provision of such service and that each cost would be assigned to one service only. If the railway infrastructure manager is also a rail transport undertaking then the costs of the common structural units are considered to be company's overheads (if such costs cannot be divided between those areas of activity on the basis of a source document of financial accounting or an appropriate cost driver). Overheads are allocated between the services provided by the railway undertaking proportionally, based on the sum of direct costs of all the services.



**Figure 2.** Cost model planning process.

Considering the restrictions mentioned above, the author finds that it would be reasonable to develop the cost model of an integrated railway undertaking using the process depicted on Figure 2. Following the empiric-conceptual method of forming an organisation, the first step would be the restructuring of a vertically integrated company at the accounting level into different strategic business units and identifying the services provided by those units.

## **2.2. Production plan of an integrated railway undertaking and strategic business units**

The author divided the services provided by an integrated railway undertaking between two areas of activity – railway infrastructure management and other areas of activity – and then classified them as service groups and services. As a result was created the production plan of the railway undertaking the brief overview of which can be presented as follows:

- Services ensuring access to railway infrastructure, including main services (mandatory set of services), additional services (e.g. providing access to the catenary for electric trains), auxiliary services (e.g. sale of electricity), allocation of single extraordinary railway capacity for a particular purpose;
- Other infrastructure services (e.g. rental of track maintenance equipment);
- Transport services, incl. freight transport, train shunting, freight transport operations, principal's service, start and termination operations of freight transport;

- Rolling stock repair services;
- Other rolling stock services (e.g. wagon rental);
- Other services (e.g. rental of real estate not used for business).

The author has re-grouped the structural units of the railway undertaking into three strategic business units taking into consideration the above production plan. The three strategic business units are: infrastructure management business unit, business unit generating indirect and joint costs and freight transport business unit. The latter is divided into business units dealing with rolling stock rental, rolling stock repairs and commercial services. The business units are each other's "internal customers" whose transactions would follow the transfer prices' regulation. This article does not deal with the issues related to the internal accounting procedures of the freight transport business unit but the implementation of the accounting principles described below would allow organising the accounting system between the various sub-units of the freight transport business unit as if those sub-units were independent companies.

### **2.1. Practical applications of the accounting methods in railway business**

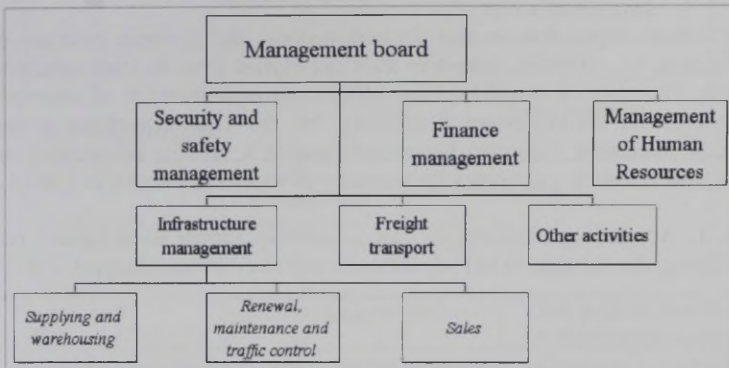
Following the example of cost accounting in telecommunication networks, it can be concluded that upon creation of a cost accounting system an undertaking with major market force is obliged to:

- Allocate all types of cost and revenue as well as assets on the basis of cause-and-effect relationships;
- Identify cost centres, cost objects and cost drivers that are used for assigning costs;
- Gather all the costs that cannot be assigned on the basis of cause-and-effect relationship in an aggregate of indirect and joint costs.

In the light of the foregoing, there raises the question which accounting methods should be used while envisaging the cost accounting system of an integrated railway undertaking. The legislative acts arising from the Postal Act and Electronic Communications Act of the Republic of Estonia, for example, provide for the use of the activity-based (ABC) method of cost accounting. At the same time opinions have been published (and the author fully agrees with them) which state that requirements for management and cost accounting should not be laid down by legislation. On the example of Estonian electricity, water supply and sewerage network services and public transport it is recommended in literature to use responsibility cost accounting for the arrangement of infrastructure accounting. Responsibility cost accounting means gathering and summarising economic information by different areas of responsibility of the organisation and preparation of reports attributing the company's revenue, expenditure, profit and investments to the heads of the structural units who are directly responsible for the areas (Läätis and Peets, 1999).

Vertically integrated railway undertakings are usually structured as multiple line or divisional companies. The advantages of a divisional organisation are said to be its

ability to pass quick decisions and transparency (the latter being important in the context of the present article). In literature it has been considered unavoidable to structure integrated railway undertakings as divisional companies (Matcheret, 2000). It still has to be acknowledged that from the point of view of activity separation the organisational charts of railway undertakings have the elements of both multiple line and divisional organisations (see Figure 3). If we compare the organisational chart depicted on the figure 3 with the list of strategic business units presented in the previous paragraph, we see that the management board, safety, security, human resources, finance management and other activities constitute the so-called indirect and joint costs' business unit.



**Figure 3.** Typical organisational structure of railway undertakings

In order to apply the responsibility-based method of cost accounting many structural units of the undertaking are so-called random cost centres (Karu and Zimask, 2004) where the relations between costs and services provided are difficult to identify. Activity-based costing is an accounting method in case of which costs are allocated to cost objectives based on which activity the cost is related to. The costs with a similar driver form a cost pool. The following questions have to be answered upon the introduction of activity-based costing: 1) how can the costs be directly allocated; 2) when is it impossible and which tools could be used for cost separation; 3) which costs are allocated directly to products (services); 4) starting from which management level would it be impossible to link activities to particular products or services.

The author rearranged the management and basic activity processes of a vertically integrated railway undertaking as a four-grade hierarchy the brief version of which can be presented as follows.

- Management and support processes
  - Company's supporting activities (e.g. personnel management)
    - Basic processes (e.g. staffing)
    - Support processes (e.g. document control)

- Service's support activities (e.g. IT management)
  - Basic processes (e.g. designing IT system)
  - Support processes (e.g. end user support)
- Basic activity processes
  - Service's complex activities (e.g. sales management)
    - Basic processes (e.g. customer service)
    - Support processes (e.g. reclamation handling)
  - Service provision activities (e.g. production management)
    - Basic processes (e.g. track maintenance and repair)
    - Support processes (e.g. material storage)

Some authors argue that in real decision-making, the dynamic structure of an organisation, i.e. activities, cannot be seen in isolation from its static structure, i.e. subunits. Therefore, it would be reasonable to use a combination of responsibility accounting and activity-based accounting for the cost accounting system in vertically integrated railways. This would enable a railway undertaking to use several cost accounting attributes the summary of which is presented in Table 1.

**Table 1.** Accounting attributes in cost accounting system of integrated railway undertaking, the example of railway infrastructure management (Koppel, 2006)

Attribute, its name and question answered by it	Content of attribute	Example
Cost category ("Account") What was spent?	Analytical account in chart of accounts	Railway track materials
Cost centre ("Department") Who did spend?	Sub-unit in organisational chart	Track Department
Cost centre ("Activity") Why was it spent?	Area of activity within which is needed summarised information by types of costs and cost centres	Rail track maintenance
Cost centre ("Work") Why was it spent?	Specifies the activity attribute	Rail track alignment
Cost object ("Contract") Why was it spent?	Written agreement under which company assumed liabilities	Financial lease agreement for track machines
Cost object ("Project") Why was it spent?	Project involving several types of cost and cost centres for the execution of which resources have to be spent	Reconstruction of Narva railway station
Cost object ("Object") Where was it spent?	Non-current asset number	Head office building of the railway undertaking
Cost object ("Track section") Where was it spent?	Specifies the object attribute	Tartu – Tabivere railway section

With the combined system, the first step is to link cost categories to activities. Then, certain costs of the "indirect and joint costs' unit" are allocated directly to the

infrastructure management and freight transport units on the basis of cost drivers. Cost drivers may be, for example, the number of computers in case of IT costs, number of employees in case of personnel costs, utilised area in case of real estate costs and the fair value of assets in case of insurance premiums. The remaining joint costs are allocated to activities according to the ratio of the aggregate of direct costs. This method helped to decrease significantly indirect and joint costs of an integrated undertaking and to balance different areas of activity.

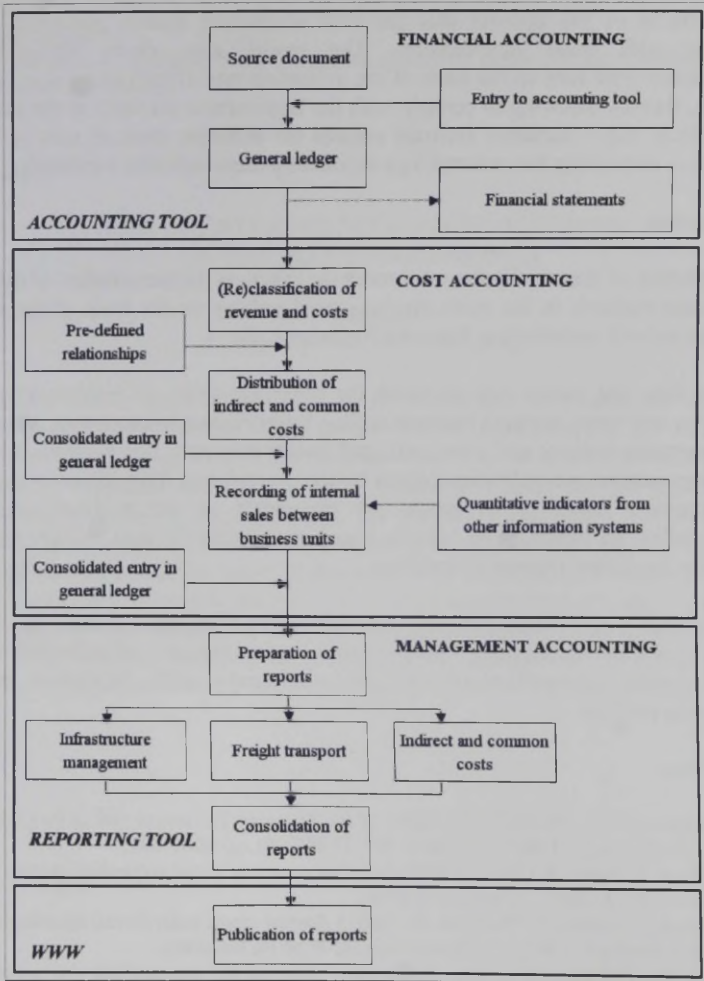


Figure 4. Cost model of an integrated railway undertaking (Koppel, 2006).

The overall accounting scheme is presented in Figure 4 (see previous page). By means of a SQL-inquiry from various databases, profit and loss statements and balance sheet of the areas of activity of the integrated railway undertaking in conformity with the good accounting practice are prepared.

State authorities require from the vertically integrated railway undertaking that it must be possible to establish a cost classified as causally related to rail infrastructure management on the basis of a source financial accounting document. The author of the article is of the opinion that the cost accounting system presented above complies with those requirements. The model also allows differentiating infrastructure user fees on the basis of the utilisation rate of various parts of railway network, thereby allowing to comply with the requirement set forth in the Estonian Competition Act – maintain separate records for different areas of activity in the way that is mandatory for undertakings conducting these activities separately.

## Conclusions

The objective of the article was to observe the practical implementation of different accounting methods in the vertically integrated railway on the basis of the largest Estonian railway undertaking, Estonian Railways Ltd.

Due to this, the author has grouped the structural units of integrated railway enterprise into three strategic business units – infrastructure management, a business unit generating indirect and joint costs, and freight transport. The dynamic structure of an organisation, i.e. activities, cannot be seen in isolation from its static structure, i.e. subunits. Therefore, it would be reasonable to use a combination of responsibility accounting and activity-based accounting for cost accounting in a vertically integrated railway undertaking.

The cost model proposed by the author is sufficiently transparent to meet the criteria set out by the state authorities – precise terms, logical structure of organisation, and documentation, comprehensiveness, and conformity with legislation of the accounting process.

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## Summary

### USE OF DIFFERENT ACCOUNTING METHODS IN RAILWAY UNDERTAKINGS

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All major railway undertakings both in the world and in Estonia are integrated vertically and/or horizontally. They are also natural monopolies in the meaning of competition legislation. That is why they are subject to the restrictions that apply to companies in market dominant position, usually providing for the separation of accounting by different areas of activity. The objective of the article is to observe the practical implementation of different accounting methods in the vertically integrated railway on the basis of the largest Estonian railway undertaking, Estonian Railways. The cost model presented by the author contains a combination of features from both responsibility- and activity-based cost accounting methods and results in filing reports on revenue, operating costs, assets and liabilities by different areas of activity and services provided in the information systems of an undertaking.

# ENTERPRISE INFORMATION SYSTEM: POSSIBILITIES AND CHALLENGES

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## Introduction

Enterprise, operating in the market today, must be very flexible in order to meet the customer's requirements and be competitive. Nowadays is not enough only to produce and sell good products, the core element of the success is satisfied customer's needs. Enterprise's strategy linked to customers' requirements fulfillment raises many additional requests to business processes, qualification of personnel. Such strategy also influences the information, which is necessary for managers in the decision making process. Frequently management accounting information, driven by procedures and cycle of the organization's financial reporting system, is too late, too aggregate and too distorted to be relevant for managers planning and control decisions. So, it is very important to analyze information characteristics, which must be fulfilled in the enterprise information system for the decision making purposes. A limitation of existing accounting systems is their lack of knowledge sharing and knowledge reuse, which makes the design and implementation of new accounting systems time-consuming and expensive (Geerts G. L., McCarthy W. E., 2000).

*The object of the research* is enterprise information system.

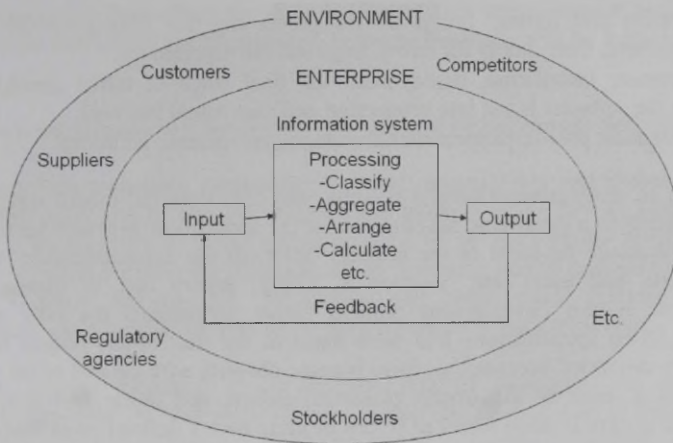
*The main objective of this research* – to analyze the role of enterprise information system in organization's daily life, disclose premises for its success and arising challenges. The main attention is paid to the fields, which influence is crucial: enterprise business processes, requirements for information needs, coordination, responsibility distribution, change management and etc.

*The methods of the research.* The research employed systemic logical analysis and synthesis of results of scientific investigations as well as comparative, logical generalization and graphic methods.

## Information system, system development life cycle approach

There are many definitions of information system, accounting information system, etc. which can be found in the literature. Domeika P., Jucevičienė V. (2004) propose, that information system (IS) can be described as a set of interrelated components, which aggregate, process, store and allocate the information, which in turn supports enterprise management decisions and activity control. Vaassen E. (2002) gives a broader definition and information system defines as a set of interrelated components working together to collect, retrieve, process, store, and disseminate information for the purpose of facilitating planning, control,

coordination, and decision making in businesses and other organizations. James A. Hall (2008) describes IS as "... a set of formal procedures by which data are collected, processed into information, and distributed to users". Meanwhile Gelinas et al. (2004) proposes such a definition of information system: "... a man-made system that generally consists of an integrated set of computer-based and manual components established to collect, store, and manage data and to provide output information to users". Figure 1 presents general model of enterprise information system. Talking about accounting information system, according to Mylonakis J., Tahinakis P. (2006) accounting information system is a specialized subsystem of management information systems whose purpose is to collect, to process and report accounting information related to financial transactions.



**Figure 1.** Enterprise information system (constructed by the authoress according to various definitions of IS).

Information systems are managed at various levels: at the upper enterprise level there are made decisions with allocation of resources, at the functional level decisions include when and where to apply information technology, should it be made inside or bought from the outside suppliers (O'Connor N. G., Martinsons M. G., 2006). If it is made the decision to make IT application by the enterprise itself, it will inevitably lead to the initiation of a project that must be managed.

Nowadays, enterprise information systems are so big and complex that teams of architects, analysts, programmers, testers and users must work together to create the millions of lines of custom-written code that drive enterprises. To manage this, a number of system development life cycle (SDLC) models have been created: waterfall, fountain, spiral, build and fix, rapid prototyping, incremental, and synchronize and stabilize. The oldest of these, and the best known, is the waterfall: a

sequence of stages in which the output of each stage becomes the input for the next. These stages can be characterized and divided up in different ways, including the following (Kay R., 2002):

- Project planning, feasibility study: establishes a high-level view of the intended project and determines its goals.
- Systems analysis, requirements definition: refines project goals into defined functions and operations of the intended application, analyzes end-user information needs.
- Systems design: describes desired features and operations in detail, including screen layouts, business rules, process diagrams, pseudocode and other documentation.
- Implementation.
- Integration and testing: brings all the pieces together into a special testing environment, then checks for errors, bugs and interoperability.
- Acceptance, installation, deployment: the final stage of initial development, where the software is put into production and runs actual business.
- Maintenance: post-implementation changes, corrections, additions.

There can be distinguished several reasons, why this waterfall model approach is useful: it leads to a systematic development of the application; provides some check points to measure progress of the project; facilitates the communication between ICT experts and users, etc. Vaassen E. (2002) argues that in contemporary information system development projects linear approaches are only seldom effective. Often specifications that were made at the start of the project may be completely discarded because they have become obsolete with the end of the project insight. As a result of the strictly planwise, phased, and linear approach of the SDLC, the system is often found to be not meeting newly defined specifications. In order to avoid this, system development may take place making use of a so-called incremental method. In such a method, the strictly stepwise approach is abandoned in favour of a heuristic approach that makes small steps one at a time and that favours trial and error. An example of an incremental approach is prototyping.

Prototyping is an approach to systems development in which a simplified working model of an information system or a part of an information system is developed in order to enable user testing. Prototyping is based on the simple idea that people can express more easily what they like or don't like about an actual working system rather than specify what they would like to see in an imagined, future system. Lucey T. (2005) proposes four steps of prototyping:

1. Identify the user's basic requirements.
2. Develop an initial prototype. The emphasis is on speed of development rather than completeness and efficiency.
3. The user works with the prototype. The user finds problems and omissions in the initial prototype and feeds back this reaction to the systems designer for revisions. It is thus the user who controls the process and defines the system.

4. Revise the prototype. Based on the feedback from step 3 the prototype is revised and enhanced. Steps 3 and 4 are repeated until an acceptable working system is developed.

Prototyping is especially useful when it is difficult to identify a usable set of requirements; for example, users may be unable to verbalize their information needs, a prototype then may consist of a number of menus and screens which trigger users into specifying what part of the prototype they approve and disapprove of, and what other specifications they would like to be included in the system.

Analyzed information system development approaches are very important for the success of the enterprise information system behaviour, but in authoress opinion all the success mostly depends on the early implementation stage – system analysis and requirements definition. So, all attention in the next section will be focused on this stage.

### **Business process modeling for system analysis and requirements definition**

Businesses face increasing competition in local, international and global markets where responsiveness to changes within these markets is the key to success and survival. Consequently business strategies need to be consistently re-defined to effectively reflect the different requirements of customers and to respond to changes in the business environment. Significant role there plays relevant, timely information, so enterprise information system capability is very important.

Business process modeling is an essential part of developing an enterprise information system. A business process is defined as a set of one or more linked procedures or activities which collectively realize a business objective or policy goal, normally within the context of an organizational structure defining functional roles and relationships.

Business process modeling is a complex and difficult problem. A process model, representing true reflection of the business process discussed, is essential for carrying out business process improvement and information system development successfully. Business process improvement became a very important way of ensuring changes in an organization's structure and functioning in order to create a better, more competitive and successful enterprise. Furthermore, business process modeling is one of the requirements of the ISO 9000 international standard for quality management and assurance, as well as being one of the key questions when implementing the majority of information systems. Both business process modeling and business process renovation and improvement are based on the fact that a business process is the key element in the analysis of the enterprise.

There are many reasons that the field of business process modeling is still evolving (Damij N., 2007):

- Business processes enable a whole and dynamic overview of an enterprise, which is in contrast to the broken down and static view of business-functional organizational structure. To acquire such an overview, groups of dependent activities are identified, which overlap the borders of traditional functional organization, evolve through time and consequently add value to costumers.
- By observing the working of organization's operations through its business processes, the organization acquires a better ability to concentrate on its customers.

There are many modeling methods with software support currently available on the market. Each individual method has its own advantages and disadvantages but always has the limitation of only representing a certain view of enterprise. To describe a system clearly from different perspectives and to provide a complete understanding of the business process both to developer and to the end-user, it is necessary to adopt more than one kind of technique to establish a set of graphical models describing a system from different views.

Melao N. & Pidd M. (2000) propose four points of view to analyze business processes as deterministic machines, complex dynamic systems, interacting feedback loops and social constructs. The first view regards a business process as a fixed sequence of well-defined activities or tasks performed by "human machines" that convert inputs into outputs in order to accomplish clear objectives. Viewed in complex dynamic systems terms business processes can have inputs, transformation, outputs and boundaries and then be defined as a set of subsystems: people, tasks, structure, technology etc., which interact with each other and with the environment in order to fulfill objectives. The third perspective claims that business processes are closed loops with intrinsic control and depicts a business processes as flows of resources from outside its boundaries through a sequence of stocks representing accumulations or transformations. The flows are regulated by policies or decisions, which represent explicit statements of action to be taken in order to achieve a desired result. Meanwhile business processes as social constructs emphasizes business processes as enacted by people with different values, expectations and goals, so business process can be defined in terms of different perceptions constructed by various individuals and groups as a result of different frames of interpretation. There can be used Cheskland's soft systems methodology (SSM) to represent business processes as a purposeful human activity system consisting of a set of logically interconnected activities through which actors convert inputs into some outputs for customers. Business processes operates under certain environmental constrains, and monitoring and control is executed by process owners.

Every proposed attitude to business processes reflects changes, which occur in enterprise research in process of time. Best suited viewpoint can be applied according to the analysis purpose. When business process modeling focuses on the analysis and improvement of technical, well-defined processes, then the techniques and tools underlying the mechanistic perspective may well be appropriate. If the

business process being analyzed displays unpredictable, complex interactions, then discrete event simulation techniques may be suitable. A business process with a feedback loop structure would seem to call for systems dynamic approaches and if the focus is on human, problematic processes, then methodologies of social construct would be useful.

The implementations of improvements to an enterprise are generally for the purpose of increasing long and short term profitability of that enterprise. The end users of enterprise information are business managers and the members of their departments. To ensure a greater chance of success of project after implementation it is generally accepted that a high degree of involvement of the eventual users of the system is recommended.

Business people bring knowledge of the enterprise to the project and generally have a good idea about what changes should be made in a business. They need to be able to explain this in a language that is understandable to the developers. Similarly, the developers have knowledge to the enterprise-specific domain. This is why a language that is understandable by both the end user and the developer is very important. The developers should not guess what the users need as this may lead to the implementation of technology for technology sake. These initiatives are driven by business and not by technology and for this reason the users and developers must have the same unambiguous understanding of the enterprise. This end is met through the use of an intuitive but structured set of modeling techniques. This is especially crucial at the beginning of the project. As the stage moves to detailed design and pilot system development, the concern for simplicity of representation diminishes.

The tasks in SDLC stage system analysis and requirements definition as Shen H., et al. (2004) propose can be summarized as follows:

- Clarify the current organization of enterprise and the transactions of each organizational unit.
- Make precise descriptions of current business processes.
- Get information about current IT environment, including hardware, software and human interaction.
- Gather sufficient information regarding data flows, e.g. order forms, picking notes, invoices, reports, etc.
- Realize the requirements of the problem domain and its boundary have a clear idea of user requirements.
- Give a preliminary system design, which is approved by end-user.
- Provide a set of business process models, including AS-IS models, which are established in according to system analysts, and preliminary TO-BE design, which is based on user requirements gathering.

There was discussed the necessity of business process modeling for system analysis and user requirements gathering, revealed tasks, which should be made coherently at this stage. Further it is imperative to study key aspects of management information

requirements and to analyze which factors mostly influences success of enterprise information system behaviour. It would be discussed in the following sections.

### **Information requirements of management**

There can be distinguished two types of information system problems within information requirements category: a listing of information needs and analysis of information needs. Listing is less comprehensive than an analysis. The man who is solving this case should try to put himself in the place of the manager and, thus, try to think of what information is needed for decision making and accountability. There is no need to give arguments about why certain information elements are relevant or to make a distinction between different hierarchical levels. On analyzing issues regarding the information needs of managers, it is important to make a distinction between strategic, tactical, and operational management levels. These information needs must be analyzed separately at each management level and for each department or function.

Before starting any description of information needs, the information analyst must ask himself the following questions (Vassenn E. (2002)):

1. At which level is information required?
2. What information is needed for the user to make the right decisions?
3. What tests may be performed by the user in order to assess the reliability of the information?
4. Who is able to provide the required information?
5. What is the required frequency of information provision?

A general analysis of information requirements should at least consists of information about the following issues: planning and budgeting; finance; order position; purchasing; inventory; production; selling; return on investments. The type of organization and the industry in which it operates are specific focal points in this analysis. Often some functions or departments require additional specific information; for example, chief executive officer (CEO), chief financial officer (CFO), head of the production department, head of the buying department, etc. It is necessary to be as specific as possible in describing the information needs of these persons. However, tailoring information provision to the needs of every specific user may be very inefficient. A fruitful solution to this dilemma is to group decision makers into homogeneous categories. These categories may then be homogeneous with respect to cognitive style, personality, leadership style, or any other personal feature influencing an individual's decision-making behaviour. As a result, information provision or control systems are not customized to specific individuals, but to groups of individuals, which makes the alignment problem considerably less complex.

The higher the decision-making level, the more a contingency approach is needed. Decisions at the strategic level are less routine, more complex, and more subjective. This implies that it is more difficult to make these types of decision, and hence to

discern the right from the wrong decision. As a result, the information needed at this level is not objectively determinable. Tailoring information provision to the subjective needs of an individual or a group of individuals may resolve this issue. Hence, the choice of strategy to determine information requirements is dependent on the decision-making level where the information is needed.

As Vaassen E. (2002) indicates there are four types of strategies to determine information requirements: servant, reference, development and evolutionary. The simplest servant strategy is to interview decision makers and ask them what information they deem necessary. There can be used various techniques e.g. interviews, surveys, brainstorming. The reference strategy infers information requirements from the information analyst's knowledge of similar decision-making situations. When reference models are non-existent, a development strategy can be used. Finally, an evolutionary strategy can be used when there is an extreme level of uncertainty due to complexity, dramatic increases in information needs, and a lack of expertise among users and developers of information systems. The information requirements are discovered by experimenting with the development of an information system as is the case when applying a prototyping approach.

### **Critical success factors and benefits of enterprise information system**

The popularity of integrated software packages is steadily increasing; there can be seen rapid worldwide growth. As Granlund M. (2007) stated, enterprise resource planning systems and other new technologies have not been vehicles for revolutionary changes in the accounting domain but they have been used to drive larger and smaller improvements in accounting and control practices in different locations of organizations. Such enterprise information systems and packages are huge and complex systems which successful implementation insists careful planning. Various investigations (Al-Mudimigh A.S., 2007; Oracle, 2004; Martin, 1998) show that at least 90 percent of enterprises information systems projects implementations end up late or over-budget, and almost half fail to achieve the desired results, which were stated at the beginning of the project implementation. Many failures of enterprises information systems implementations have been due to the lack of focus on such issues as business process and change management, coordination and responsibility allocation, etc. Owing to the complex and integrated nature of enterprise information systems, the large investments of time, money and other resources involved, and the relatively high implementation failure rates, it is imperative for the organizations begin with the analysis of enterprise business processes and operating cycle, information needs and requirements from all the operating levels, later to study the experiences of others, and learn from their practices and success factors.

Various authors suggest different critical success factors (CSF) in successful enterprise information system implementation. Granlund M. (2007) presents three barriers of implementation: lack of time and resources, high costs (including hidden costs), and behavioral resistance. Redesign of business processes as a central factor

to the success of information system implementation points Finnish scientists Velcu O. (2008). In general CSF fall under one of four main categories (Al-Mudimigh A. S., 2007), namely:

- commitment from top management;
- changing of the existing processes;
- the IT infrastructure;
- change management.

Clearly, three out of four of these main categories fall under the range of business process management, thus, to ensure successful enterprise system implementation and running, an enterprise must pay sufficient attention to this area.

Granlund M. (2007) research pointed out the fact that the success of implementation and use of enterprise information system "... is never up to the IT, but it is human beings who make things work or not work". The roles of accounting people in these projects are many: developer, analyzer, software purchaser, consultant, trainer, or system auditor.

The end-user requirements need to be fully taken into consideration by software designers and management of manufacturing companies need to be aware of the total costs (including staff time) involved for hardware and software purchase, regular training, and model updating. As with any tool it is essential that careful consideration be given to selection. Clearly, the primary consideration is that the method and tool(s) selected meets the requirements of the user, to represent the structural and behavioral characteristics of the object system accurately. Other criteria which may also play a part in the final selection include hardware and software support; documentation; training; licensing restrictions; cost (purchase, development, maintenance, etc.) and analyst familiarity.

Selection of specific system software for enterprise is one of essential planning elements. Criteria for selection of system software are very different, but the most often suggested according to Kakanauskas V. (1999) are intelligibility, ease of use, functionality, reliability, flexibility, etc. Globalization processes also influences this field. In authoress belief nowadays while choosing package it is urgent to consider such factors as vendor support, response time, reputation and experience, compatibility, etc.

After enterprise information system implementation inherently arises question – what are the benefits of successful enterprise information system? Successfully implemented information system warrants according to Lakis V. (2007) efficiency of enterprise internal control, because gives the opportunity to enterprise managers and specialists:

- Coherently apply appointed business rules by processing a huge amount of data and performing complicated calculations;
- To be sure that the information needed would be displayed on time, available for all users and sufficiently precise;

- To facilitate analysis of additional accumulated information;
- To perform enterprise's operational monitoring;
- To reduce risk that the control procedures of financial operations will be circumvented.

O'Connor N. G. & Martinsons M. G. (2006) accentuates direct and indirect benefits of decision support systems (they are part of the enterprise information system). Direct benefits are timeliness of enterprise problem finding, accuracy in solving because of greater information processing capability, more accurate knowledge maps; knowledge management – reduce knowledge transfer costs, for example leveraging span of control through more efficient organizational structure. Whereas indirect benefits help the enterprise to develop a competitive advantage and innovative capability: learning, transparent culture. Increased employee morale also can be assigned to the indirect benefit, it displays by decreased turnover of personnel. Granlund M. (2007) tells that enterprise resource planning systems have in general enabled accounting personnel to devote more time to business supporting strategic analysis as most routine tasks have been automated.

## Conclusions

Enterprises are constantly growing and in many cases on the outcomes of such growth is the need to evolve their information systems. For an enterprise to evolve its information system in a cost effective manner that causes the least disruption to operations, it needs to adopt a structure approach that is understandable by user and developer. Models provide a means of gaining common understanding of the requirements of a new or evolving system. Business process is a fundamental element of analysis. Business processes are a natural way for tasks to be done in organizations in order to create value for internal or external customers. Business process modeling is an essential part of developing an enterprise information system.

The first objective of enterprise information systems development is to develop IS that satisfies an enterprise informational and operational needs. For this reason, one key to the success is to ensure that systems selection criteria are based on user requirements (i.e., the logical specifications and physical requirements) developed during the systems analysis phase. Another key to systems success is the full evaluation of available software and hardware resources. Finally, the success of systems implementation projects is found in the details. It may be such things as user manuals, training, implementation schedules and plans that determine the success of the new or modified systems.

It is also important to remember, that enterprise information system would be used for a longer period, so it is necessary to incorporate the long-term requirements, such as system support and maintenance costs, system extension and improvement opportunities and other.

Most often in the scientific literature disputed critical success factors of enterprise information system success are commitment from top management, IT infrastructure, process management and improvement, change management. Also it is very important to ensure an appropriate amount of scarce resources (time, money, personnel, etc.) and to pay attention to the required redesign of enterprise business processes. Meanwhile criteria for system software selection can be very different, such as functionality, reliability, flexibility, vendor support and response time, etc.

Successfully operating enterprise information system warrants efficiency of enterprise internal control, helps to develop competitive advantage and innovative capability by devoting more time to business supporting strategic analysis as most routine tasks have been automated.

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## Summary

### ENTERPRISE INFORMATION SYSTEM: POSSIBILITIES AND CHALLENGES

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Enterprises are growing constantly and in many cases on the outcomes of such growth is the need to evolve their information systems. For an enterprise to evolve its information system in a cost effective manner that causes the least disruption to operations, it needs to adopt a structure approach that is understandable by user and developer. Models provide a means of gaining common understanding of the requirements of a new or evolving system. Various methods and techniques can be used while constructing models, but the most suitable for system analysis and requirement definition is structured methodology. During this stage the crucial and substantial work is to provide a set of business process models, which enable common understanding of changed needs to enterprise information system.

# ESTABLISHMENT OF INTERNAL AUDIT IN COMPANIES: NECESSITY OR OBLIGATION?

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## 1. Preface

The privatization process in Montenegro started with a process of mass voucher privatization, through which a great number of eligible citizens became small shareholders, and it accelerated but at the same time slowed down the development of corporate governance. The establishment of a legal environment for development of corporate governance has conditioned establishment of the internal audit function in Montenegrin organizations. The implementation of legal solutions led to compulsory implementation of internal audit activities in the public<sup>2</sup> and financial sectors (banks and insurance companies<sup>3</sup>), while in the real economy sector it was the subject of management – business agreement self-initiatives.

Due to the fact that the internal audit in Montenegro is often considered a legal obligation and not a necessity of a series of participants in corporate governance, in this article, we tried to present establishment of the internal audit process in Montenegrin organizations. General assessment of the internal audit organization is based on the empirical research, which was conducted through questionnaires in 10 business organizations in January and February 2007. We also conducted interviews with representatives of the state sector (Ministry of Finance). Given the fact that the internal audit is a quite new profession in Montenegro, the subject of the research were companies with fully formed internal audit departments in financial, real economy and state (public) sectors. The survey was intended for chief audit executives.

We did not disclose a corporative identity of companies, which were the subject of the research, instead we used the following alphabet symbols for companies in the banking sector (A, B, C, D, E, F, G), and (X, Y) for those in the real economy sector. The findings showed that the biggest step forward was made in banking sector by the biggest influence of foreign capital and tougher regulations, while in the real economy sector, only companies whose majority owner is a foreign entity established the internal audit function.

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<sup>2</sup> Article 56 of the Law on Budget (Official Gazette of Montenegro, no. 40/01 and 44/01).

<sup>3</sup> The Law on Insurance (Official Gazette of Montenegro, no. 78/2006); until the passage of the Law on Insurance in December 2006, there was no legal obligation referring to establishment of internal audit as an organizational unit within an insurance company in Montenegro.

## 2. Internal Audit in Montenegro

### 2.1. Internal Audit in Banks

In accordance with institutional efforts of Montenegro to join developed European countries, a set of laws and bylaws was adopted with the tasks to create adequate environment suitable for gradual implementation of guidelines for banking business good practices based on the Basel principles, as well as creation of possibilities for implementation of the principles of corporate governance prescribed by OECD. For the purpose of modernization of banking operations, the Council of the Central Bank of Montenegro<sup>4</sup> and Article 55 Paragraph 2 of the Law on Banks<sup>5</sup>, adopted the document: "Decision on Internal Audit in Banks" which prescribes basic principles of establishment of an internal audit function in banks. In accordance with this, the process of establishment of the internal audit function in banks has started in 2001 with adoption of the following document: "Decision on Internal Audit in Banks"<sup>6</sup>. From 2001 to 2004 the way of organization of the internal audit met the requirements of formal implementation of legal solutions required by the Central Bank of Montenegro (CBCG) and the internal audit function was established this period. Activities of the internal audit were conducted by one person – internal auditor. However, increasing participation of foreign capital in shares of domestic banks has conditioned many domestic banks to take over basic principles of functioning of the internal audit of their parent banks, which enabled application of widely spread and developed European practice of internal auditing in Montenegrin banks as well. Now, after four years, (2004–2007), it can be said that significant steps forward have been made in organization and development of the internal audit function in banking sector, which was a reason good enough to encompass this period, 2004–2007, by our research.

**Table 1.** Share in the bank's capital (% amount)

	2002	2003	2004	2005	IX 2006
State	31	23	26	13	6
Private domestic capital	44	44	36	19	21
Foreign capital	25	33	38	68	73

Source: CBCG – Bank Supervision Department

Although being a "young" business function in the banking system of Montenegro, the internal audit encompasses a wide range of activities<sup>7</sup>. A large number of

<sup>4</sup> Official Gazette of Montenegro, no. 52/00 and 47/01.

<sup>5</sup> Official Gazette of Montenegro, no. 52/00 and 32/02.

<sup>6</sup> We also point out to the fact that according to the Law on Banks ("Official Gazette of SRJ" no. 32/2002), banks were obliged to establish internal audit until 31 December 2002.

<sup>7</sup> The following banks currently operate at the territory of Montenegro: Crnogorska komercijalna banka a.d. Podgorica, Hipotekarna banka a.d. Podgorica, NLB Montenegrobanka

activities of the internal audit are aimed at testing and monitoring of work of the system of internal controls, and a smaller part is aimed at provision of advisory services related to risk management. According to data, advisory services in the banks mostly refer to the following: 30% to financial risk, 25% to operational and strategic risk and 20% to the risk of business environment.<sup>8</sup>

Out of seven banks surveyed, only two use COSO's control framework, while none of the banks uses COCO control framework. In regard to monitoring of the control processes, apart from the internal auditors, direct superiors/managers are also included; 57% of chief audit executives believe that monitoring of the system of internal controls is adequate, while 43% of chief audit executives believe that this system is not adequate.

On the basis of the aggregated data referring to the contents of the major document on the function of the internal audit – *the Internal Audit Charter*, we have noticed the following:

- although the internal audit function in the Bank B has existed since 2002, we can notice that the Charter includes the operations and defines the organizational status of the internal audit, which represents the example of a modest business policy adjusted to the minimal legal requirements for organization of the internal audit function in the bank;
- in the banks B and D official functional and administrative internal audit reporting lines do not exist and thus the question is how functional independence and objectivity of the internal auditors in their auditing and reporting is provided;
- the Bank A and the Bank B are the examples of good incorporation of guidelines of international regulations on internal auditing.

Code of Ethics has been adopted by Montenegrin banks only recently. Out of nine surveyed banks only four have the Code of Ethics adopted.

Audit Plan is made for the period of one year. All the surveyed banks, more or less, revise their annual plans depending on circumstances and events, which are of great importance for the bank: change of information system, opening of new branch offices and similar things. The Bank G in its annual internal audit plan foresees possible extraordinary audits, so that in the case of an extraordinary audit the annual plan does not have to be changed. The Bank A does not foresee revision of the annual audit plan except for in the case of totally unexpected events, which occurred

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a.d. Podgorica, Komercijalna banka a.d. Budva, Invest Banka Montenegro a.d. Podgorica, Hypo Alpe-adria a.d. Podgorica, Opportunity banka a.d. Podgorica, Atlas banka a.d. Podgorica, Prva banka Crne Gore a.d. Podgorica, First Financial Bank a.d. Podgorica, Podgorička banka Societe General Group a.d. Podgorica.

<sup>8</sup> “An organization manager is also responsible for the assessment of control processes in the areas under his/her competence”; Practice Advisory 2120.A1: Assessment of Control Processes and Reporting on them, Professional Practice of Internal Auditors, p 317.

under objective circumstances. The Bank F does not revise its annual audit plan, and a special audit is conducted at the request of the bank management. At the same time, only the internal audit departments in the Bank C (as of 2003), Bank F (as of 2004) and Bank G (as of 2005) have developed working procedures which refer to potential tasks not related to auditing (advisory activities).

In accordance with Performance Standard 2010 – Planning, the chief audit executive must establish risk-based plans in order to determine the priorities of the internal audit activity, consistent with the organization's goals. Therefore, the responsible persons for determining of risky operations from the internal audit point of view are the following:

- Chair of the Internal Audit Committee (banks B and F);
- Executive Director (bank E);
- Board of Directors (banks C and E);
- Chief Audit Executive (banks B, D, F and G).

The cooperation and coordination of the Internal Audit Department with other organizational units has been quite good so far. The Internal Audit Department has continues cooperation with the Risk Management Department, Supervisory Committee, Board of Directors and others. The cooperation has been established either at the initiative of the Chief Audit Executive or the Supervisory Committee, but neither the engagement of the Executive Director as a mediator can be ignored.

Communication frequency between the internal audit function and executive director takes place from:

- 1 to 3 times a month (bank F);
- 4 to 7 times a month (banks B, C, D, E);
- 7 and more times a month (banks A and G).

Communication frequency between the Internal Audit Department and Board of Directors takes place from:

- 1 to 3 times a month (banks A, D and G);
- 4 to 7 times a month (bank C);
- 7 and more times a month;
- Not that often (banks: B and F<sup>9</sup>);
- Without direct cooperation (bank E).

Communication frequency between the Internal Audit and the Internal Audit Committee:

- Daily (bank A);
- Weekly (bank G);
- Monthly (banks: B, C, D, E and F).

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<sup>9</sup> Once in three months.

The role of the Chief Audit Executive at the meetings with representatives of the Internal Audit Committee is seen as:

- An active role, because all the issues and interest spheres of importance for the Internal Audit Department are being discussed at those meetings (banks: C, D, G and B)
- Informative role, because those are the meetings where the internal audit reports are being presented (banks E and F).

With the development of information technology, big changes occurred in the domain of internal audit examinations. Based on the aggregated data the following can be stated:

- adequate testing and check of information systems has existed in the bank E (as of 2004), in the Bank G (as of 2003) and in the Bank F (as of 2005);
- the Banks C and B (as of 2007), and the Bank D (year of beginning is not stated) plan to develop testing and check of information systems.

This indicates that the audit of information systems is developed only with the Banks G and F, while with the Bank E external auditor is the major holder of information systems control. Other banks have not developed testing policies and procedures or information systems checks yet. According to the survey data, 14% always consult, 57% sometimes consult and 29% do not consult the Internal Audit Department when they introduce new information systems. The biggest obstacle in regard to auditing of information systems is lack of expert personnel, that is, lack of specialized and trained personnel for IT systems auditing in a large number of banks.

During the surveyed period, thirteen (13) people were employed in the Internal Audit Departments in banking sector, out of which seven (7) were engaged on the basis of their previous work experience in internal auditing, one (1) had work experience in external auditing, one (1) had work experience in accounting operations, and four (4) of them had previous work experience in different banking operations. Based on the updated information on the employees' age, we could notice that 42% of the employees were at the age 30–40, 25% were at the age 20–30 and 50–60, while only 8% employees were at the age 40–50. By comparing data on the number and professional skills of the Internal Audit Department staff with data on their auditing activities, we could question whether these people have had adequate professional skills and education to perform internal auditing. Staff is trained for internal auditing activities only from time to time, as needed, while, maybe, only two Montenegrin banks have been training their staff for the internal auditing on regular basis. Education of the Internal Audit staff is usually organized by the bank in a form of specialized courses (this is mostly the case with the banks which are a part of the group), through external training conducted by specialized institutions, through different kinds of advanced professional training in other organizations and by use of professional literature.

The biggest problems that Chief Executives of the Internal Audit Departments are facing when implementing internal audit activities refer to the following: management does not understand importance and role of internal audit in corporate governance (29%), repulsiveness of the employees towards the internal audit activities (57%), employees do not understand given recommendations and findings of internal auditors (14%), lack of developed procedures referring to potential tasks which are not related to auditing.

In order to improve internal audit function in banks, the chief audit executives believe that the following should be provided: bigger number of employees, continuous education and professional advanced trainings, familiarize the employees with importance of the internal audit for the entire organization, existence of the program which will enable observance of the regulations which also includes disciplinary mechanisms, greater independence when the tasks are formulated.

## **2.2. Internal audit in the Real Business Sector**

In order to describe the role and importance of the internal audit in Montenegrin business (public) organizations, we have taken into consideration two organizations that take a dominant place in terms of their size, financial power and their role in Montenegrin economy. These are: "T mobile", Podgorica (1998) and "Elektroprivreda Crne Gore", Nikšić (Electric Power Supply Company of Montenegro) (1976).

The goal of this comparative analysis conducted on the sample comprised of the above-mentioned two organizations, is noticing of difference between the level of development of the internal audit in the company whose majority owner is a foreign entity and the level of development of the internal audit in the company whose majority owner is the state.

According to the research data, it can be stated that the Internal Audit Department in the company X represents the best solution in our business practice due to the implementation of foreign practice of corporate governance and internal audit. The Internal Audit Department was established in April 2006. On the group level, the internal audit function is decentralized based on geographical regions. Internal Audit Department in the company X has two employees aged 20–30 and none of them has adequate professional background/degree. Education of the employees is conducted continuously through specialized courses within the company and based on professional literature. Direct superiors are included in the process of monitoring besides the internal auditors which should be a good precondition for quality monitoring. The Internal Audit Department takes part in the process of harmonization of working procedures with provisions of the SOX Act (Sarbanes Oxley Act), Article 404, which makes it a unique organization in Montenegro which is in the first place familiar with basic requirements of SOX Act and which also observes them. This is because the company X is a part of the group which has good status in the New York Stock Exchange, which requires application of the SOX Act

in the area of monitoring and reporting on the current system of internal controls. The report on reliability of the system of internal controls is submitted to the Audit Committee. In the company X cooperation with the Executive Director, Audit Committee, Board of Directors is continuous where any of the entities feels free to initiate it. Also, the Internal Audit Department in the company X has continuous cooperation with the Risk Management Department and their role is limited only to monitoring of risk management process. The Internal Audit Department does not provide advisory services regarding operational, financial, strategic and business risk. The overlapping area in the work of internal and external auditors is testing of internal controls, but only partly. The supreme written act of the Internal Audit is the "Internal Audit Charter" (General Act of the Internal Audit Department), which is prepared by the Internal Audit Department and adopted by the Audit Committee. The company has its Code of Ethics and applies all international standards of professional practice of internal auditing.

On the other hand, by analyzing the level of development of activities of the Internal Audit Department in the company Y after the period of thirteen years ( from 1994 to 2007)), we come to the conclusion that the company Y is not the best example of the model for implementation of the internal audit best practice. Reason for this is the present state of affairs: poorly defined ownership structure, no legal obligations for establishment of internal audit, appointment of executives based on their political affiliation rather than on their professional competences, lack of interest of management to establish Internal Audit Department. In accordance with their scope of work, the Internal Audit Department has four employees with accounting operations experience. The only form of education is conducted through use of professional literature and by attending specialized seminars which indicates that sufficient attention is not paid to continuous training of the Internal Audit Department staff, but at the same time it shows that awareness of the Internal Audit Department management of the importance of the internal audit for corporate governance is at a low level. Apart from that, the Internal Audit Department staff performs other duties in the company as needed which represents violation of basic principles of professional conduct of Internal Auditors. We believe that the present approach to work of internal auditors in that specific company harms independence and objectivity of work of internal auditors, which results with provision of subjective assurance about the object of audit. Chief Executive of the Internal Audit Department in the company Y believes that the present monitoring of internal controls is not adequate. Sometimes direct superiors take part in the process of monitoring. Communication between the Internal Audit Department and other participants in corporate governance is at a satisfying level. Communication with the Executive Director is conducted as needed and can be initiated by either of them. Also communication with the Risk Management Department is conducted as needed. Role of the internal audit in regard to risk management has not been defined yet, that is, neither in terms of risk management process monitoring nor in terms of giving advice on various types of risks. External auditors have asked neither for any working documents nor for reports of the Internal Audit Department of that particular organization so far.

On the basis of the above presented empirical results of the survey, a general conclusion can be drawn: a developed institute of internal auditor does not exist in business organizations. Privatized public companies in which majority shares are owned by a foreign entity are the only holders of development of the internal audit function in Montenegro. On the other hand, companies in which majority shares are owned by the state still do not understand full meaning of the institute of internal audit. The scope of work of internal auditors is quite wide and the staff engaged in internal auditing is inadequate in terms of professional skills and in terms of professional titles required. By adoption of the new Law on Accounting and Auditing<sup>10</sup> all big legal entities became obliged to establish their own internal audit departments by the year 2012, which represents a significant step forward in popularization of the internal audit function in Montenegro.

### 2.3. Internal Audit in State Sector

The process of organization and development of the internal audit in the state sector in Montenegro has started only since 2004, through adoption of Article 56 of the Law on Budget<sup>11</sup>. Consequently, the Ministry of Finance established the internal audit sector in 2004, within which Audit Planning and Standards Department and Internal Audit Department were organized.

According to existing legal solutions, the main task of this sector was to promote importance of the internal audit in public sector and give support to bigger budget units to develop their own internal audit capacities.

In order to aggregate empirical results for the purpose of making an assessment of the internal audit conditions in the public sector, we used interview as tool for data aggregation. Therefore, we conducted an interview with the Deputy Minister in charge of internal audit, and on the basis of the interview we got insight in the state and level of development of internal audit in the public sector in Montenegro. According to the aggregated the following conclusions can be drawn:

- In pursuing its mission, the internal audit function in the public sector performs audit of legality, financial audit and audit of achievements.
- In the period from 2004 to 2007, the Internal Audit Department conducted 24 audits of budget units, which consequently accepted majority of recommendations.
- Minimum of knowledge and experience required for this job is knowledge of public finances and budget accounting. Six people have been working in the Department while only four of them have previous working experience in public finances. At that period, the Ministry of Finance did not have proper education program and system of testing the knowledge in the area of the internal audit. The training was done only when necessary, by use of professional literature,

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<sup>10</sup> Official Gazette of MNE no. 80/08.

<sup>11</sup> Official Gazette of the Republic of Montenegro no. 40/01 and 44/01.

through external trainings conducted by specialized institutions and professional advanced trainings of employees in other institutions.

- Despite the fact that all budget units had to establish appropriate monitoring procedures for system of internal control, majority of budget units did not have the appropriate monitoring system. Only the Custom Department, Pension and Disability Insurance Fund have had their own internal audit capacities and they have been very well organized.
- the Internal Audit Department did not coordinate their plans with the external auditors' plans.
- Due to rather poor organization of the Internal Audit Department in the most budget units, it was important to note the that senior managers have had quite big influence on the final internal audit reports.

At that period, in general, the internal audit in the public sector was underdeveloped. Recently, the Ministry of Finance has adopted the new documents: Strategy of PIFC- Public Internal Financial Control, the Law on Public Internal Financial System Control<sup>12</sup> and Regulation on Establishment of Public Internal Audit<sup>13</sup>, Regulation on the Title of Internal Auditors.<sup>14</sup> The new legislation have required a new organization of internal financial control system and it includes financial governance and control, internal auditing and methodology, standards, relations and responsibilities, and authority of the Minister of Finance and other public units in performing public internal financial control. The former internal audit sector was transferred in the Public Internal Financial Control Sector, and it became the central harmonization unit, which has been responsible for development and promotion of internal control and methodology of public internal auditing.

### 3. Conclusion

In this article, we tried to highlight that the establishment of the internal audit business function is, above all, a result of meeting legal needs rather than meeting real needs of management. Even thought, an ever-increasing influence of foreign capital in ownership structure gives bigger and bigger support to establishment of the internal audit function, domestic management who has been burden with historical heritage of undeveloped corporate culture and low profile shareholders' structures conducted all the internal audit procedures and plans. Having in mind all the above mentioned, it is clear why the level of independence of internal auditors in performing their tasks remained at quite low level.

With a short reference to reform process, our intention was to point out that adoption of the Law on Privatization created legal environment for development of private sector and appearance of companies with capital, which significantly influenced the

<sup>12</sup> Official Gazzete of Montengro no. 73/08.

<sup>13</sup> Official Gazzete of Montengro no. 23/09.

<sup>14</sup> Official Gazzete of Montengro no. 23/09.

process of establishment and development of corporate governance and at same time establishment of the institute of internal audit in Montenegrin companies.

The following findings of the research, which refer to the level of the internal audit development in Montenegro, clearly showed that:

- Internal audit development in Montenegro is based on practices of developed countries and domestic legislation; the biggest step forward in the implementation of the internal audit was made in banking sector thanks to the inflow of foreign capital and practices, while in the real economic sector, only with adoption of the new the Law on Accounting and Auditing (in December 2008), there is the obligation of establishing the institute of internal auditors by 1 January 2012.
- For the improvement of internal audit function it is necessary to provide: bigger number of employees, continuous education and professional advanced trainings in internal auditing, introduction of employees to the organizational importance of internal auditing, existence of a program which will enable observance of the regulations which also includes disciplinary mechanisms, greater independence when the tasks are formulated.
- Advancement of corporate governance not only through formal implementation of legal solutions but also through education courses for management in order to present internal audit as an instrument of management of an organization, which through it's objectively persuasive and advisory activities, is aimed at creating added value and improving of business operations of an organization.

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## Summary

### ESTABLISHMENT OF INTERNAL AUDIT IN COMPANIES: NECESSITY OR OBLIGATION?

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In this article, we tried to highlight that the establishment of the internal audit business function is, above all, a result of meeting legal needs rather than meeting real needs of management. Even though, an ever-increasing influence of foreign capital in ownership structure gives bigger and bigger support to establishment of the internal audit function, domestic management who has been burdened with

historical heritage of undeveloped corporate culture and low profile shareholders' structures conducted all the internal audit procedures and plans.

With a short reference to reform process, our intention was to point out that adoption of the Law on Privatization created legal environment for development of private sector and appearance of companies with capital, which significantly influenced the process of establishment and development of corporate governance and at same time establishment of the institute of internal audit in Montenegro companies.

General assessment of the internal audit organization is based on the empirical research, which was conducted through questionnaires in 10 business organizations in January and February 2007. We also conducted interviews with representatives of the state sector (Ministry of Finance). Given the fact that the internal audit is a quite new profession in Montenegro, the subject of the research were companies with fully formed internal audit departments in financial, real economy and state (public) sectors. The survey was intended for chief audit executives.

The following findings of the research, which refer to the level of the internal audit development in Montenegro, clearly showed that:

- Internal audit development in Montenegro is based on practices of developed countries and domestic legislation; the biggest step forward in the implementation of the internal audit was made in banking sector thanks to the inflow of foreign capital and practices, while in the real economic sector, only with adoption of the new the Law on Accounting and Auditing (in December 2008), there is the obligation of establishing the institute of internal auditors by 1 January 2012.
- For the improvement of internal audit function it is necessary to provide: bigger number of employees, continuous education and professional advanced trainings in internal auditing, introduction of employees to the organizational importance of internal auditing, existence of a program which will enable observance of the regulations which also includes disciplinary mechanisms, greater independence when the tasks are formulated;
- Advancement of corporate governance not only through formal implementation of legal solutions but also through education courses for management in order to present internal audit as an instrument of management of an organization, which through it's objectively persuasive and advisory activities, is aimed at creating added value and improving of business operations of an organization.

# STRATEGIC MANAGEMENT ACCOUNTING: HOW TO UNLOCK LOCK-IN EFFECTS THROUGH INNOVATION

An Empirical Study on (Inter-) Dependences and Control Systems in the  
Automotive Supplier Industry

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## Introduction

The automotive supply industry has undergone tremendous changes in the last two decades. Globalization, changing customer preferences and technological complexity have exerted massive adaptation pressure on original equipment manufacturers (OEMs) and, subsequently, on their suppliers due to their business relationships (Humphrey and Ashforth 2000:727). Supplier firms that face this pressure have to adapt to the changed context to ensure sustainable performance. This situation induces various questions with regard to research and management practice focusing on relationship aspects. Besides financial and formal aspects, we specifically examine informal relationship mechanisms like innovations and dependence. The industry structure mainly comprises large OEMs sourcing from suppliers. In the oligarchic situation found in the automotive industry, the power balance between the few OEM and the strongly competing suppliers is often single edged. Mudambi and Helper (1998) characterized the buyer-supplier relationships in the US automotive industry as a "close but adversarial" model. This setup as well as previous research suggests that these relationships are characterized by power asymmetry and dependence (Mudambi and Helper 1998:775). Recent relationship research has concentrated far less on power asymmetry and dependence (Frazier 1999:227) than it has on aspect of cooperation and trust (Morgan and Hunt 1994:20). Prominent findings on commitment, trust and relational social norms in the relationship-marketing context, such as the research by Morgan and Hunt (1994:20), should not be ignored. However, the automotive industry's current setup requires the incorporation of specific aspects of dependence-based effects (Frazier 1999:226, Yilmaz, et al. 2005:236). This is especially important when the relationships in the industry are examined in the light of the research done by Mudambi and Helper (1998:775). These authors' work supported the "close but adversarial" model of buyer-supplier relationships in the US automotive industry (Mudambi and Helper 1998:790). Furthermore, in discussions, the industry's managers suggested that trust only plays a subordinate role in their industry, which should be taken into account as well. This paper therefore attempts to add to the industry-specific body of research on relationships: What relationship aspects affect the supplier's performance as a result of the power-dependence setup? One goal is to link the relationship context to the strategy and the control system, which are drawn from strategic management theory and marketing theory's power-dependence paradigm. The possibility of opportunistic behavior occurring in the strategic interaction between the buyer and supplier is adapted from Frazier and Rody (1991). This also leads to the assumption by Joshi and Arnold (1997:825) that the dependent customer could desist from opportunistic behavior due to his fear of the supplier's "opportunistic retaliation".

Conflict aspects which occur in addition to opportunistic behaviour will be analyzed according to the research done by Jap and Ganesan (2000). Power and dependence in relationships, as found in the customer-supplier relationship in this study, arise from the control of resources that are of value to the other party. In respect of strategy aspects, we largely follow the argumentation that innovation can be used as a source of relationship power and can thus influence interdependence in relationships (El-Ansary and Stern 1972:47, Berthon, et al. 2003:701). Consequently, the supplier's innovation potential will be linked to both the supplier and customer's dependence. We thus argue that a customer is less likely to replace a supplier who can offer differentiated, innovative products or services that are consequently "better" than competitors' solutions. We contribute to the literature by developing a model which links relationship aspects with supplier performance. Dependence in buyer-supplier relationships has been acknowledged as being advantageous for both parties if it is symmetrical, i.e. if both the supplier and the buyer are equally dependent on each other (Yilmaz, et al. 2005:237, Kumar et al. 1995:354). This implies that it is crucial that the supplier understands dependencies and the way they affect supplier performance. To test the assumptions about dependence and dependence symmetry, our model will investigate the role of dependence's effects in the context of the relationship's effects on the supplier's performance. Practical suggestions are then derived regarding strategy to illustrate the possibilities that the supplier has to influence relationship results. The remainder of the paper is structured as follows: First, information is provided on the research framework, the study's theoretical foundations and the underlying hypotheses of a structural equation model. Subsequently, the results of the empirical survey are provided and followed by a short discussion and the main findings and limitations.

### **Research framework**

The hypotheses framework contains the effects of customer and supplier dependence on the supplier relationship performance in the context of conflict and cooperation. The conflict context involves the constructs opportunism and conflict, while the cooperative context measures customer dependence's direct effects on relationship performance. Once the relationship framework has been constructed, strategic system aspects are added to show how they can affect the relationship and how the supplier can influence the relationship to protect his interests. The model contains relationship aspects as well as strategic system aspects. It also draws from the above-mentioned theories as well as from aspects of marketing theory's power-dependence paradigm (Berthon, et al. 2003:701). Power and dependence can be assumed to characterize the relationships in the industry. This section will develop four hypotheses regarding the effects of both supplier and customer dependence on opportunism and conflict, as well as regarding opportunism and conflict's interaction and their implications for performance. Defined as a selfish customer action, which includes an element of deception (Gundlach and Achrol 1995:81), customer opportunism arises from the customer's possibility to engage in opportunistic behaviour. Self-interest seeking is rooted in economic theory, but an element of deceit differentiates opportunism from it (Gundlach and Achrol 1995:81). The possibility to act opportunistically is presented if

the supplier is dependent on his exchange relationship with the customer (Gundlach and Achrol 1995:81). He may disclose information which then enables the customer to use the asymmetry in information to act opportunistically (Gundlach and Achrol 1995:81). Another example is when the supplier, due to time or competitive pressure, has already made investments or had other expenditures before closing a final agreement with a customer. If the customer then renegotiates the terms of the exchange, the supplier cannot withdraw from the agreement because he is dependent on the relationship in which he has already invested (Gundlach and Achrol 1995:81). These effects are likely to be amplified by the industry structure, which consists of a small number of large customers and a great number of dispersed suppliers. This structure makes it easy for the customer to replace a supplier who challenges him with regard to his opportunism, even if the replacement is associated with short-term switching costs. The influence of customer dependence has been found to have different effects on opportunism (Joshi and Arnold 1997:825). On the one hand, customer dependence is believed to have an inverse relation with customer opportunism. This is because a dependent customer cannot easily switch to other suppliers. Opportunistic behaviour destabilizes a relationship, which compels the customer to refrain from such behaviour if he is dependent on the relationship (Joshi and Arnold 1997:825, Provan and Skinner 1989:209). The strategic interaction between the buyer and supplier also leads to the assumption that the dependent customer may refrain from opportunistic behaviour because he is afraid of the supplier's "opportunistic retaliation" (Frazier and Rody 1991, Joshi and Arnold 1997:825). On the other hand, it could be possible that dependent customers, who are restricted in their actions by a powerful supplier, refrain from opportunism because they are "motivationally aroused to take actions to counter the constraints" (Joshi and Arnold 1997:826). If customers were to act like that, they risk finding themselves in a dysfunctional relationship on which they are dependent. Such a relationship is probably associated with higher costs than the temporary gain to be had from spiteful opportunistic behaviour. As defined previously, the conflict level in a relationship will increase if one party's goals are negatively affected by the other party (Jap and Ganesan 2000:233). The link between customer dependence and conflict has already been made in respect of opportunistic behaviour. Customer opportunism is clearly behaviour that negatively influences the supplier's goals, as the customer uses information to obtain more benefits from the relationship at the supplier's cost. Hence, customer opportunism will affect the relationship's conflict level. The partners' dependencies are also likely to have a negative effect on the conflict level due to the argument that their goals are affected. When a party is highly dependent on a relationship, it will be very careful to preserve it, as it is afraid of losing the benefits obtained from this relationship. This should, however, be regarded in the light of the specific industry prerequisites. Previous research has shown that in the automotive industry, customers are generally thought to have more power in the relationship than suppliers do, that suppliers feel that they are not treated fairly and that the customer will switch as soon as he finds this advantageous (Mudambi and Helper 1998:776, Helper 1991:24). Owing to the power imbalance, the above-mentioned inverse relationship between dependence and conflict is thus hypothesized in this study as positive for supplier dependence and conflict. This is due to the supplier, despite his

strong dependence, having to challenge the customer's goals if he is to survive (Thorne 2006:58, Penny 1999:24). If the supplier is less dependent, he is able to make concessions to the customer, to reduce conflict and will indeed do so, as he wants to maintain a valuable relationship, even if this comes at a higher price. In the latter framework, the supplier should never be powerful enough to cause conflict due to wanting a share of the customer's profit; he will therefore only cause conflict in order to obtain the share that enables him to survive. Although this assumption is arguable and probably less absolute in reality, it finds some support in the literature (Thorne 2006:58, Penny 1999:24, Mudambi and Helper 1998:776, Helper 1991:24). This position is opposed by the customer, who, since he has a more powerful position, will try to reduce the supplier's goals for his own advantage. On the other hand, he will accept them if he is highly dependent on the relationship and has fears in this regard but still has enough power to always, even if only slightly, reduce the supplier's initial goals. The model is constructed so that the supplier's accommodating actions in respect of the relationship are mapped in his stance towards conflict and his willingness to reduce his goals. Owing to the assumed power imbalance between the two parties in the relationship, this does not apply for the customer. Consequently, as explained in the previous paragraph, this model proposes that, in the conflict context, the customer will try to enhance the supplier's goals all the time and never fully agree to them. On the other hand, the supplier is less aware of positive customer conduct in his favour, but which is less apparent and less explicit. Consequently, to summarise a customer's cooperative behaviour resulting from his dependence (Yilmaz, et al. 2005:237), but not openly affecting conflict, a direct link is suggested between customer dependence and the supplier's relationship performance.

This section introduces hypotheses relating to the effect of opportunism and conflict's relationship on relationship performance. These relations are quite obvious and will therefore only be explained briefly. By definition, customer opportunism is always aimed at achieving better conditions for the customer by, for example, exploiting the information asymmetry between the customer and supplier (Joshi and Arnold 1997:825). Consequently, the view is adopted that the "transaction" resulting from the profit generated in the relationship is transferred to the opportunistic party (Gundlach and Achrol 1995:81, Muris 1981:521). Therefore, from the supplier perspective, customer opportunism is hypothesized as having a negative impact on the supplier's performance resulting from the relationship, because the customer will decrease the supplier's performance by acting opportunistically. It is suggested that conflict, previously defined as one party in a relationship impairing the other party's goals (Jap and Ganesan 2000:233), has a negative effect on the supplier's performance. Owing to the previously assumed power imbalance between the customer and supplier, the source of conflict in the relationship is understood to mainly result from the customer's impairment of the supplier's goals. This means that the customer forces the supplier to reduce his goals, which directly results in the supplier's decreased relationship performance.

The relationship framework developed up to this point does not indicate ways through which the supplier can take action to protect his interests from the relationship.

Therefore, strategy aspects are added that mainly follow the argument that innovation can be used as a source of relationship power and can thus influence interdependence in the relationship (El-Ansary and Stern 1972:47, Berthon, et al. 2003:701). In relationships such as the customer-supplier one in this study, power and dependence arise from the control of resources that are of value to the other party (Berthon, et al. 2003:701, El-Ansary and Stern 1972:47). These resources are described by Berthon et al. as "assets, attributes, and conditions within a relationship that generate and represent each channel member's dependence, indebtedness, or allegiance to another" (Berthon, et al. 2003:701 drawn from El-Ansary and Stern 1972:47). These resources can be regarded as bases of power that an actor in the buyer-supplier relationship can employ through certain actions (Berthon, et al. 2003:702, French and Raven 1958:85). A differentiation focus is associated with innovative potential. The hypotheses regard this as a starting point, linking a differentiation strategy to innovative potential, which is in turn hypothesized as having effects on customer dependence. The argumentation draws from strategic management theory, contingency theory, marketing theory's power-dependence paradigm and economic theory (Porter 1999:65, Langfield-Smith 1997, El-Ansary and Stern 1972:47, Berthon, et al. 2003:701). A differentiation focus has effects on innovative potential. The following argument will link the supplier's innovation potential to supplier and customer dependence. It follows the thought that a customer is less likely to replace a supplier who can offer differentiated, innovative products or services that are consequently "better" than competitors' solutions. "Being different" has already received a great deal of attention in strategic management theory, with the most prominent contributions made by Porter and Barney who reflected theoretically on differentiation and the resource-based view (Porter 1999:65, Barney 1991:105, Deephouse 1999:147). Both approaches suggest that the firm can reduce competition if it differs from its competitors, *ceteris paribus*. Innovation potential can be regarded as a way that the supplier differentiates himself from his competitive environment because innovative potential enables the supplier firm to target the market with solutions that differ from those of its competitors. If the supplier firm targets market conditions that are similar to those of its competitors, it will face strong competitive intensity as the customer can easily change to another supplier offering similar products; the market conditions approach perfect competition (Deephouse 1999:150). On the other hand, the customer will be more dependent on the relationship if the supplier is the only one offering him an innovative product. The supplier firm's innovative potential can thus help it build a niche (Barney 1991:105, Deephouse 1999:151), or migrate to an underdeveloped or unexploited niche (Porter 1999:65, Deephouse 1999:151). In this niche, the supplier can take advantage of his market power and the customer will in turn be more dependent on the supplier. This market power is likely to be attacked by imitators and urging him to search for new ways to differentiate himself (D'Aveni 1995:255). Consequently, he can again use his innovative potential to reduce his dependence on a specific customer. Other implications come from the bases of power theory, which states that innovative potential can be used to exercise power by means of expertise (French and Raven 1958:83). That is, suppliers can influence their customer's dependence on the relationship by drawing power from their innovation potential. However, the supplier's dependence has to be regarded in a more differentiated way. A firm that finds itself in

an asymmetric relationship has two choices when restoring balance: increasing the customer's dependence or decreasing its own (Kumar et al. 1995:354). Decreasing relationship dependence may seem logical, but supplier firms know that a close relationship marked by high independencies between them and the customer is necessary for their future performance. Kumar, Scheer and Steenkamp (1995:354) also come to the conclusion that, in an asymmetric relationship, change should be facilitated by increasing the customer's dependence, as striving for independence and autonomy decreases the supplier-customer relationship's overall interdependence. Increasing customer dependence not only reduces asymmetry, but also maintains a high interdependence between the firms and the positive effects of this, like a reduced conflict level and increased relationship solidity (Kumar et al. 1995:354, Kumar et al. 1995:354, Yilmaz, et al. 2005:237). This means that a supplier who finds himself in an asymmetric relationship with regard to dependence will not try to decrease his dependence in order not to lose the relationship.

Next, structural equation modelling, a method widely used in social sciences to confirm hypothesized model effects and which provides more information than simple regression techniques, is described (Gefen, et al. 2000:5). The constructs of the study and their measurement scales are shown in table I in the appendix. Previously tested and validated measures from prior studies were relied upon whenever possible for the development of the measurement items. "Performance" was measured by three items related to market share, turnover and profit. A similar approach is widely found in the literature and the measures have been well established in previous research (Bisbe and Otley 2004:719, Govindarajan and Gupta 1985:59, Itner and Larcker 1997:300). Profitability measures like ROA, ROI or ROS are customary as well (Makino, et al. 2004:1034, McGahan and Porter 1997:16). These measures were not chosen for this study as profitability measures depend on the calculation base, which is not always defined similarly across different organizations (profitability measures are very useful if the observed industry is strongly regulated, like in the financial sector) (Deephouse 1999:155). Stock market measures have also been used in previous research, but since not all suppliers are listed, this measure could not be used in this study (Hopkins and Hopkins 1997:642). Performance was measured relative to the competitors' performance during the last five years. This approach also controls for macroeconomic conditions (Hopkins and Hopkins 1997:642).

### **The study**

The research framework was tested within a large empirical study. Data were collected from German automotive suppliers. Since the practical implications of the findings would be of interest as well, contact was established with various firms' top management professionals during the survey. Furthermore, the questionnaire was thoroughly pre-tested by a team of academic experts as well as one of industrial experts. A seven-point Likert scale was used to measure the items. The questionnaires were addressed to the key informants, senior controlling and/or accounting managers (Bagozzi, Yi and Phillips 1991; Kumar, Stern and Anderson 1993, Zhao and Cavusgil 2006:408) of all German automotive suppliers within the Association of German Automobile Manufacturers (N=733). The data collection took place from September to

October 2006. To enhance the response rate, follow-up telephone calls were made and the participants were promised an executive summary of the findings as well as a three-month subscription to the journal *Controlling*. From the 733 surveyed companies, 164 sufficiently completed questionnaires were received, resulting in an effective response rate of 22%. A maximum of 6 (3.7%) missing values was observed in the construct measurement scale items. Missing values were imputed by means of the expectation maximization (EM) algorithm prior to the main data analysis, one of the recommended methods for dealing with randomly missing data (Allison 2002; Graham, Cumsille and Elek-Fisk 2003). Non-response bias was evaluated by comparing the sample data with data obtained from the Association of German Automobile Manufacturers (Armstrong and Overton 1977). Since no significant differences were observed in the analysis, the representativeness of the data is assumed to be good. Only very big firms (with a sales volume exceeding 1 000 million) and very small firms (with a sales volume smaller than 20 million) were slightly underrepresented. More than half (54%) of the supplier firms are first-tier suppliers that supply the OEMs directly. Approximately 35% of the suppliers supply first-tier suppliers as well as OEMs. Their exchange relationships have mainly been maintained over the long run, with 64% of the surveyed firms having existed for more than 10 years.

The AMOS<sup>TM</sup> 7.0 program was used for the estimation of model parameters (maximum likelihood estimation) and to test the proposed model's adequacy (Arbuckle 2006). In accordance with Kline (2005), we then applied a two-step SEM procedure. In the first step, a confirmatory factor analysis (CFA) was conducted to determine the construct measurement. A variety of criteria has to be met in respect of the local and global model fit for the structural equation model to be accepted as a plausible explanation for the empirical data (Bollen 1989; Kline 2005; Hair et al. 2006). While measures of local fit indicate the reliability and validity of the construct measurement (Fornell and Larcker 1981), measures of global fit evaluate whether the model appropriately reproduces the empirical associations between the variables (Anderson and Gerbing 1988; Kline 2005, Schumacker and Lomax 1996:124, Gefen, et al. 2000:35). The results of the local fit measures, shown in Table 1 in the appendix, indicate the construct measurement's acceptable reliability and validity. The discriminant validity of the constructs was supported by the Fornell-Larcker test (see Table 2 in the appendix) (Fornell and Larcker 1981). The structural equation modeling (SEM) fit statistics, reported in Figure 2, indicate a good model fit. A smooth violation was only observed in respect of the adjusted goodness-of-fit index (AGFI). However, the chi-square statistic adjusted for the degrees of freedom ( $\chi^2/df$ ), root mean square error of approximation (RMSEA) and comparative fit-index (CFI), indicate a good overall model fit (Baumgartner and Homburg 1996; Kline 2005). The results of the hypothesis test are summarized in Figure 1.

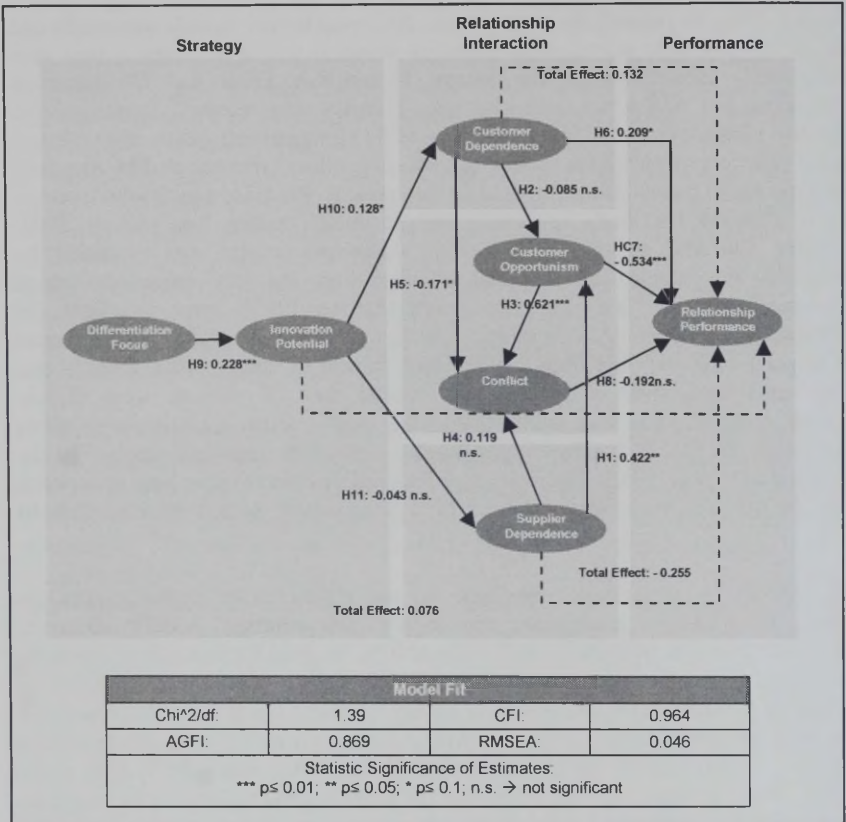


Figure 1. Supplier Relationship Model: Results.

**Discussion**

The model shows that supplier dependence and customer dependence have an equally strong total effect on the relationship’s performance but with opposite signs. High customer dependence is associated with a higher relationship performance and high supplier dependence with lower relationship performance. This gives the supplier two different “levers” to increase performance – as mentioned during the hypotheses’ development. As expected, the model shows that the supplier does not reduce his dependence, as he wishes to maintain a close relationship with the customer. This close relationship is the supplier’s link to new contracts. This is also affirmed and identified as a major problem area by practitioners, especially in the context of opportunism. According to managers, this appears to be less obvious with customers positioned in the higher class vehicle production like that of sports cars or products focused on a similar quality. Customer opportunism is strongly influenced by the supplier’s

dependence on the relationship. This is a dilemma for managers: on the one hand, they cannot distance themselves from their customers, because of the risk of losing the relationship. On the other hand, they are vulnerable to the customer's opportunistic actions if they are dependent on the relationship. The model showed that customer opportunism was not influenced by customer dependence. Although this is inconsistent with the theory-based hypothesis regarding the interaction between customers and suppliers, practitioners supported the effect, pointing out that the customer did not fear supplier retaliation. They explained the rejection of the hypothesis in that suppliers generally have more to lose when a relationship ends, as business opportunities are limited to just a few customers. However, the more dependent the customer is, the more the supplier benefits from the relationship in terms of relationship performance. This direct effect can result from a higher turnover with the customer, or the customer's willingness to pay higher margins. Additionally, through opportunism's negative direct effect on relationship performance, it also increases the conflict level which has a negative effect on relationship performance. Surprisingly, the effects of dependence on conflict were not significant, identifying customer opportunism as the main reason for conflict in this setup. The results from the relationship framework and practitioners' support for it suggest that the relationship atmosphere is quite harsh in this industry. Suppliers should be aware of that when dealing with customers. Suppliers should especially pay attention to balancing the positive and negative effects that result from their dependence on their relationship with customers. The supplier should not only try to limit harmful effects from a customer's opportunistic actions, but also ensure that he does not put future business at risk.

### **Implications and limitations**

The conclusions suggest that in the investigated industry, relationships are characterized by aspects of the power-dependence paradigm. This conclusion was supported by practitioners. They explicitly advanced the view that in their industry, this paradigm dominates relationship marketing aspects like trust and relational social norms. Authors such as Yilmaz et al. (2005:245), who suggest a synthesis of the concepts and, thus, an integrated theory of interdependence and trust, have taken the first steps in this direction. Besides the implications from the point of view of dependence when dealing with a customer, the role of innovation is especially relevant from a managerial point of view. As customer dependence is the "lever" that the supplier should apply to improve his relationship performance in this framework, his innovation potential is a possible way of doing so. Their innovative potential can be increased with a differentiation strategy focus. This again stresses the importance of strategic goals and leadership as well as strategy implementation aspects. The practical usefulness of the approach taken in respect of the research questions was discussed with managers who participated in the survey. Given this work's high level of abstraction, these managers generally approved of the chosen research approach. Next, the main findings of this paper are critically revisited. The outcomes of the survey underlie the usual limitations associated with the survey format and the structural equation model method. The conducted tests supported the data, although some measures did not fulfil all goodness criteria, which has to be taken into account when

evaluating the results. In some cases, the need for a more detailed variety of measures was revealed. The sample size of  $n=164$  is at the lower end of comparable research, although one should keep in mind that the sample accounts for more than one fifth of Germany's automotive suppliers. As this paper intended to specifically investigate effects underlying the aspects of strategy in the automotive supply industry, firm size and other structural attributes were not controlled for. This is also a field for more detailed research. The model's results have to be critically evaluated in the light of the study's structure. The survey's strategic aspects refer to all of the supplier's business, while the relationship aspects only refer to the business relationship with the largest turnover. This setup followed the idea that these relationships are the most important for the supplier organization and are representative of other important relationships that might have a smaller turnover. Although probable and also supported by interviewed practitioners, this remains an assumption that demands more attention in future research projects. Care should be taken before this work's findings are generalized. The conclusions are likely to be highly dependent on the industry's setup. This is especially relevant for the findings about the relationship context. Furthermore, this study surveyed only German automotive suppliers. Restrictions with regard to a generalization of the conclusions in respect of the industry in other developed countries are less likely, as the industry is highly globalized. Nevertheless, as previous research shows, restrictions should not be discarded, (e.g., Makino, et al. 2004:1027 and Almeida and Phene 2004:847; Makino, et al. 2004 also state that the topic has only received limited attention in research so far). Innovation was identified as a way for the supplier to increase customer dependence and thereby increase his own performance resulting from the relationship. This is in line with the conclusion that a strategic differentiation focus that is associated with innovation is favourable for the investigated industry.

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## Summary

### STRATEGIC MANAGEMENT ACCOUNTING: HOW TO UNLOCK LOCK-IN EFFECTS THROUGH INNOVATION

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This paper investigates strategy and control’s key effects on relationship performance in German automotive supplier firms, specifically taking the relational aspects into account. In buyer-supplier relationships the more powerful party could exploit the dependent party by means of opportunistic behavior. One possibility of escaping this dependence-trap is to concentrate on innovations. This implies that it is crucial to understand dependencies and the way they affect supplier performance. A SEM model shows that supplier dependence and customer dependence have an equally strong overall effect on relationship performance, but with opposite signs. This provides two different performance-levers: he can lower his dependence, or strengthen the OEM’s dependence.

# **THE USE OF RETURN ON EQUITY (ROE) AND PROFIT MARGIN AS PERFORMANCE MEASURES UNDER THE DISTRIBUTE PROFIT TAXATION REGIME: THE CASE OF ESTONIA**

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## **Introduction**

In 2000 Estonian government experimentally introduced the distributed profit based corporate taxation. Such a system clearly simplified tax accounting for companies (i.e. there is no need for rules concerning tax depreciation, loss carry-forwards or carry-backs, thin capitalization etc), but also created some confusion among practitioners and academicians about how to use financial models and theoretical recommendations found in corporate finance textbooks.

The aim of the current article is to discuss some tax issues associated with the use of return on equity (ROE) and profit margin (net margin) as performance measures under the distributed profit based taxation system. There are a lot of articles dedicated to the study of taxation impact on different aspects of corporate financial management (including capital structure, investment budgeting, payout policy, corporate restructuring etc.<sup>1</sup>) but the number of scientific papers which discuss the impact of different taxation regimes on financial ratios of a company is very limited<sup>2</sup>.

The paper is structured as follows. The first section gives a short overview of different indicators that are used to measure value creation in a company. Next section discusses the most common problems associated with the use of ROE and profit margin as performance measures. Next, the main differences between gross profit corporate taxation and distributed profit corporate taxation will be explained. In the last section we use the example of a hypothetical company to show how company's different payout policies under distributed profit taxation influence company's return on equity and profit margin figures.

## **Return on equity, profit margin and their application**

There are many indicators used to assess company's performance and value creation from different aspects. The frequency of use of a particular indicator may depend on

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<sup>1</sup> For a comprehensive overview of conducted research in the field of taxation and corporate finance see Graham (2003).

<sup>2</sup> To authors' best knowledge one of the recent papers investigating this issue is by A. F. Fox (1992). A. Fox considers problems of taxation and financing when analyzing financial statements. The issue of taxation was discussed in the context of classic system of corporate taxation; the author focused on the influence of dividend policy and advance corporation tax (ACT) on a company's earnings per share (EPS).

various factors: the availability of information, personal analytical skills, the purpose of estimation, quality requirements for analysis etc.

In the literature on corporate finance performance indicators are usually divided into three categories: accounting, economic and market-based (See e.g. Vernimmen (2005), Fernández (2002)). Different indicators arisen during different period of time depending on the evolution of concepts and theories in finance.

**Table 1.** Types of financial indicators measuring company's value creation

Group of indicators	Commonly used indicators	Main problems with application
Accounting	EPS (Earning per Share), EBIT, EBITDA, ROE (Return on Equity), ROCE (Return on Capital Employed)	Manipulativeness of accounting data (window-dressing effect), consistency of accounting value with so-called "real" value, possible calculation biases
Economic	EVA™ (Economic Value Added), CVA (Cash-Value Added), CFROI (Cash Flow Return on Investment), NPV (Net Present Value)	Problems associated with the calculation of cost of capital (WACC), access to company's data
Market-based	MVA (Market Value Added), TSR (Total Shareholder Return), P/B (Price-to-book ratio)	Problems related to the application to non-listed companies, current stock quote <i>versus</i> company's long-term perspectives

Source: Vernimmen (2005), Fernández (2002).

In addition, few modern value creation measurement concepts emerged recently, among them Expectations-based management (EBM) can be named<sup>3</sup>. When applying EBM we compare actual values of company's performance indicators with expected ones. The rationale behind EBM is that a company creates value only when it exceeds expectations of stakeholders – that's why sometimes stock prices of companies delivering worse-than-expected results fall despite solid figures. In this sense, EBM cannot be considered as an additional group of indicators but an additional dimension for performance measurement. (Copeland, Dolgoff 2006)

In the present article we focus on ROE and profit margin and some aspects related with the use of ROE and profit margins indicators in the situation of distributed

<sup>3</sup> Also there are many indicators developed aiming to incorporate both financial and non-financial dimensions of company's performance, like Key Performance Indicators (KPIs)

profit taxation. The main reason we chose these indicators is that profit margin and especially ROE are the most commonly used value creation measurements. Usually based on information from disclosed corporate financial statements ROE and margin-based profitability analysis has few advantages: it does not require specific knowledge and skills, results of analysis are easy to understand and interpret, ratios computation is not time consuming activity. Along with other ratios return on equity and profit margin are used by three main groups (Brigham 1989):

- Managers – they employ ratios to analyze, control and improve operations of a company;
- Security analysts – they use ratios to analyze the value of stock of companies under analysis;
- Credit analysts – bank officers and credit managers analyze ratios to help to ascertain company's ability to repay its debt

It has to be mentioned that ROE and profit margin are used as variables in various econometric models and inputs for stock return prediction models (see, for example, Hall and Brummer (1999), Turk (2006), Luikme (2000)). Many credit default and bankruptcy models (e.g. Altman's Z-score<sup>4</sup>) are based on the use of ROE, net ROA and other profitability indicators from financial statements. Latter necessitates the correct computation of financial indicators both in the phase of model compilation and in the phase of determination of a company's default risk.

Despite their visible advantages return on equity and profit margin suffer of notable flaws. Based on different sources (Brigham, Houston (1999), Libby *et al.* (2001), Lukason (2008)) we can bring out the following aspects regarding ROE and net margin:

1. Resting on historical accounting information. The problem with historical data is that it is outdated and hence may not reflect the current status of affair. In addition, accounting data can be manipulated (window dressing effect) and contain errors. Also inflation and seasonal factors may seriously distort results.
2. The assumption of statics. E.g. if we calculate a company's return on equity then we take net profit as of end of a period and equity measure as of particular date. Hence, we are ignoring the change in equity and net profit over time. This ignorance is especially drastic when company's activities have seasonal nature.
3. Interpretation problems with negative values of accounting entries. If a company A earns –20000 Euro of net loss with equity book value of 100000 Euro, then its return on equity is –20% ( $ROE = -20000/100000$ ). We get the same (mathematical) result of ROE equal to –20% if a company B earns 20000 euro of net income having negative book value of equity –100000 euro (the latter situation is exceptional but not unusual in the case of distressed companies). It is hard to interpret the result for the company B and it is also incorrect to say that both companies have the same return on equity<sup>5</sup>.

<sup>4</sup> For different ratios-based bankruptcy models see e.g. Mensah (1984)

<sup>5</sup> Trimmath (2001) discussed how return on equity may give results contrary to logic during the process of statistical modeling.

4. Due to different national accounting principles and standards it is sometimes inaccurate to compare data on companies from different countries and make conclusions about their relative financial condition. This problem also persists when comparing companies from different industries.
5. One of the important faults of ROE and margin analysis is practically not covered in literature – the impact of difference in taxation regimes on financial ratios, especially if one of the companies under analysis is acting in an environment of distributed profit taxation.

In the next section of the article we explain the main features of distributed profit based corporate taxation. It is necessary in order to understand the impact of taxation system on the formation of financial ratios of a company.

### **Distributed profit based corporate taxation**

The distributed profit based corporate taxation was introduced by Estonian government in 2000. In 2008, a rather similar tax system was adopted by Republic of Macedonia<sup>6</sup>. To date only these two countries operate under distributed profit taxation system.

The main difference between profit based corporate taxation, which is used in most countries, and distributed profit based corporate taxation is that under latter system the moment of corporate taxation has been shifted from the period of earning the profit to the period of distributing it. According to the Estonian tax system, both explicit (dividends) and implicit (fringe benefits, expenses unrelated to business, etc.) distribution of profits are taxed at the same rate. Undistributed profits, on the other hand, are not taxed. Such a system clearly simplified tax accounting for companies (i.e. there is no need for rules concerning tax depreciation, loss carry-forwards or carry-backs, thin capitalization etc), but also created some confusion among practitioners about how to use financial models and theoretical recommendations found in corporate finance textbooks<sup>7</sup>.

The number of papers investigating the economic consequences of distributed profit based tax system is still rather limited. A. Hazak (2006, 2007, 2008) has investigated the impact of distributed profit taxation system on dividend and capital structure decisions of companies. Sander (2005) has studied the tax advantage of debt under the conditions of Estonian income taxation system. The macroeconomic influence of distributed profit taxation system has been researched in several papers including Funke (2002), Funke and Strulik (2003), and Staehr (2005). Different possibilities of

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<sup>6</sup> However, Profit Tax Law of the Republic of Macedonia excludes some assets from profit tax-exempt investments: cars, furniture, audio-visual devices, appliances, pieces of figurative and applied art and other decorative objects used to equip administrative premises. (Profit Tax Law, Chapter VI, Article 31)

<sup>7</sup> For example, the survey conducted among Estonian investment banks and financial advisors has shown no consensus about how to calculate the cost of capital under such system (Sander 2003).

declaration of dividend tax payable in corporate financial statements were considered by H. Lentsius (2005). However none of these papers directly investigated the impact of income taxation system on calculation of ROE and profit margin.

### **The direct and indirect impact of corporate taxation system on ROE and net margin**

The impact of taxation system on financial ratios can be classified into direct and indirect. The direct impact on financial ratios is derived from the fact that corporate income tax affects conventionally<sup>8</sup> net income (and figures containing net income, such as equity and total assets), free cash flow to equity, and through this all related financial ratios. Hence, majority of profitability indicators (including ratios, like ROE, net ROA and net margin), various valuation multiples (primarily, price-to-equity ratio and price-to-book ratio), but also dividend payout ratio, total debt ratio, debt-to-equity ratio and equity multiplier depend on taxation rules applicable.

For net margin corporate income tax affects only one component – nominator of a ratio, in case of ROE both nominator and denominator are affected. Of course, ratios more sensitive to corporate income tax are those with one depending component only – the larger the influence of corporate income tax on a particular component (for instance, net income is influenced by tax rate in larger extent than equity), the more sensitive the ratio is.

In addition to direct relationship between taxes and financial ratios taxation system impacts them indirectly through managerial decisions. Taxation system influences corporate decision-making which results in different set of financial indicators comparing to the situation with no influence of tax. Mostly computation of ratios with indirect effect of taxes needs no adaptations because they reflect decision actually made in a corporation. However, one has to be very cautious comparing indicators of companies from countries with different taxation regimes. One should also keep in mind that financial decisions are often interconnected (e.g. larger payouts to shareholders may imply tiny investment budget or the need for fund raising).

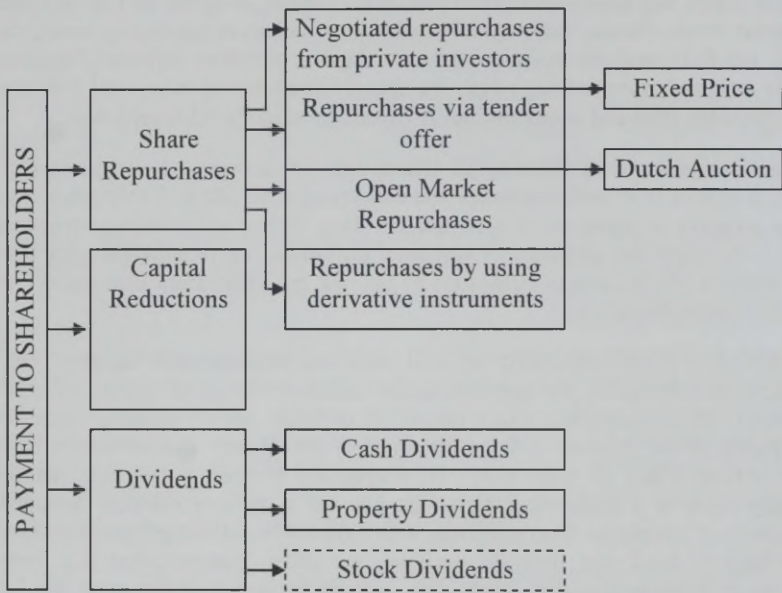
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<sup>8</sup> There have been different approaches used in Estonia to reflect income tax accounted on dividends. In the period of 2000-2002 tax accompanying to dividend payout was reflected in equity account "Retained earnings for previous years" diminishing this account by net dividends and accompanying income tax. Since 2003 income tax has been reflected as a periodical cost in company's income statement (Lentsius 2005). According to the first approach (in reflection of equity reduction) income tax has no direct impact on net income, according to the second approach (as a periodical cost) income tax has a direct impact on the size of net income.

### The effect of a company's payout policy on profitability ratios under the distributed profit taxation

In case of distributed profit taxation the amount of corporate income tax payable and hence net income depends directly on a company's payout policy. This means that ROE and profit margin are also affected by whether, how much and in which form the company makes payouts to its shareholders.

A company has several possibilities to make payouts to its shareholders: cash (or non-cash) dividends, repurchase (redemption) of shares or payouts related with share capital reduction (see the following figure 1)



**Figure 1.** Possible forms of payout (Adapted form: Sander 2008).

Until 2009 the taxation of income related to repurchase of shares and share capital reduction took place on the level of an investor more or less similarly to the taxation of gains from securities sale<sup>9</sup>. Contrary to this, income tax liability related to dividend payout lies on payer, i.e. a company. Even this difference alone means that companies who chose different form of payout would have different financial ratios.

Although since 2009 the taxation of income related to shares repurchase and share capital reduction is brought to a company level (Income Tax Act § 50, section 2), there is difference remaining in how to calculate the amount of income tax payable.

<sup>9</sup> Some exceptions existed in the situation where company made payout to a non-resident investor.

If in case of dividends the basis is “paid out net dividends”, to which tax rate of 21/79 is applicable in 2009, then in case of shares repurchase and share capital reduction only this part of payout is taxed that exceeds shareholders’ depositions into a company (*Ibid.*) Hence the share repurchase is still more beneficial for companies (also, financial ratios are more solid) comparing to payment of cash dividends because it practically allows to postpone the formation of income tax liability to some extent.

The amount of tax payable depends also on a company’s source of payout. If a company pays dividends from the profit originated from the reception of dividends from another company and if a recipient’s ownership in this company exceeded 10% then generally these payouts are not taxed (Income Tax Act § 50, section 1)<sup>10</sup>. Different taxation regime applies to the profit earned in the period of 1994–1999 (ITA § 60, sect. 2, sect. 8)

We illustrate the previous statements with the following hypothetical example<sup>11</sup>. We have a company that has been operating for several years but has not paid dividends to its shareholders. If the company decides not to pay out dividends in the year under consideration then balance sheet and income statement figures would be represented by the following tables.

**Table 2.** A Hypothetical Example-Company: Balance Sheet (‘000 Euro)

	Year ‘00	Year ‘01
Cash and bank reserves	39000	46000
Accounts receivable	20000	25000
Inventories	20000	20000
<b>Total Current Assets</b>	<b>79000</b>	<b>91000</b>
<b>Total Fixed Assets</b>	<b>60000</b>	<b>60000</b>
<b>TOTAL ASSETS</b>	<b>139000</b>	<b>151000</b>
Short-term loan	9000	9000
Accounts payable	10000	12000
Other short-term liabilities	10000	10000
<b>Short-term liabilities total</b>	<b>29000</b>	<b>31000</b>
<b>Long-term liabilities</b>	<b>30000</b>	<b>30000</b>
Share capital	20000	20000
Retained earnings	50000	60000
Net income for the period	10000	10000
<b>Total equity</b>	<b>80000</b>	<b>90000</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>139000</b>	<b>151000</b>

<sup>10</sup> Payouts are taxed if dividends were received from entities located on territories with low tax rate, or if dividends were received from companies with country of origin different from Contracting Party or Swiss Confederation and income tax was not paid on dividends or basic fraction of net income in a country of origin of the company.

<sup>11</sup> The impact of the payout source is not considered in the hypothetical example.

**Table 3.** A Hypothetical Example-Company: Income Statement ('000 Euro)

Sales revenue	120000
Cost of goods sold	84000
Labour costs	12000
Depreciation	5000
Other costs	7580
Operating profit	11420
Financial income	1700
Financial costs (interest expenses)	3120
<b>Earnings before taxes</b>	<b>10000</b>
Income tax	0
<b>Net income</b>	<b>10000</b>

In the observed year the company is allowed to make payouts in the amount of up to 60 Mio Euro or according to the traditional dividend payout ratio definition the dividend payout ratio may fluctuate from 0% to 600%

Payouts to shareholders either reduce company's cash reserves, force the company to sell its assets or raise new capital in the form of debt or equity. Currently we assume that to make payments at first company uses its cash and bank reserves (rate of return on cash and bank reserves is 4% a year) but latter cannot be lower than 6 Mio Euro. If planned payout is larger the company raises new short-term loan (with interest rate at 8%)

In the following table values of selected profitability ratios are presented in the situation where hypothetical company decides to retain profit (both under DPT and GPT regimes), and minimal and maximal values of ratios in the situation of DPT over possible dividend payout ratios and schemes.

**Table 4.** A Hypothetical Example-Company: Profitability Ratios Under Different Scenarios

Financial Ratio	Value of the ratio when no payments are made		Lowest possible value under DPT	Highest possible value under DPT
	Under DPT	Under GPT		
Profit margin	8.33%	6.56%	-6.90%	8.33%
Net ROA	6.90%	5.47%	-6.62%	7.36%
ROE	11.76%	9.37%	-18.06%	15.38%

In the situation where the company does not make payments to its shareholders its profitability ratios are expectedly better (i.e. profitability ratios are higher and risk level is lower) when earnings are taxed at the moment of distribution.

If we assume that tax depreciation equals accounting depreciation and there are no other tax accounting rules that distort the size of net income, then the net income under gross profit taxation regime is lower than under distributed profit taxation

regime in all occasions except when company distributes more than 100% of its net income as gross cash dividends (the latter case is more of exception as a rule, since such behaviour is clearly not sustainable).

Differences in financial ratios of two similar companies operating in different taxation systems arise also because of the fact that in case of distributed profit taxation the moment of taxation is shifted to the period when payments are made to shareholders. Even if all the profit earned is paid out and this policy is followed consistently time shift causes difference in financial ratios.

We can illustrate this developing our example with the hypothetical company and calculating forward profit margins and ROEs<sup>12</sup>. For this purpose *pro-forma* financial statements (balance sheet, income statement and cash-flow statement) were compiled on the following assumptions:

- Sales growth – 0% and 5%
- Gross margin – 30%
- Labour costs, other costs and other short-term liabilities do not change
- Annual depreciation rate – 8.33%
- Annual interest rate on deposit – 4%
- Annual interest rate on loan – 8%
- Dividend payout ratio – 100%
- The length of conversion cycles (in days): Accounts receivable – 75, Inventories – 105, Accounts payable – 60.

The company's development was modelled under 2 scenarios: 1) the company operates under GPT, 2) the company operates under DPT. Results are presented in Table 5.

In the case with no sales growth both ROEs and net margins under GPT and DPT become equal in the long-run. Once the growth of sales is different from 0% ROEs and profit margins become different. If the company operates under DPT its ROE and net margin are higher due to time shift mentioned previously. However, in sufficiently long-run the difference between  $ROE_{GPT}$ , and  $ROE_{DPT}$ , also between profit margin<sub>GPT</sub> and profit margin<sub>DPT</sub> approaches to zero.

<sup>12</sup> It has to be remembered that ROE can be computed using different approaches. One can use current year equity, last year equity, or average of two equity indicators in denominator. As a result, different approaches cause different biases (upward or downward, depending on a company's performance during a year). We used the following formula for ROE:

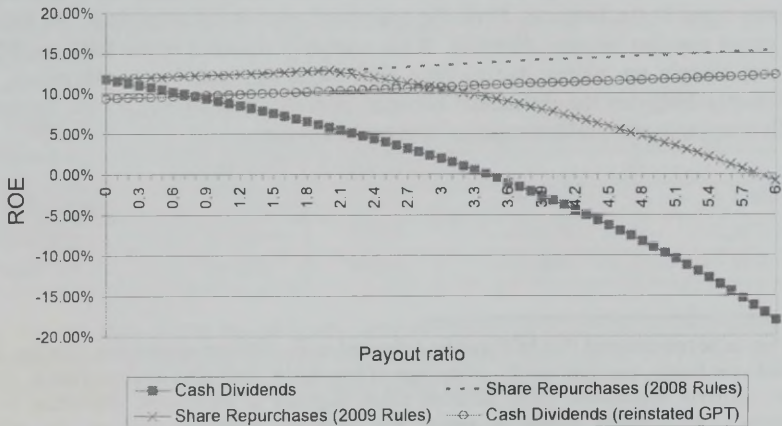
$$ROE_t = \frac{Net\ income_t}{\frac{1}{2} \cdot (Equity_{t-1} + Equity_t)}$$

**Table 5.** The dependence of return on equity and profit margin on sales growth and tax regime

Annual Sales Growth	Profitability Indicator	Year		
		1	5	10
0%	ROE <sub>GPT</sub>	9.77%	9.72%	9.72%
	ROE <sub>DPT</sub>	9.02%	9.72%	9.72%
5%	ROE <sub>GPT</sub>	9.77%	16.45%	25.09%
	ROE <sub>DPT</sub>	9.02%	16.81%	25.46%
0%	Profit margin <sub>GPT</sub>	6.42%	6.28%	6.28%
	Profit margin <sub>DPT</sub>	5.90%	6.28%	6.28%
5%	Profit margin <sub>GPT</sub>	6.42%	9.34%	12.41%
	Profit margin <sub>DPT</sub>	5.90%	9.58%	12.65%

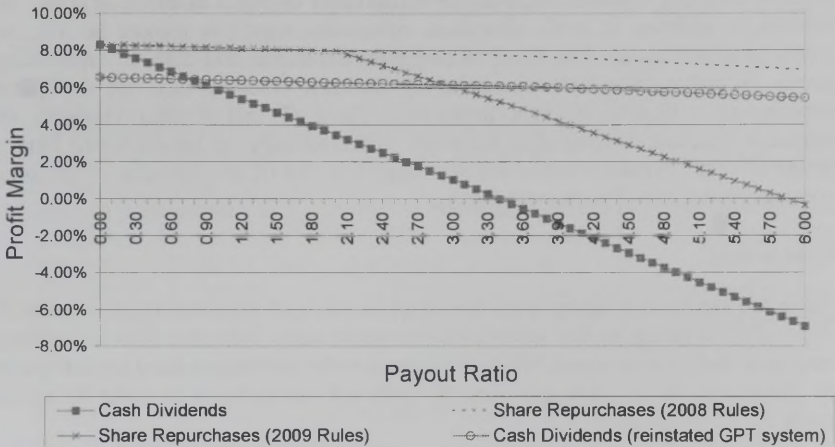
All the cited above we have to keep in mind when comparing performance ratios of companies operating in different taxation systems. But problems arise not only when we compare companies operating under different taxation systems. Differences in companies' payout policies make it hard to compare different companies even in domestic context; also it becomes difficult to interpret various financial ratios.

The ROE of our hypothetical company will be 11.76% if it doesn't make payments to shareholders during the period under observation. If the company pays out all the net income for the last period ROE will fall to ca 9%. If the company decided to pay out as cash dividends all the free equity (in amount of 60 Mio Euro), the company would be in a deep loss in the observable period and ROE would fall to -18%. However, the last scenario does not mean that the company operated poorly. The net loss is related to the matter that company's shareholders decided to take out all the free equity.

**Chart 1.** The Dependence of ROE on Payout Ratio under Different Payout Schemes.

If the same amount (60 Mio) was paid out through shares repurchase then the company would be able to show return on equity of 15.38% before the enactment of the changes to the Income Tax Act in 2009, i. e. the payout to shareholders would increase return on equity quite significantly<sup>13</sup>.

The dependence of profit margin on payout ratio under different scenarios is illustrated on the following chart.



**Chart 2.** The Dependence of Profit Margin on Payout Ratio under Different Payout Schemes.

If the company doesn't make any payments to its owners during the period under observation profit margin will be 8.33%. If all the net income for the last period is paid out, profit margin will fall to 5.90%. In case all the free equity is paid out, net margin will fall to a level of -6.90%. But again, it is not the evidence of a company's weak performance.

So, not only decision whether to make payments to shareholders or not, but also the payment scheme affects the value of a financial ratio. In the process of thorough and detailed performance evaluation different relationships between figures usually should become apparent but profitability indicators are often used in large-sample scientific researches or to rank companies where it is impossible to figure out what's behind the value of one or another financial ratio. In these cases it would be better to use indicators less influenced by tax aspects, like total return on assets (EBIT/A), pre-tax earnings ratio to equity and operating margin (EBIT/Sales). In our example, the first indicator varies from 9.05% to 9.86% that is remarkably less comparing to

<sup>13</sup> According to the rules of share repurchase taxation effective since 2009 similar payout would mean the decrease of return on equity to -0.84%.

ROE – that's why it suits better to characterize ability to earn profit<sup>14</sup>. Also, the ratio of pre-tax income to equity is considerably less sensitive to payout policy chosen comparing to ROE varying in the range of 11.7% – 16.72%. Operating margin varies in the range of 10.27% – 10.93% that is less in comparison to profit margin variability.

Of course utilization of pre-tax profitability ratios as a solution is not flawless because company's income tax does not depend only on profit distribution policy. In Estonia, in addition to profit allocation, companies must pay income tax e.g. on fringe benefits (Income Tax Act § 48), on gifts, donations, and costs of entertaining guests exceeding marginal rates fixed by the state (Income Tax Act § 49), on expenses not related to business (Income Tax Act § 51) and on other payments not related to business (Income Tax Act § 52). When focusing on pre-tax profit figures series of other expenses and costs are frequently out of consideration – in some companies they are of permanent nature.

## Conclusions

There are plenty of financial indicators used to measure company value creation. It is possible to group all the performance measurement indicators into accounting, economic and market-based. While there are specific problems related to each group of indicators, all of them are used by different stakeholders in order to assess company's performance.

Return on equity and profit margin (net margin) are used for several purposes: an assessment of a company's financial condition, companies ranking and as variables in various econometric models. The literature on accounting profitability indicators has not considered so far the situation where principles of distributed profit taxation are applied when taxing company's earnings. Estonia implemented these principles in 2000 as a result of taxation reforms, and is one of the few countries in the world where such a system exists.

Postponing the moment of a company's profit taxation from the date of earning till the date of its distribution results in improving of both ROE and net margin in majority of the companies automatically (with the level of risk decreasing). ROE and profit margin are very sensitive to the scheme and amount of payout under distributed profit taxation rules. Because of that correct conclusions can be made only in case if we are precisely aware of a company's profit distribution decisions. Frequently mutual comparison of performance of companies operating in different taxation systems or within the same taxation systems but with different payout policies is aggravated. One of the alternative solutions would be construction and utilization of financial ratio with lower level of sensitivity to selected profit distribution policy.

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<sup>14</sup> Certainly it would be more sensible to differentiate the return on financial assets and core business related assets.

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## Summary

### THE USE OF RETURN ON EQUITY (ROE) AND PROFIT MARGIN AS PERFORMANCE MEASURES UNDER THE DISTRIBUTE PROFIT TAXATION REGIME: THE CASE OF ESTONIA

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In 2000 Estonian government experimentally introduced the distributed profit based corporate taxation. Such a system clearly simplified tax accounting for companies, but also created some confusion among practitioners about how to use financial models and theoretical recommendations found in corporate finance textbooks. The aim of the current article is to discuss some issues associated with the use of return on equity (ROE) and profit margin as performance measures under the distributed profit based taxation system.

As corporate income tax under the distributed profit taxation regime depends on the dividend policy of a company, ROE and profit margin values too are affected by company's dividend policy. There are also secondary effects that stem from the fact that taxation system affects company's decisions, which in turn affect financial ratios. These aspects hinder the comparison of financial ratios between companies and between different time periods considerably.

Postponing the moment of a company's profit taxation from the date of earning till the date of its distribution results in improving of both ROE and profit margin automatically in majority of the companies. ROE and profit margin are very sensitive to the scheme and amount of payout under distributed profit taxation rules. Because of that correct conclusions can be made only in case if we are precisely aware of a company's profit distribution decisions. One of the alternative solutions would be construction and utilization of profitability indicators with lower sensitivity to company's dividend policy.

**Section III**  
**ACCOUNTING AND ACCOUNTABILITY**  
**IN THE PUBLIC SECTOR**

# THE ROLE OF THE INSTITUTIONS FOR AUDITING IN THE PUBLIC SECTOR – THE CASE WITH THE REPUBLIC OF MACEDONIA

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## Introduction

After the disintegration of Socialist Federative Republic of Yugoslavia in 1991, Republic of Macedonia (RM), together with the other constitutive members of the former federation has started the long and unpredictable way of transition towards market economy and from single-party to plural political system. At the same time identical processes begun in the countries from Central and Eastern Europe. At the very beginning of the transition process in RM the primary attention was focused on enterprise privatization with public capital. The privatization was supposed to attract foreign direct investments and capital which will represent a strong impulse in the economic development. But, the experiences from the beginning of the privatization showed that the foreign investors are facing serious problems in understanding of the presented financial statements of domestic business entities. Considering the fact that in condition of state owned entities between 1945 and 1990 there wasn't a need for annual statutory audit of the entities, the absence of auditing reports as a component of the annual statements additionally burdened the credibility of data presented. Such conditions had urgently imposed the need for reforms in the accounting system with intention to make it closer with the ones in the developed market economies. The auditing profession was not excluded from these reforms. But, unfortunately, in the period 1990–1997 it was on the margins of the reforms conducted. The complete marginalization of the auditing profession during the complex process of privatization left a space for manipulation by the severe managers of the business entities, who, after the conducted privatization, became owners of the privatized entities. Among the employees in the privatized entities a suspicion was left in the regularity of the conducted process of privatization and the possible frauds made by the managers themselves. The non-conduction of the auditing of business entities before their enrolment into the privatization process, as well as the absence of auditing of the privatization process itself, resulted in mystery in the regularity of the complete process which still exists in a vast majority of privatized entities. Even one decade after the completion of the first wave of privatization, numerous dilemmas are left unsolved, especially related to the financial repercussions from the non-transparent conduction of the privatization. The consequences from such reforms are still felt especially in the segments in which the auditing mechanisms are either absent or not functioning successfully.

The initial step for creating the needed ambient for establishing the audit profession in RoM was made after the post-privatization period. More precisely, in December 1997 the Auditing Law was passed as well as the State Audit Law (SAL). By the audit laws for the first time in RoM was established an ambient for creating an auditing profession with attributes immanent for developed market economies. Considering the fact that in the Auditing Law and SAL was expressed the clarification for accepting and implementing the international regulation as a substitute of the national one, in 1998 the Ministry of Finance has translated the IAS of IFAC and INTOSAI Auditing Standards. The experience from the last nine years showed that acceptance of the international professional regulation is an easier way and it is already behind us (Bozinovska Lazarevska Z. *Auditing*, 2001:583).

In the meantime, on April 9 2001, RoM became the first country in the region which signed the Stabilisation and Association Agreement (SAA) with the EU and its Member States. The SAA was ratified by the Parliament of RoM on 13 April 2001, what confirmed the strategic interest of RoM for political devotion for integration in the European structures. SAA, as well as the Temporary Agreement with EU which was made in force on 1 June 2001, consist a clear determined obligations which RoM should fulfill in order successfully to complete the road towards the integration in the EU. Article 68 from the SAA clearly presents the liabilities for harmonizing the domestic legislation with the EU legislation creating own experiences and directions for this process.

The need for existence of a healthy auditing profession is also mentioned in the Article 83 – Banking, Insurance and other Financial Services from the brought Law for ratification of the SAA between RoM and EU and its Member States, signed on 9 April 2001 in Luxemburg as a reflection of the RoM's wishes and intensions for it's integration in the European family. According to the mentioned article, the parties will collaborate in order to set and develop a suitable frame for motivation of the banking, insurance and the sector of the financial services in RoM. The collaboration, between all other aspects, will be directed toward adoption of a common accounting system, adjusted to the European standards. (*Agreement for stabilization and association between Republic of Macedonia and EU and its Member States*, 2001:56).

The application for membership of RoM in EU was submitted on 22 March 2004 in Dublin, Republic of Ireland. SAA between EU and its Member States and RoM entered in force on 1 April 2004. In June 2004 the Agreement of the EU Council has been passed for the principles, priorities and conditions contained in the EU partnership with RoM. In October the EU Commission has submitted the questionnaire to the Government of RoM. On 14 February 2005 the answers of the questionnaire have been submitted and on 9 November 2005 a positive answer has been received for suggestion of candidate status with additional determination of the standards to be fulfilled in the meantime.

In the answer of the questionnaire the need for fulfilling the EU criteria is being emphasized by the candidate country, between which is the acceptance of *acquis*

communautaire which has 31 chapters. Bringing and conducting of the relevant components of chapter 5 (Companies Law) of the *acquis communautaire* related to accounting and audit is the key part of all activities predicted in the Countries Action Plan (CAP), adopted in June 2006 by the Steering Committee appointed by the Government of RoM. Considering the fact that joining the EU is conditioned by accepting the *acquis communautaire*, the Government of RoM passed new Auditing Law on 16 September 2005. In the fundamentals of the new law is the proposed new Eight Company Law Directive. On 6 June 2006, by Government decision, changes and additions were made in the State Audit Law. In the spirit of started processes for integration in the EU, the implementation of the laws and respecting of the standards and ethical norms should allow significant improvement of the auditing quality and opening the process of harmonization of the domestic audit profession of EU to the one in the European family.

Despite the endeavors made in the post-privatizing period for establishing the audit profession in the accounting infrastructure, the World Bank reports for the flow of the reforms in RoM point to the weak results in the recent governments in the beetle with corruption and organized crime. Thus, eighteen years after the transition the biggest problem of the RoM Government is the creation of an ambient for economic, efficient and effective utilization of the budget as well as of the funds secured through projects and donations with elimination of the possible criminal activities. The slow institutionalization and staffing of the State Audit Office (SAO) left vacuum in which the severe represents of the government could secure a worthy property on behalf of the budget obligators through not respecting the Public Procurements Law and nontransparent utilization of the budget funds.

Recent experience shows that the beetle with the corruption understands efficient functioning of the SAO. In the further part of the paper we'll give a detailed presentation of the role and activities of this institution from aspect of their contribution towards the increased value in the utilization of budget funds in RoM.

### **The establishment of the State Audit Office in the accounting infrastructure of RoM**

The SAO, as a supreme audit institution, is established by parliamentary act and by the SAL from 1997 and its additions (in 2003 and 2004). The practical functioning of SAO has started at the beginning of 1997 with 9 employees undertaken from the Direction for Economic-Financial Audit in the frames of the Payment Operation Service. SAO is being managed by the General State Auditor elected by the Parliament of RoM with 10 years mandate.

As previously mentioned, the legal framework of the governmental audit and the SAO working are being established in the SAL, which is based on the basic principles of the Lima Declaration for the leading directions for auditing principles.

According to items 1 and 2, Article 2 from the SAL, the term governmental audit refers to examination of the documents, papers and reports from the completed internal control and internal audit, the accounting and financial activities, electronic data and information systems and other evidence from point of view whether the financial statements truly and objectively represent the financial position and the result from financial activities in accordance to the accepted accounting policies and accounting standards. The governmental audit also represents a procedure of examining the financial transactions which represent state expenses according to the legal and strict use of the funds. Also, according to item 1 Article 3 from the SAL, it includes grading the use of the funds from aspect of the economy, efficiency and effectiveness achieved (*Official gazette of RoM 19/04*).

The delicate mission of SAO is related to examining and improving the regularity, accountability, economy, efficiency, effectiveness and integrity of the subjects who manage the public funds (*Strategy for development of the SAO 2006–2010, 2006*). Closely related to the mission is the vision of the SAO's activities according to which it is expected that it should be carrier of the promotion in the process of managing public finance, accountability and transparency in operating of the legal, executive and judicial government through suggesting solutions that are economic, efficient and effective.

Subjects of governmental audit in RoM defined by the Law are: the budget of RoM, the budgets of the units of local self-management, budgets of the funds, users and unit users of budget funds, the public enterprises, the National Bank, entities in which the state is a dominant stockholder, political parties financed with budget funds, agencies and other institutions founded by law, other institutions financed by public funds and the uses of EU funds and other international institutions. The governmental audit is conducted according to the dynamics defined by the annual program of SAO and is obligatory conducted once per year for the budgets, users of budget funds of RoM and the budgets of the self-management units, the public enterprises founded by RoM and the political parties financed by budgetary funds. All other subjects are audited in accordance to the SAO's annual program (*Official Gazette of RoM, 19/04*). When selecting the auditing subjects and planning the auditing engagements, SAO considers the potential risk of the subjects. In conducting the governmental audit activities related to planning and executing the audit according to Articles 11 and 11a from SAL, SAO is obliged to submit: (1) Annual report for conducted audits and for its work; (2) Current audit reports with the findings for significant irregularities; (3) Quarterly reports for achieving the indicators for following and estimating the success in realizing the working program which is part of the annual report. (*Official Gazette of RoM, 19/04*). The annual report is submitted to the Parliament of RoM most lately seven months after the expiration of the date for submitting the annual financial statements.

During its 12 years existence, SAO relatively successfully has been solving the problem of its human resource equipping. Thus, from the moderate 9 employees at the beginning of its work, by 31 December 2007 the number of employees is

increased at total of 91. This was fulfilled according to the following dynamics presented in Table 1.

**Table 1.** Dynamics in the human resource equipment in the SAO between 1999–2007

Year	Number of employees
31.12.1999	9
31.12.2000	17
31.12.2001	21
31.12.2002	45
31.12.2003	59
31.12.2004	68
31.12.2005	76
31.12.2006	79
31.12.2007	91

Source: Annual reports of SAO, 1999–2007.

Considering the changes in the SAL from which new functions in SAO arose (implementing performance audit and following the measurements and recommendations from the audit reports), starting from 1 January 2006 SAO uses a new organizational structure consisted of 11 organizational units:

- (1) Department A – Audit of Central budget of the RoM, the Bodies founded under the constitution of the RoM, the Ministry of finance and it's integral bodies, the National bank of the RoM, political parties, other budget users, users of EU funds and other international institutions;
- (2) Department B – Audit of the state institutions, the spending units of the budget of the RoM and other users of the Central budget of the RoM;
- (3) Department C – Audit of the funds and funds users (budget of the funds), judiciary budget and the judiciary budget users;
- (4) Department D – Audit of the public enterprises, institutions founded by law, enterprises where the government is dominant shareholder and other institutions financed by public funds;
- (5) Department E – Audit of the government body authorized for following the development of the local self-government units of the local self-government units budget;
- (6) Department for performance audit;
- (7) Department for development, strategic planning and international cooperation;
- (8) Unit for internal audit;
- (9) Unit for IT and IT Audit
- (10) Unit for legal and administrative matters and human resources
- (11) Unit for financial and accounting matters

Besides the existing organizational units, mentioned above, an Audit authority for pre-accession EU funds in RoM, as a functionally independent audit body from all

actors in the management and control systems has been designated within the general platform of the SAO since 31 July 2007. The Audit authority is responsible to audit the Instrument for pre-accession assistance in order to verify: the effective functioning of the management and control systems and the reliability of accounting information provided to the European Commission.

If we draw a parallel between the potential auditing subjects, who according to the law on the annual bases should be audited, with the number of available staff, without any obstacle can be concluded that there is a lack of auditors working in the SAO. Therefore, equipping with quality staff remains one of the priorities of SAO in the forthcoming period.

### The role of the State Audit Office in the transition period

In interest of explained presentation of increased role of SAO as a watch dog in the legal and appropriate use of tax obligators funds, we'll present in detail the most up-to date information for the undertaken activities by the governmental auditors which refer to 2007. The data for 2008 are still in phase of preparation and processing.

On the bases of the previously elaborated scope of activities and staffing, analyzing the activities and measurements undertaken by the SAO in direction of realizing the Annual program of SAO for determining the level of conducting the activities of governmental audit for 2007, we present the following data in table 2.

**Table 2.** Summary of planned and executed audits in 2007

Description	Planned audits	Conducted audits	Published audit reports
<b>A. Annual Program for 2007</b>	<b>92</b>	<b>89</b>	<b>170</b>
I. Financial audits	85	82	167
1. Audit of financial statements for 2006	83	80	166
2. Audit arrangements with special purposes	2	2	1
II. Performance Audits	7	7	3
<b>B. Annual Program for 2006 (financial statements for 2005)</b>	<b>9</b>	<b>9</b>	<b>18</b>
<b>Total</b>			<b>188</b>

Source: Annual Report 2007, SAO of RoM, September 2008, p.11.

The main reasons because of which the three financial audits failed to be executed in 2006, i.e. the main reasons for 96.74 % realization of the programme, are the following:

⇒ Allocation of several experienced auditors in the Audit Authority for pre-accession funds from EU in RM.

⇒ Interim engagement of the auditors from the departments for financial audit to some not planned, urgent and imperious activities.

The analyses of the data from the last few years, about the execution of the planned audits, indicates to the fact that the total number of audits related to 2007 – 188, exceeds the average for the period of the last four years – 182 audit reports.

The significant increase of the scope of SAO's activities in 2007 compared to 2006 is result of the increased number of employees, as well as of their proactive involvement in educative Twinning projects with relevant institutions from the Netherlands, USA and Canada.

During analyzing the activities of SAO and their contribution towards increased value in utilizing the budget funds, we considered that especially important is to point out the nature of the discovered anomalies presented in the final reports. Thus, the reforms in the accounting system in RoM requested urgent implementation of accounting standards in the process of financial reporting, what has implemented the need of fast and quality education of the employees in the accounting with accent on their proper use. The experience from the previous years of implementation of the accounting standards while preparing the financial statements shows various weaknesses in their proper use which are result of the slow adjustment of the domestic legal regulation in the scope of financial reporting to the accounting standards and the slow and inadequate education of the accounting staff. Also, the current Public Procurement Law leaves space for speculative behavior of the individuals in charge for the vast majority of procurements from the budget funds and units of local self-management in RoM. The summary from the key findings in the final reports and their percentage participation in the structure of the total findings is presented in Table 3.

In the overall structure of the isolated findings the most prevalent are those ones related to inadequate use of acts and inadequate use of accounting policies and practices, which are present in the 98 out of the total of 143 reports where the findings are established, i.e. 68.5% of the reports. Also, there might be noted the frequency of the findings that refer to presentations in the Balance sheet, and the disrespect of the Law on public procurement is contained in any alternate report. During the examination of the manner the procedures for public procurement are conducted, the auditors found disrespect of the Law on public procurement: procurement realized without previous conduction of a procedure, inconsistent conduction of the procedures prescribed for the public procurement and non conduction of the procedure for public procurement of small amounts. Among the total number of findings (1099), the greatest part are made on the basis of inadequate use of accounting policies and practices, to which are related 21% of the total amount of findings.

**Table 3.** Summary of findings in the audit reports by type and their percentage participation in the structure of the total findings for 2006

Type of finding	Fundings		Statements with fundings	
	Number	%	Number	% from total number of statements with fundings (143)
Inadequate use of acts	175	15.9	98	68.5
Inadequate use of accounting policies and practices	231	21.0	98	68.5
Non functioning of internal controls	142	12.9	68	47.6
Irregularities in the presentation of revenues/expenses	51	4.7	46	32.2
Irregularities in presenting the Balance Sheet items	180	16.4	87	60.8
The expenditures made without previous provision of budget resources/financial plan and contrary to the laws and regulations	132	12.0	66	46.2
Disrespect of the provisions of the Law on public procurement	188	17.1	82	57.3
<b>Total:</b>	<b>1,099</b>	<b>100,00</b>	-	-

Source: Annual Report 2007, SAO of RM, September 2008, p. 15.

The isolated anomalies in the audit reports point to the fact that the governmental auditors in RoM in most of the cases are facing with the problem of economic, efficient and effective use of the citizen resources, meaning the budget funds. These conditions impose the question why many years in return the governments in RoM do not undertake sanctions against the breakers of the laws or their changes by which the space for achieving personal benefits on behalf of all participants in the budget will be significantly reduced. The answer of this question under pressure by the Anticorruption commission must be given by the Government. It is logic that the existing Government of RoM to offer precise solutions all in order to eliminate the possibilities for deviate behavior of the individuals in future and their illegal enrichment on behalf of the citizen, as well as to undertake precise measurements for their adequate sanctioning.

For the purpose of exceeding the weaknesses and irregularities that the auditors came up to in the course of execution of the audits, the audit reports contain relevant recommendations. They are systematized by types, analogous to the grouping made in relation to the findings.

In the audit reports related to the financial audits executed in 2006 are given 1.012 recommendations, presented in the table 4.

On the basis of the data shown above, we may conclude that the greatest part of the recommendations – 25.5% given refers to the elimination of the determined irregularities related to the usage of the accounting policies and practices. What concerns the disrespect of the provisions of the Law on public procurement, the audit reports in the great part contain the recommendation for consistent application of the provisions of the Law on public procurement in all the phases, which would ensure the transparency, equality and competition when selecting the most favourable supplier. Because of this, they take only a small part in the overall recommendations (9.6%) in comparison to the greater number of determined irregularities (17.1%).

**Table 4.** Summary of the recommendations by types of findings related to financial audits for 2006 godina

Type of finding	Number of recommendation	%
Inadequate use of acts	189	18.7
Inadequate use of accounting policies and practices	258	25.5
Nonfunctioning of internal controls	109	10.8
Irregularities in the presentation of revenues/expenses	63	6.2
Irregularities in presenting the Balance Sheet items	166	16.4
The expenditures made without previous provision of budget resources/financial plan and contrary to the laws and regulations	130	12.8
Disrespect of the provisions of the Law on public procurement	97	9.6
<b>Total:</b>	<b>1.012</b>	<b>100,00</b>

Source: Annual Report 2007, SAO of RM, September 2008, p. 25.

According to the reporting standards of INTOSAI, the statutory auditors in their reports can express four basic forms of opinion. The form of expressed opinion in major part talks about the proper implementation of the accounting standards and accepted national regulation in true and fair presentation of the financial statements of the audited entities. After the findings and issued final reports in 2006, the following types of auditor's opinion have been expressed for the financial statements and the legal and purposeful use of the funds, presented in Table 5.

From the summary of the types of expressed opinions presented above, we may conclude that there are 13 audit reports in which the opinion is expressed separately for certain financial reports (balance sheet and income statement). In 12 reports there is no opinion expressed for the appropriate and legal usage of the resources of the self-government units, because the usage of the intended subsidies regarding the legality and predetermined purpose, is possible only through the final beneficiaries of the budget resources of the self-government units.

**Table 5.** Summarized review of the types of expressed opinion in the audit reports for financial statements audits in 2006

Type of expressed opinion	Number of expressed opinion	
	try and fair financial statements	For legal and purposeful use of funds
Unqualified opinion	46	66
Qualified opinion	39	49
Adverse opinion	46	3
Disclaimer of opinion	22	36
<b>Total:</b>	<b>153</b>	<b>154</b>
Reports in which there is no opinion expressed	-	12
Reports in which the opinion is expressed separately for the balance sheet and separately for the income statement	13	-
<b>Total:</b>	<b>166</b>	<b>166</b>

Source: Annual Report 2007, SAO of RoM, September 2008, p. 28.

The analyses of the data presented in table 5, indicates to the fact that among the opinions expressed for the financial statements, the unqualified and adverse opinion for the financial statements are equally presented (with 30 %) in the structure of the overall types of opinions expressed in the audit reports.

Regarding the appropriate and legal usage of the resources, the unqualified opinion is substantially more present – 42.9% in comparison to the adverse opinion – 23.4 %. The assessment for more favorable opinions for the appropriate and legal usage of resources vis-à-vis the opinions on the financial statements, confirms the representation of the disclaimer of opinion. Namely, in 14.4 % of the reports related to the financial statements there is a disclaimer of opinion expressed, vis-à-vis 1.9% of the reports related to the legal and appropriate usage of resources.

Analyzing by years, the trend of the unqualified opinion for the legal and appropriate usage of the resources is upward. In the last three years, its part is increased from 27.4% in 2004 to 42.9% in 2006, which is followed by approximately the same decline of the disclaimer of opinion to which is related only 1.9% of the opinions expressed in 2006.

In the table 6 is presented a detailed summary of the types of opinions expressed in the audit reports regarding the appropriate and legal usage of the resources at the auditees for the period 2001–2006.

**Table 6.** Summary of the audit opinions by years – audit of the appropriate and legal usage of the resources

Type of expressed opinion	Audit of financial statements						%					
	2001	2002	2003	2004	2005	2006	2001	2002	2003	2004	2005	2006
Unqualified opinion	***	***	***	48	69	66	***	***	***	27.43	32.55	42.86
Qualified opinion	***	***	***	49	77	49	***	***	***	28.00	36.32	31.81
Disclaimer of opinion	***	***	***	8	7	3	***	***	***	4.57	3.30	1.95
Adverse opinion	***	***	***	70	59	36	***	***	***	40.00	27.83	23.38
<b>Total:</b>	***	***	***	<b>175</b>	<b>212</b>	<b>154</b>	***	***	***	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
Reports in which there is no opinion expressed				4	9	*12						
<b>Total:</b>				<b>179</b>	<b>221</b>	<b>166</b>						

What regards the opinions on the fairness and objectivity of the financial statements, the downward trend of the adverse opinion continues, but it is substantially decelerated (30.1% in 2006, 31.3% in 2005 and 42.7% in 2004) Slight decline is noted in the qualified opinions which representation is approximately 25% during the whole period.

The table 7 provides detailed summary of the types of opinions expressed for the financial audit executed at the auditees for the period 2001–2006.

**Table 7.** Summary of the audit opinions by years –audit of financial statements

	Audit of financial statements						%					
	2001	2002	2003	2004	2005	2006	2001	2002	2003	2004	2005	2006
Unqualified opinion	8	17	51	38	72	46	8.42	11.11	27.27	21.35	33.64	30.07
Qualified opinion	23	34	43	46	56	39	24.21	22.22	22.99	25.84	26.17	25.49
Disclaimer of opinion	2	13	13	18	19	22	2.11	8.50	6.96	10.11	8.88	14.37
Adverse opinion	62	89	80	76	67	46	65.26	58.17	42.78	42.70	31.31	30.07
<b>Total:</b>	<b>95</b>	<b>153</b>	<b>187</b>	<b>178</b>	<b>214</b>	<b>153</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
Reports in which there is no opinion expressed	-	1	3	1	1	-						
Reports in which the opinion is expressed separately for the balance sheet and separately for the income statement	-	-	-	-	6	13						
<b>Total:</b>	<b>95</b>	<b>154</b>	<b>190</b>	<b>179</b>	<b>221</b>	<b>166</b>						

In comparison to the previous year, the unqualified opinion is decreasing, but in comparison to the conditions at the beginning of the period, its representation is increased for more than three times (8.4% in 2001, in 2003 there was the highest increase – 27.3% and 30.1% in the current year). The data indicate to the conclusion that for the last six years the objectivity in presentation of the financial statements and that the result from the financial activities at the auditees in RM have been improved in accordance to the accepted accounting principles and accounting standards.

The analysis of the structure of expressed recommendations for corrective actions only confirms the previously stated aspect that the new Government of RoM has a serious mission in front in respecting the SAO's reports and in activating all the necessary mechanisms in eliminating the shown weaknesses and to create ambient for their reduction in future. The recent experience from the existence of GAO shows that the governmental auditors has completed their delicate tasks in a quality manner, in major part, and have presented their findings with courage and arguments in the reports distributed to the Parliament of RoM with precise quantification in monetary units of the findings for separate auditing subjects and segments of the report. The uneconomic, inefficient and ineffective working of the auditing subjects which is measured in more million euros on an annual level is a serious warning signal which SAO emits toward the judicial organs for undertaking urgent action. But, the experience in all previous years of successful functioning of SAO shows certain reduction of undertaking such types of activities for treating the liable individuals. By planned reforms in the judicial system, it is real to expect the chain which is missing to start functioning and to feel the positive vibrations from the operation of the SAO at each tax payers who have extremely high expectations from the governmental auditors.

### **Perspectives in the development of the State Audit Office in the spirit of integrating processes toward the EU**

After the establishment of the fundamentals of the statutory audit in RoM, the SAO proceeds with successful implementation of its activities in one of the most sensitive segments in the economies in transition – respecting the laws in working and economic, effective and efficient use of public finance. The leading directions for auditing principles contained in Lima Declaration which leads to knit and efficient use of the public funds is one of the primary criteria for proper management with the public finance and making effective decisions by competent individuals in the public sector, and they're found in the SAO's fundamentals. In bases, SAO has for an aim to discover the divergences from adopted standards and the damages of the principles of lawfulness, efficiency, effectiveness and economy in the managing and using the public funds all in order to undertake corrective measures in individual cases, to make the responsible parties to accept the liability, to secure a refund or to undertake steps by which such damages will be eliminated or burdened in future. The SAL which establishes a framework for SAO's operating makes discrepancy from the Lima Declaration principles (IX-Congress of INTOSAI) in the following two

aspects: (1) the independence of SAO is not established in the RoM Constitution and (2) SAO doesn't have any financial independence. With the changes in the ambient in which SAO functions, it is realistic to expect the following changes in the SAL in order to achieve complete harmonization with Lima Declaration:

SAO is member of INTOSAI from 29 April 2001. In phase is the procedure for entering of SAO into EUROSAL. In the forthcoming period it is expected to make initial contacts with the European court of auditors, as one of the nine EU institutions. Associating in INTOSAI and EUROSAL gives the opportunity for participating into their bodies and active enrollment in their work, what together with the planned contacts with the European court of auditors and the Supreme auditing institutions from the Balkan and Central and Eastern European countries will secure improvement of the auditing profession and quality conduction of the auditing tasks.

Considering the increased expectations by the public, in 2004 SAO has for the first time prepared Strategy for development of the governmental audit and of SAO for the period 2005–2009. Due to the sensitivity of the developing component, the experience and the newly established practice and standards for governmental audit, SAO uses this strategy as a guide in the working in the forthcoming years. In the essence of the strategy are the following five strategic goals which are closely related to the SAO's mission: *Goal 1: Independence; Goal 2: Strengthening the capacities of the institution; Goal 3: Development of types and qualities of performed audits; Goal 4: Information systems and information technology; Goal 5: Policies of communication (Strategy for development of the State Audit Office 2006–2010, 2006:6).*

In continuity with realizing the established strategic goals SAO sees its future in proper staffing, commencing a process of certification of the statutory auditors, organizing continual professional education for the employed auditors, participating into twining projects with institutions that have a long history and rich experience in the area of statutory audit and building an image of an institution which reports should be respected and under which a precise action will follow undertaken by the authorities in the country.

In interest of adequate implementation of the SAL, by decision from the Government of RoM in June 2005 a Steering Committee has been appointed with an aim to help in the preparation of a strategy in form of CAP for future reforms in the accounting system considering the satisfaction of the requirements for implementing the *acquis communautaire* in accounting and auditing. In bases, the intention of the Government in forming this Steering Committee results from the need for improving the quality of the financial reporting in the financial architecture of the country and reducing the risk of financial scandals which may have serious effects over the investor's confidence. CAP is adopted by the Government of RoM in August 2006. CAP should be implemented by 2010. (*Country Action Plan, 2005, p. 7*)

Key segment from CAP, in which the most of activities are being incorporated, is focused on the professional education of the potential auditors. The reforms in the part of quality professional education according to the CAP should start at university level of education of the potential auditors. It understands innovation of the curriculum at departments for accounting and auditing at universities and their adjustment to the requests of the new Eight Company Law Directive. The complex activities about quality education of auditors according to the CAP should be realized through team work of the auditors in both the science and the practice. Started activities by CAP create hope by the certified auditors in RoM that in the forthcoming years they will also be part of the world professional elite.

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## Summary

### THE ROLE OF THE INSTITUTIONS FOR AUDITING IN THE PUBLIC SECTOR – THE CASE WITH THE REPUBLIC OF MACEDONIA

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The process of transition in RoM has incurred numerous dilemma which are in essence based on the ways for illegal enrichment of small group of individuals, creating a so called business oligarchy on behalf of poring the vast majority of the population. As it was stated at the beginning, the absence of audit at in the initial transition process has created possibilities through the privatisation to extract huge amounts of money from the employees a small group of severe managers. In all these transitioning years the public permanently have been requesting from the government an accountability for the legal and purposeful use of budget funds. The first answers were given by the SAO, in which with a significant courage it presented the anomalies in using public funds by auditing subjects and the amounts for which the budget has been damaged. But, despite the transparent presented findings from the report on the sessions of RoM's Parliament in all these years on-time reaction has been missing by the public prosecutor. Thus, the reports of the statutory auditors were not a sufficient challenge for undertaking activities for

examining the liability of individuals involved in frauds measured in many million euros.

This condition permanently was resulting in confusion in the public related with the SAO's mission and the ultimate aim of its reports. Not rarely the guilt for numerous scandals due to insufficient informing of the public was imputed to the statutory auditors, from who it was expected not only to point to the irregularities but also to undertake a precise action for sanctioning the liable individuals. In the last few years of its existence, SAO made a radical step in direction of calming the waves of the public through making it familiar with its own mission, goals and tasks. Through permanent staffing and educating of its employees, SAO has significantly enlarged the scope of its work and has improved the quality of services conducted. Also, through transparent presentation of the findings in the annual reports and their publishing on its web site, SAO clearly show its own role and what its obligations and liabilities are regarding the care about proper use of public funds.

In our paper we have presented a view over the activities undertaken in 2007 by making a parallel in certain segments of the SAO's operation all in order to stress its emphasized role of "watch dog" in using the tax payers money. By improving the image of SAO in close future it is expected an adequate answer for the findings from conducted audits through undertaking measures by the judicial organs. This point leaves a space for hope and initiative to be undertaken by the Anticorruption commission for starting a sever beetle with the corruption and organized criminal, which in the activities of SAO asks for the initial impulse for a further action. In the spirit of commenced processes for integration towards EU more than clear are the requirements arriving from Brussels for urgent and radical reforms in the judicial system. Through changing the climate in which SAO exists and functions, it is realistic to expect successful realization of its own mission which will result in an adding value in the utilization of the RoM's budget funds.

# THE IMPACT OF THE ANNUAL HEALTH CHECK UPON PERFORMANCE MEASUREMENT AND MANAGEMENT PRACTICES WITHIN LOCAL NHS HOSPITAL TRUSTS: PRELIMINARY FINDING

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## Introduction

Recent public sector management has seen the use of various multi-dimensional performance measurements to enhance local units' accountability (Pollitt and Bouckear, 2000; Anthony and Young, 2003; Lapsley and Wright, 2004). One of the key developments is the introduction of the annual health check in 2005 in the NHS, which not only incorporates government's national targets but also requires local NHS organisations to implement specific clinical standards (Healthcare Commission, 2005). According to the performance in delivering the imposed targets and requirements, local NHS organisations are awarded performance ratings, in terms of "excellent", "good", "fair" and "weak". Since the use of the new rating system in 2005, the number of NHS organisations obtaining 'excellent' and 'good' ratings has increased (Healthcare Commission, 2008a). For local NHS organisations, obtaining a decent performance rating not only enhances its external legitimacy but also has a significant impact on the long-term survival of the organisation, for example, increasing the possibility of becoming a foundation hospital trust. From an institutional theory perspective (see Zucker, 1987; Scott, 1987), in order to preserve their reputation and long-term survival, local NHS organisations are more likely than not to acquiesce in coercive institutional pressures imposed by the annual health check. The conformance, however, might involve changes that might be conflicting with internal performance measurement and management practices (Modell, 2001).

In order to further improve the annual health check, the Healthcare Commission has commissioned several research projects. The outcome of that research seems to indicate that, to a considerable extent, local NHS organisations perceive that the annual health check has had a positive impact upon them (Healthcare Commission, 2008b). However, there is no evidence to indicate how the annual health check affects local performance measurement and management practices. This study adopts an institutional theory perspective to examine to what extent performance reporting practices are (re)designed within local NHS organisations in order to fulfil external pressures and whether the external pressures would facilitate management practices change. The study of such topics is important as NHS performance has been an issue of central importance in recent general elections irrespective of political party. More importantly, the annual health check serves as a key mechanism to enhance the accountability of the NHS, which has been the biggest recipient of Treasury annual budget since late 1990s (Wanless et al., 2007). Studying this topic is crucial especially at a time when new performance targets will be

imposed for future assessment (Healthcare Commission, 2008c) and increasing competition among healthcare provision organisations (e.g. foundation hospital trusts and private providers) (Darzi, 2008).

### Literature review

Institutional theory suggests that organisational environments "... are characterized by the elaboration of rules and requirements to which individual organizations must conform if they are to receive support and legitimacy..." (Scott and Meyer, 1983, pp. 149). Institutional norms often arise from external sources of the organisation, in particular the passage of laws or regulation initiated by the state (Tolbert and Zucker, 1983). These norms dealt with, for example, appropriate domains of operation, principles of organising, and criteria of evaluation. The institutional norms serve a rule-like mechanism that exerts normative pressures upon the organisation (Zucker, 1987). Conformity of organisations to the institutional norms increases positive evaluation, external legitimacy, resource flows and therefore survival capabilities (Meyer and Rowan, 1977).

DiMaggio and Powell (1983) argued that, with the increasing dominance exerted by the Government in our society, "organizational structures increasingly come to reflect rules institutionalized and legitimated by and within the state" (pp. 150). They described such phenomenon as isomorphism, which bears out the view that organisations are passive and adaptive to institutional norms. Meyer and Rowan (1977), however, argued that conformity to institutional norms might conflict with control or activity that promotes efficiency. In order to maintain ceremonial conformity and protect their technical activity, organisations tend to decouple their formal structure from their core activity (see Brignall and Modell 2000). In their study of a reference costing system in the NHS, for example, Llewellyn and Northcott (2005) found that such system was not used by local hospitals to drive operating efficiency but for the sake of providing information for external benchmarking purposes.

For local NHS organisations, the requirements of the annual health check define some of the norms of their institutional environment. With the increasing competition in healthcare provision and rigid monitoring process carried out by the Healthcare Commission, local hospital trusts face more pressure to conform to the imposed targets in order to obtain a good performance rating. A good performance rating enhances not only their external legitimacy but also, to some extent, might increase the possibility of attracting more business to local hospital trusts and thus secure economic benefits and their long-term survival. However, the existing performance measurement systems of local hospital trusts might not provide the information which would enable local managers to monitor their delivery of the external requirements. As pointed out by Lapsely and Wright (2004), performance measurements adopted by local NHS organisations were largely for fulfilling central Government's pressures. This study contends that, in order to fulfil central Government's requirements, local NHS trusts might have to (re)design their

performance reporting systems to provide relevant information. This study first examines how the external requirements are integrated into local performance reporting practice and how IT systems are redesigned in order to provide information required.

The annual health check evaluates not only the delivery of key national targets but also the compliance of clinical standards. For any unmet requirements, local NHS organisations are required to set out specific action plans. Such pressure might force local NHS organisations to integrate the national clinical standards into their performance management practice if a good performance rating is to be secured. However, delivering the external requirements might sometimes conflict with internal operations or interests of clinical and medical professions. In institutional theory literature, there is still no consensus on the impact of institutional norms on organisational management practices. It is not clear whether local managers would deem performance measurements as a ceremonial mean to demonstrate their conformity or as guidance for their management practices. This study pays specific attention to whether the institutionalised performance measurements are used to mobilise organisational changes or are decoupled from internal operations in order to maintain internal stability. It examines whether local managers would impose the external requirements upon and influence the decision making process of clinical/medical professions.

### **Research design**

The central belief of this research is that performance measurements are as not neutral mechanism but constituted by and, at the same time, constitute institutional interests and power. It adopts an interpretive perspective (see Ryan et al., 1992), which uses institutional theory to examine the impact of power and politics exerted by the annual health check upon the institutionalisation of performance reporting and management practices within hospital trusts. This research intends to adopt a case study approach within an in-depth, process oriented approach to data collection and analysis (Yin, 2003).

Semi-structured interviews are used as the primary method to gain in-depth understanding of performance measurement and management routines. Interviews are targeted at senior/mid-level managers and clinical/medical staff involved in performance reporting and management within the chosen organisations. To date, eight interviews have been taken with senior and mid-level managers within a NHS hospital trust. In addition to interviews, this study has collect internal reports and policy initiatives, public speeches and minutes of internal/public meetings. In order to understand issues of control, power, conformity and resistance, this study applies a discursive approach for data analysis (see Titscher et al., 2000). The intention is to draw out how local managers resist or conform to central government's pressures and how they negotiate with other stakeholders when attempting to diffuse central government's targets internally.

## **Preliminary findings**

### **Research site**

The research site is based in a teaching hospital trust, Solent<sup>36</sup>, which provides both local hospital services and specialist services to people in central southern England. In recognising the changing health economies locally and nationally, senior managers of Solent have facilitated a strategic initiative since 2008, namely Vision 2020, which aims to shape the future of the trust and reflects its intention of becoming a foundation hospital trust. The vision of this initiative takes into account the interests of the trust's key stakeholders, such as patients, employees and competitors, to improve patient care and foster clinical/medical innovations. Such attempts, to some extent, reflect Solent senior management's belief that, in order to strengthen the trust's future financial growth/survival, it is crucial to fulfil the needs of its key stakeholders, especially after its experience of financial deficit during the period of 2005 and 2007.

In order to achieve this vision, senior managers within Solent's headquarters adopt a performance oriented management approach. Deriving from the interests of the key stakeholders, Trust headquarter identifies various strategies and sets out specific objectives and milestones that the trust intends to achieve by 2011. The objectives include not only internal goals, such as medical research and infrastructure, but also external targets, such as waiting time targets. Based on the trust's overall objectives, each division are required to develop its own business plan and agree with Trust HQ its annual performance level. Such practice is also intended to be infused into the lower level of the organisational structure, such as speciality and individual clinical teams.

### **Performance measurement frameworks**

#### **Key Performance Indicators**

In reflecting the multi-faceted strategies and objectives, Trust headquarter has devised a multi-dimensional scorecard framework, including nine perspectives of performance measures (see appendix 1). As was spelt out in a monthly performance report to the Trust's board, "[t]he key performance indicators have been selected/developed by the Trust Board to support the Trust's Vision, Strategy and specific objectives..." (Trust Key Performance Indicators report, 2008). The key performance indicators includes both internal measures, such as research funding and staff training, and national waiting time targets. A report, indicating the trend of each indicator, is presented to monthly board meetings, demonstrating the progress of each indicator and the performance level.

The selection of the key performance indicators, to some extent, reflects senior managers' belief that, in order to survive in the long-term, the Trust not only has to

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<sup>36</sup> In order to disguise the identity of the research site, Solent is used to represent the hospital trust studied in the paper.

excel in its internal operations and core organisational activities but also secure its external legitimacy. By adopting a multi-dimensional framework, senior managers are able to monitor the Trust's performance in clinical/medical research activities, financial position and employees' satisfaction, for example. More importantly, the scorecard approach also recognises the importance of meeting external requirements, such as the performance targets imposed by the annual health check. For example, within the dimension of hospital of choice, all of the indicators reflect the "must do" targets within the annual health check. This implies that senior managers of Solent believe that shortening waiting times would improve their external performance rating published by the Healthcare Commission, which would hopefully improve patients' willingness to be treated in this hospital and thus strengthen future financial performance.

The key performance indicators are used primarily as a monitoring mechanism by the Trust board. As was indicated by a divisional manager, the chosen indicators are used to demonstrate the accountability of senior managers to the Trust board and the public. She pointed out that the key performance indicators are too "high" level and might not be useful for managing services delivery. In order to align the key indicators with divisional performance measurement practice, divisional managers are required to devise their own framework. The next subsection uses a division's performance measurement framework to demonstrate how and whether the key indicators are converted into divisional indicators.

### **Divisional performance indicators**

Appendix 2 shows the performance indicators used by the care group manager of a specific division within Solent. This division provides diagnostics services and therapies in radiology and pathology to other divisions. It also adopts a multi-dimensional framework although the coverage is not as extensive as the framework adopted by the headquarter. Performance indicators used are mostly related to activity level delivered by the division. Detailed attention is given to how many patients the division has seen and how long the patients have waited for their treatments. In particular, waiting time targets imposed by the annual health check are closely monitored very month. Although the focus of performance indicators might reflect the nature of the services provided by the division, it seems to suggest that delivering external targets is a major concern to mid-level management.

On the hand, however, indicators related to clinical standards, financial position or employee retention are not reported regularly. As pointed out by a service manager, for example, the availability of financial resources is crucial to the delivery of services within the division. There have been several occasions that she has asked clinicians to stop providing services to other division due to financial constraints, which might have hindered service delivery in other divisions. The service manager argues that such incidents are often caused by lack of coordination between financial/budgetary and service planning. Another key aspect of performance indicators not included in divisional framework is the availability of manpower. The

service manager indicated that lack of knowledge of manpower levels is sometimes detrimental to her service planning.

The example drawn from this specific division suggests that delivering waiting time targets is the central focus of performance measurement practice. Although other aspects of indicators are deemed to be important to service delivery, the selection of which indicators should be reported is geared towards the provision of information that would feed the targets imposed by the annual health check. Such practice no doubt contributes to key performance indicators within the perspective of hospital choice adopted by headquarters. However, this seems to suggest that there is a disconnection in performance measurement practice between headquarters and divisional level. It is unclear whether the organisational objectives will be achieved without infusing other aspects of performance measurements into divisional performance framework.

### **Concluding discussion**

The examination of performance measurement frameworks used by the Solent headquarters and one of its divisions suggests that performance reporting practice is institutionalised by the key national targets imposed through the annual health check. Although a multi-dimensional framework has been designed to support both internal organisational and external objectives, not all strategic performance indicators are infused into mid-level management. Performance reporting at mid-level management is geared towards providing information that can be used to monitor the progress of delivering the must-do national waiting time targets. The dominance of external targets suggests that managers of Solent seem to believe their role within a public sector organisation is to deliver what is expected of them from central government and the patients. This, to some extent, reflects one of the central beliefs of Solent that, in order to be successful in the future, it is crucial to deliver on waiting time targets since this will increase the likelihood of patients choosing to be treated at Solent. In other words, performance indicators are institutionalised so that information can be generated to enhance external legitimacy and financial security.

At the early stage of this research, there is some evidence to suggest that mid-level managers of Solent have attempted to integrate the waiting time targets into their performance management practice. A typical example is that such measures are used to streamline how clinicians deliver their services. On the other hand, however, mid-level managers also recognise that other aspects of performance, such as clinical quality and employee skills, are important, and this sometimes conflicts with waiting time targets. This study intends to draw out more evidence to examine how managers weigh the importance and deal with potential conflicts between external and internal targets and how to deal with resistance imposed by clinical/medical professionals.

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# GOVERNANCE AND ACCOUNTING CHANGES IN THE PUBLIC SECTOR

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## 1. Introduction

Public Sector is undergoing passing through a period of transition. Because of the low economy in many industrial countries local governments are faced to small financial resources. Besides, citizens have changed their expectations about public services. This has occurred within a context in which social efficiency, in addition to management efficiency and effective satisfaction of the community's needs, have together acted as key elements in promoting a new model of local government (Schedler/Proeller, 2000). This model is focused on the process of decentralisation of public services and the growing use of traditional and innovative accounting tools.

In the past, the prevailing tendency was that of implementing management and accounting practices – typical of the private sector – inside the public context (Broadbent and Guthrie, 2008; Chan, 2003a). In the public sector, there was growing use of different accounting tools, such as accrual-based accounting, cost accounting, output-based budgeting, performance indicators and, more recently, consolidated and whole-of-government financial reports (Lueder and Jones, 2003). The “colonisation” of private sector practices can also be found in the development process of international public sector accounting standards (IPSASs), which have been defined on the basis of private sector standards.

Benito et al. (2007: 298–299) brought attention to the importance of not ignoring the peculiarities of the public sector and to how the public accounting system should conform to the informational needs of this specific sphere:

- Johnsen and Lapsley (2005) demonstrated the necessity of providing new input to public accounting (“*Reinventing public sector accounting*”), introducing innovative approaches that allow for going beyond just imitation of the private model;
- Chan (2003b) questioned if “it is appropriate for government to uncritically emulate private sector practices”, entering into debate the NPFM model and bringing to attention the necessity of a new approach, orientated towards public governance.

It is clear that New Public Management (NPM) and New Public Financial Management (NPFM) have had different diffusion and implementation at the international level and that such reforms have the greatest representation in Anglo-Saxon countries (Humphrey et al., 2005). While the international process of standardization in the public sector is also spreading to continental countries and seems to increasingly be cognizant of the sector's special needs, it remains firmly

tied to its private root, above all in the Anglo-Saxon countries (Benito et al., 2007). Although the effects of such a process are positive in terms of harmonization, comparison and homogeneity in communication, the problem still remains of finding a good compromise between the Anglo-Saxon culture, which is considered more private oriented, and the European continental culture, which is strongly democratic and tied to the primary role the State has inside the community (the *public sector*). These two cultures are traceable to those processes of reform that Lüder (2002) calls, in the first case, “managerialism-driven” and in the second “accountabilism-driven”.

Based on this framework, the paper is organized into three sections: the first section analyses the vertical and horizontal governance changes in the public sector; the second section deals with the internal and external performance measuring tools suitable for the traditional and innovative public governance models.

## **2. Governance changes in the Public Sector**

### **2.1. Reforms of the Public Sector**

For the majority of countries the main reason for enacting public sector reform was the need to increase accountability of public resource management. According to the NPM literature, two main factors account for these changes (Pollitt and Bouckaert, 1997).

First, the Maastricht Treaty limits public spending and debt. Second, due to the imbalance in the cost-quality ratio of public services provided there is a need to renegotiate the “social contract” between public administrations and citizens.

“Macro-phenomena” must be taken into account in order to interpret the effects of the institutional, social and cultural changes in LGs. In real terms, the pace and speed of institutional change will depend significantly on the cultural foundations from which its principles derive. In fact, the stronger the cultural and societal acceptance of a local public services production model, the stronger the institutions and network will defend it. Likewise, the opposite holds true. It is more difficult to introduce significant change in a system based on strong intra-organizational cultural habits (conventions regulating relations between “groups” in the same organizations) and inter-organizational cultural habits (regulating relations between different organizations, or between public services producers and their clients) (Kickert et al., 1997; Goldsmith and Eggers, 2004).

Essentially, the public service production process is the result of the combined norms, beliefs, interests and values developed over time in a certain environment. An integral part of the process, they also give character to the institutional framework related to them. Depending on its institutional framework, a local government may be more or less favourable to reforms currently being proposed and enacted.

Therefore, it is not surprising that although many countries share the same principles and rhetoric when they face managerial reform in the public sector, it is possible to observe more rapid and significant effects of these reforms in Common Law Anglo-Saxon countries (linguistically and culturally speaking), than in Civil Law countries (although change does not always produce positive effects in regards to the overall effectiveness of the interventions that have been carried out).

Finally, it is interesting to point out that private sector managers' employment in European public sector organizations is still rather scarce in comparison to other Countries, such as the United States, where the exchange process is constant but does not, however, always automatically produce results. Therefore, managerial culture faces strong opposition in entering public sector organizations. The cultural fertilization has been weakened by civil servant resistance to change. Furthermore public sector characteristics foster described behaviours by civil servants. Public service was traditionally conceived of as a monopoly operating within the state domain and offering free service delivery or uniform and contained tariffs. Consequently, the relationship between public service providers and their customers was defined by the typical relation between "State" and citizens. The user was thought to be in a position of "submission" to the Government that in exchange offered protection and favourable economic conditions, as previously mentioned.

Moving from these premises, past and present LG reform processes can be classified into three main categories (Grossi, Mussari and Monfardini, 2005):

- a) institutional and vertical changes;
- b) corporate and horizontal changes;
- c) managerial changes.

## **2.2 Institutional and vertical changes**

The first typology of reform concerns institutional and political systems. Its main effect is to re-distribute administrative powers among public institutions through progressive decentralization of public duties, transferring power and duties from a traditionally central governmental to territorial governments (regional, provincial and municipal governments). This process is called "vertical subsidiarity" and it can be technically distinguished from the "horizontal subsidiarity". The former refers to a redistribution of powers from upper to lower levels of governments; the latter concerns the distribution of administrative responsibilities among non profit organizations, quangos and so on. On the role of hybrid organizations in public sector (Kickert, 2002). The aim is to increase the level of legitimacy for local policy by giving more power and responsibility to those governments dealing directly with citizen-clients and their needs. As a consequence, LGs have been granted autonomy and thus held accountable for the results they achieve.

Therefore, changes to the institutional structure and system call for LGs to consciously and autonomously exercise their powers. In other words LGs need to recognize that they have the autonomy to choose policies and programmes and to

acquire and organise their human, financial and material resources in order to bring their objectives and projects to fruition. Procedures and sources for financial resources acquisition have also been substantially affected; taxes levied directly on a community have increased in number and amount.

Consequently LGs, after taking a significant portion of monetary resources from their own communities, utilize and return these resources (with an increased economic value) directly or indirectly to the community via policies and services. Such an approach overcomes the traditional funding procedures which mainly consisted of resource transfers from upper government levels to LGs, thus preventing them from being held accountable for their performance.

### **2.3. Corporate and horizontal changes**

Public service provision is the second main area of reform. During the last 20 years, privatisation, outsourcing, and other mechanisms aimed at increasing competition radically changed the mode of provision of local public services to the citizens (Grossi and Mussari, 2004). In EU countries a new spirit of competition is replacing the traditional monopolistic mentality.

The outsourcing processes required a change in the traditional organisational structure of LGs (Christiansen and Laegraid, 2001). When LGs choose to outsource services, production processes must be changed. In the past, service production was carried out following vertical integration mechanisms and took place within the public organization boundaries.

The reform process created autonomous organizations totally- or partially-owned by the Municipalities. Consequently, the local public service is now made up of a network of entities responsible to produce services for the community. It is interesting to note that not all the companies involved in the network are totally- or even partially-owned by the LGs, and not all of them are for profit organizations (foundations, associations and institutions).

Therefore, final performance results and policy outcome stem from concurrent activities which need to be coordinated and managed from a public governance perspective. As a consequence, LGs must build both the capacity and skill set required to coordinate not only their own activities but also the activities of those producing the services (other public institutions, public and private companies, non-profit organisations), while balancing the conflicting stakeholders' interests (Haque, 2000).

The provision of public services by external entities cannot be considered a "real" privatisation because we are dealing with services which maintain their public nature (for the good of the public) even when they are provided by companies legally independent by the LG. Outsourcing impacts the subdivision of overall

responsibility related not only with the provision of local public services but also with the fulfilment of public needs.

The former can be ascribed to the service provider, leaving out consideration of its economic nature and ownership; the latter remains that of the LGs. In other words, LGs are left with the responsibility of defining and assessing the external provider's activity through coordinated policies and strategies; the provider must deliver the services in an efficient and effective manner.

The development of municipal corporations has led to the fact that annual accounts of local governments disclose only a partial view of their economic and financial activities, because the financial consequences of subsidiaries, joint ventures and associates are not necessarily included in the annual account of the local government. Thus, a great lack of information has been occurred because of the decentralisation process (Walsh, 1994). In result accountability and decision usefulness is not guaranteed by the annual accounts of local governments anymore. Internal (e.g. politicians, managers) and external users (e.g. citizens, voters, suppliers, banks) of financial information are not able to base their decisions on reliable and relevant information about the financial position, financial performance and cash flows of the whole local government (Owen Hughes, 1994).

### **3. Accounting changes in the Public Sector**

#### **3.1. From cash accounting to accrual accounting**

In continental European public administrations, the most widespread accounting system was that of a financial basis (cash accounting). LGs limited themselves to considering the cash effects of management operations put into place, that is, the variations of debts and credits and, therefore, of cash. Bookkeeping and the reporting documents that originated from them, or those connected to them, had the peculiarity of being "unilateral" (of demonstrating only one of the aspects in which management could be investigated). This character of partiality significantly limited the informative content of the accounting results, which were completely insufficient for explaining (in a balanced manner) results achieved with available public resources. In fact, because they showed only obligation and cash variations, it was not possible to determine the costs for each period. As a consequence, asset records were also not reliable. It should also be noted that the public organisations have not traditionally used double-entry bookkeeping. It is obvious that LGs did not prepare any income statements, which significantly limited analysis of the efficiency of services.

Since the late 1980's, there has been debate on the necessity of supporting classic financial accounting, versus replacing it with accrual accounting, which is analogous to that in private corporations. LGs need to prepare information useful for the making of decisions. It is in this sense that we can consider general accounting as the tool that offers the greatest amount of information relevant to corporate activity,

thanks to which, it is able to create effective management control. All in all, its main purpose is that of providing information for decision-making, in order to facilitate the predisposition of plans and effective comparison between program objectives and actual results achieved. In effect, it represents the informational tool most suitable as it is based on historical and consumption data.

Accrual accounting is a tool which has a cognitive purpose – observation of LG's financial management results. The combined compilation of local government's balance sheet and income statement constitutes the basis for evaluating:

- its ability to ensure respect of the *inter-generational* equity (fairness) principle, which states that sustained costs for the supply of public services should not “weigh on” (be paid for by) generations different from those enjoying its benefits;
- economic efficiency of its management, which is understood as the ability to satisfy, in the long-term, those needs considered to be of public interest, relying on an economically sustainable and socially acceptable flow of resources.

The new accounting systems should be modelled by each government in a way that favours the pursuit of identified objectives, providing those within it (public managers, politicians and auditors) and, not less importantly, those outside (the different categories of stakeholders such as central and regional authorities, investors, providers, auditing and rating companies and, most of all, user-taxpayers) all of the information necessary for making responsible decisions, controlling their effects, and evaluating their results and impact. Cash accounting was not sufficient to meet these objectives; the informative purposes that “justified” it have definitely changed. Also changing were the quality and quantity of public needs to be satisfied, the contents of the assigned services of these organisations, the role of the “public” in the contemporary economic scenario and, above all, the social interlocutors of the community institution.

### **3.2. Consolidated Financial Reporting**

The increased use of decentralized entities has led to debates about the need for consolidated financial reporting (CFR) to avoid this lack of accountability (Lande, 1998). CFR is widely recognized as essential to support decision-making processes and to ensure public accountability (Chow et al., 2007). Providing consolidated information allows internal users (politicians, managers and employees) and external users (citizens, voters, taxpayers, suppliers, other public administrations, financial backers) to gain an overall understanding of a local authority's assets, liabilities, revenues and expenses, and cash flows. The consolidation process requires eliminating the financial effects of the internal operations carried out between a local authority and its decentralized entities, so that the consolidated financial statement only reflects external transactions with third parties.

The consolidated financial statement is a useful tool for local government because it presents a clear picture of the current economic status and functioning of a local

authority and its decentralized entities. The growing interest shown by different stakeholders (scholars, practitioners, politicians, managers, auditing and consulting firms and mass media), as well as the first experiences at the local level, demonstrate the increasing relevance of CFR in Europe and pave the way for future developments.

### 3.3. Cost accounting in the Public Sector

*Cost accounting* allows for a response to local governments' most pressing question: "How much does it cost?" In other words, via employment of such an accounting tool, it is possible to determine the value of the resources consumed in terms of a variety of possible cost items (economic unit of reference). These costs are useful (needed) for the making of consistent, "rational" public *management* decisions, as well as for evaluating behavior and the effects of decisions made. Therefore, calculation of costs demands the reporting of such measurements in defined time periods, normally infra-annually (monthly, quarterly, bi-annually and, in the worst case, annually). The number of potential cost items are numerous, including final product (goods or services), cost center (office, function, etc.), job order, project, program (Barretta, 2001).

Returning to the main cost items, it is important to delve deeper into the reasons for which it is useful to determine cost center and/or product costs. In the first case, the gathering of this data enables evaluation of the economic suitability of keeping them inside the administration or, to the contrary, externalizing some "functions". In other words, it allows for comparing the degree of efficiency of the organizational sub-unit that performs the same activity. Moreover, determining the cost of an organizational sub-unit helps to evaluate the subject responsible (with respect to the degree of efficiency in utilization of resources).

Cost accounting in the public sector has the following objectives:

- Management responsibility (by each cost center) for use of resources;
- Evaluation of the suitability of externalizing activities produced by the administrations;
- Tariffs and/or price setting of final products;
- Carrying out of intra- and inter-organisational comparisons.

The first objective pertains to making someone responsible for the efficient use of resources. This involves comparison of cost objectives to final cost measurements (for periods less than a year). However, sometimes, in practice, the comparison of costs (in order to evaluate the performance of the person in charge) is not based on preventive measures (target costs), but on previous years' cost performance.

As stated above, determination of a center's final costs are useful beyond that of evaluation of performance of those responsible for the organizational structures. They are also useful for making decisions on the suitability of externalizing some cost centers.

Determination of costs is, moreover, fundamental for definition of tariff policies relative to services managed directly by local government. Among the possible uses of cost accounting is comparison of an LG's budgeted (forecasted) and final (closing) accounting data. Nevertheless, the intra-organisational comparison of performance measures enables important analysis that can be used for corporate steering. Inter-organisational comparisons are among the more complex management operations.

## **Conclusion**

The meaning of space as defined in the theoretical framework can be useful in understanding the present economic environment in local public services provision in European countries. In particular, it not only shows that recent reforms are progressively enlarging the sphere within which public services are provided, but it also demonstrates that LGs' role tends to increase in complexity. Outsourcing requires that LGs remain responsible for public needs' fulfilment and therefore held accountable for other actors' performance. For public sector organizations and LGs in particular, accountability profiles are shifting from probity and legality levels to policy level, becoming more difficult to disclose in quantitative terms in written documents (Stewart, 1984). Moreover, splitting responsibility for service provision and needs fulfilment makes it even more difficult to assess individual performance as overall results stem from collaborative efforts and contributions. This characteristic conflicts with the strong need for a more transparent distribution of responsibility in managerial approaches and also requires caution in personnel evaluation.

The framework demonstrates that LGs still need to be evaluated by reviewing and making transparent the management of financial resources. Although this kind of analysis of accountability alone is too limited, it is still unavoidable and necessary. In other words, the increasing attention on social and environmental performance should not decrease attention to traditional control procedures. Indeed LGs and the top political positions are called upon to integrate their professional, financial and technological energies for the proper functioning of LGs, the decentralised entities and other external partners. This integration guarantees, within the pre-requisites of the budget, an adequate economic development of the local governance.

Consequently, an accurate definition of policies and strategies are necessary in order to guide LGs, and all the other companies producing and providing public services to the community. These directives are increasingly becoming more necessary since there has been a rise in inter-organisational relations and thus the creation of a network connecting public service producing companies and LGs. We are dealing with a task which requires knowledge that the traditional political class and top level civil servants do not have. Hence, with a lack of clearly defined direction and strategy, players are likely to act disharmoniously and conflicts more likely to arise.

Analysis of these two situations shows interesting profiles. First of all, there is the idea that the larger the area, the more complex the drafting and the less accounting

data Stewart. This means that reports could show political distortions. A key characteristic of accounting data is that it is often externally audited in order to ensure the reliability of information disclosed. When existing documents are mainly qualitative and there is little audited data, there is a strong risk that the information provided may have been biased by political influences.

At the same time such reports should contain useful information not only for internal managerial reasons but also for citizens to clearly judge the quality of achieved results. Moreover, the same documents should allow for comparisons and benchmarking between different public sector organisations. In this sense, the fact that they are voluntary documents limits their usefulness. However, LGs truly interested in disclosing consolidated and social performance to fully exploit their unique characteristics can produce them. Present analysis also allows for forecasting of some presumable trends in this field. Given the direction undertaken by the European Legislature in regulating the sector, outsourcing and externalization will likely increase along with the public services provision by private joint stock companies or Public and Private Partnerships (PPPs).

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## Summary

### GOVERNANCE AND ACCOUNTING CHANGES IN THE PUBLIC SECTOR

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The paper analyses the governance and accounting changes in the Public Sector in the European context. The growing diffusion of corporatization, contracting out, public and private partnership (PPP) and privatization of activities and entities not at the core of public administration has profoundly modified the public sector governance. Governance is not just about corporate management and marketization but also about the changing nature and role of government and how to understand such changes. The creation of corporations elevates the themes of accountability and reporting to a position of critical importance. Since the 1980's, public sector boundaries have changed, and with them, financing and management methods, governance structure, responsibilities, controls and the accounting system. This change in roles and responsibilities has led to strong questioning of public service management methods and of the available accounting information tools.

# LOCAL GOVERNMENT'S ASSETS MANAGEMENT IN BELARUS: DOES DECENTRALIZATION EXIST?

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## Introduction

This paper is about features of assets management in Belarus municipalities. An important underlying notion, which is a basic in process of assets management, is that a communal ownership is fixed in Belarus legislation. However, it is only a type of State ownership. In Belarus, therefore, municipalities are functioning within the framework of a State ownership. For the local government it means, that municipalities are subordinated to a so-called rigid "presidential" vertical and function far from being within the framework of fiscal decentralization. So, it is worth to imagine that municipalities have no their own assets and the State has transferred to municipalities their property in operative management and economic conducting.

How the municipalities in conditions of a presence of their assets in the so-called municipal property operate? In what kind of aspects and directions the independence of local authorities are looking trough and where the borders of their independence? What should be done to improve assets management in municipalities? In this paper given aspects will be considered.

In paper the emphasis on accents connected with independence of local authorities' activity in sphere of assets management, without intervention of the central authority, will be made.

## Content of communal ownership and total scheme of assets management in Belarus municipalities

The concept "communal ownership" as a substitution of municipal ownership concept have been introduced by the Belarus legislation on a boundary 80–90th years. It was a result of development of the term "housing and communal services" in Belarus. The Belarus Constitution (article 13) determines that the ownership can be both state and private (Konstitutsia Respubliki Belarus, 2004). On another hand, the Constitution (article 121) also determines that the competence of Local Council deputies is to manage and conduct the communal ownership in limits defined by the Law (Konstitutsia Respubliki Belarus, 2004). So the concepts of state, private and communal ownership in the Constitution take place. The Belarus Civil Code (article 215), however, classifies communal ownership as a state one

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(Grazhdanski Kodeks Respubliki Belarus, 1998). It very seriously confuses the situation in regulation of fundamental relations. However, the aspiration to reduce the number of independent patterns of ownership up to the state and private ones into the Belarus Civil Code can be recognized as a contradiction of common sense.

In Belarus the so-called municipal ownership may includes: state property structures of a corresponding administrative and territorial unit, local budget financial sources, available housing and communal services of subordinated territory, and also the industrial, building, agricultural enterprises, trading enterprises, transport and public consumer services, other enterprises, organisations, establishments of public health services, culture, physical training and sports, social protection and other property which necessary for functioning and developing of the territory. Besides, the property transferred to the municipal ownership by gratuitously state, other proprietors, and also the property created by Local Councils, other local governments, executive committees and local administrations, can be attached to the municipal ownership.

However, how the municipal assets in terms of operative management and economic conducting are managing. The approximate scheme of assets management is illustrated below in figure 1.

As figure 1 shows, the assets transferred to municipalities on a rights of operational administration and economic conducting are subdivided to local budget financial sources, material and non-material assets. Management of local budgets financial sources covers ability of municipalities to generate taxes and non-tax revenues. Among all local budget financial sources of most actively the local authorities can affect collecting of local taxes and duties by the best generating of taxes, by granting of municipal orders, by influence on local budgetary process, by improvement of local budgeting.

In turn, management of material and non-material actives covers the public utilities administration, granting of guarantees for public utilities, including loan guaranties, confidential management, gratuitous use of assets, public works, repairing works and services for movable assets and real estate.

#### Box 1.1.

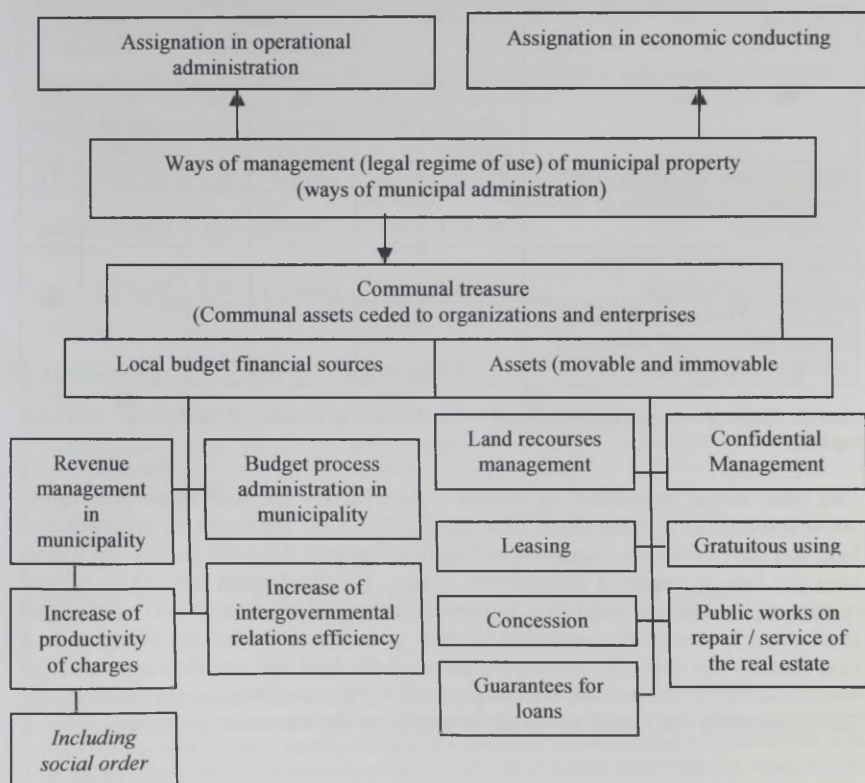
*Case. Example from practice of Molodechno municipality: There are 44 organisations of which 22 organisations functioning in condition of economic conducting (the self-supporting organisations) and 22 organisations in condition of operational administration (the budgetary organisations). They are being in the municipal ownership of Molodechno municipality.*

Source: Own researches of author.

## New accents in land resources management

Since the beginning of 2007 the base and primary bodies of local authorities (rayon, urban and rural local authorities) have got land selling right in a private ownership for individuals and selling of land renting rights for corporate organizations<sup>2</sup>. Thus proceeds from land operations of local governments come directly to those local budgets where operations have been performed. In 2007 the proceeds from of land selling and selling of land renting rights in total budget revenues of the sub-national governments have made less than 1% (table 1). Our researches of revenue structure of the Minsk oblast local budgets have shown that in budget tiers of Minsk oblast

### Communal ownership management (economic approach)



**Figure 1.** A typical scheme of assets management in Belarus municipalities.

*Source: Own working out of the author.*

<sup>2</sup> These rights have been presented for local authorities by the Presidential Decrees № 21 from 3 January 2007 and № 667 from 27, December 2007.

the share of these revenues looked more impressive and has made more than 5% (table 2). Among all governmental tiers of the Minsk oblast's revenues from land operations most actively have been generated in rayons and in rural settlements. Their shares in total land selling revenues were 98.24% and in selling of land renting right ones – 92.13% (figure 2). Granting rights for land selling and rights for selling of land renting should be considered as an important step for liberalization of land resources operations and for increasing of local government independence into assets management on their territory.

**Table 1.** Revenues of Belarus sub-national budgets from land selling and selling of land renting rights selling of land renting rights in 2007 and 2008 (in bn. belarus rubles, equivalent in thousand Euro<sup>3</sup> and in percentages)

Indicators:	2007		2008 (preliminary results)		2009 (project)	
	in national currency	in Euro	in national currency	in Euro	in national currency	in Euro
Revenues from the land selling	11178.3	3.8	26586.7	8.7	29295.4	8.1
Revenues from the selling of land renting rights	76188.5	25.7	122048.6	40.1	111153.4	30.9
Total revenues from the land selling and land renting:	87366.8	29.5	148635.3	48.8	140448.8	39.0
The share of Belarus subnational budgets from the land selling and selling of land renting rights	0.49%		0.68%		0.57%	

Source: Author's own calculations based on the Ministry of Finance of the Republic of Belarus reports.

The land selling operations to private ownership for the individuals are mainly constructed on an auction basis. Individuals submit the statement on acquisition of land and then procedure of auction selling is performed. After the auction the winner pays for land to the local government budget. The mechanism for selling of land renting rights has the following sequence: the investor (corporation) presents an application to executive committee of local government for buying of rights on a land renting. An executive committee prepares the land site and then exposes it on an auction. After the auction winner pays off rights, compensates expenditures for land preparation and covers an auction expenses to the executive committee.

<sup>3</sup> Under the calculations of auction land prices the weighted average exchange rate of the Belarusian ruble against Euro on the foreign exchange market of the Republic of Belarus for 2007 – 2958.91 Belarusian rubles, 2008 – 3045.88 Belarusian rubles, 2009 (January and February) – 3597.95 Belarusian rubles have been used. (see. [www.nbrb.by/eng/statistics/Rates](http://www.nbrb.by/eng/statistics/Rates))

## Box 2.1.

**Case.** An example from practice of rural settlements' local councils of the Molodechno rayon for land selling in a private ownership.

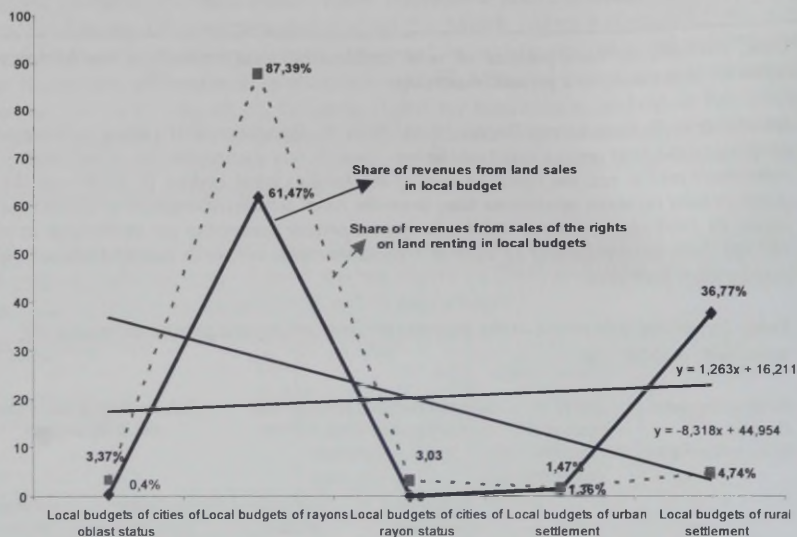
*According to the Presidential Decree № 667 from 27, December 2007 «About withdrawal and granting of the land areas» rural and urban councils had an opportunity to sell lands for the individuals and to sell the rights to rent of the land to legal bodies. In 2008 year the most active in land resource operations have been the rural settlement councils of the Molodechno rayon. In 2008 eleven sites or 2,2 hectares in a private ownership for individuals in sum of 134 mil. belarus roubles and 11 sites or 5 hectares rights to rent in sum of 1245 mil. belarus roubles have been sold.*

**Table.** Initial and sale prices at the auctions for land selling in a private ownership for individuals in 2008 year

Rural settlement councils of Molodechno rayon	Size of site exposed on auction (hectares)	Initial (started) price of land site exposed at the auction		Sale (ending) price of land site at the auction	
		In national currency	equivalent in Euro	In national currency	equivalent in Euro
Gorodokski rural settlement	0.14	67 thousand rubles	22	5 million rubles	1642
Krasnenski rural settlement	0.15	487 thousand rubles	160	32 million rubles	10506
Myasotski rural settlement	0.17	458 thousand rubles	150	17 million rubles	5581
Olehnovichiski rural settlement	0.15	822 thousand rubles	270	1 million rubles	328
Turlevski rural settlement	0.14	2 million rubles	657	23 million rubles	7551
Chistinski rural settlement	0.17	35 thousand rubles	11	14 million rubles	4596

*In 2008 at the land sale auctions for individuals the transactions in sum of 92825,2 thousand belarus roubles has been carried out (taking into account reimbursement of auction expenses) which have been credited on a local budget accounts of corresponding local rural and urban councils. The share of revenues from the land selling in private ownership for population into local budgets rural councils and urban ones of Molodechno rayon has made from 80 to 92% in their local budgets.*

Source: Own researches of author.



**Figure 2.** Distribution of incomes of land selling and the rights of arena to the earth among subnational budgets of the Minsk region (oblast) in 2007 (in percentages)

Source: The date calculated by author on a base of financial reports of Financial Department of Minsk Oblast

**Table 2.** A brief characteristic of local taxes, duties and charges (in percentages)

Local budgets of Minskaya oblast:	The share of revenues from land sales (%)
• Local budgets of cities with oblast status	0.49%
• Local budgets of rayons	0.69%
• Local budgets of cities with rayon status	5.44%
• Local budgets of urban settlement	5.06%
• Local budgets of rural settlements	5.35%
Total Sub-national budget of Minskaya oblast	0.87%

Source: The date calculated by author on base of financial reports of financial department of Minsk Oblast

### Local taxes, duties and charges administration

In Belarus the subnational governments have an opportunity to levy on their territories the local taxes, duties and charges<sup>4</sup> (table 3). However, the list of local taxes, duties and charges which could be introduced by the local authorities is annually determined by the Budget Law (*O Respublikanskom budzhete, 2008*) and controlled by the central government.

**Table 3.** Content of local taxes and duties for sub-national governments permitted by the Budget Law on 2009

Types of local taxes and duties	Who levy taxes and duties	Who get taxes and duties	Tax rate <sup>5</sup>	Taxpayers
1. Sale tax (retail sales tax).	Oblast (Regional) Local council	Rayon local budgets	<i>no more than 5% from sales including VAT. The rate depend on local authority;</i>	The taxpayers are retail trade business entities engaged in retail activity
2. Tax on services (tax from services)	Oblast (Regional) Local council	Rayon local budgets	<i>no more than 5% from sales and depend on local authority;</i>	The taxpayers are business entities engaged in delivering services (café, bar services, travel agency services, etc)
3. Targeted charges (transport charge + infrastructure charge)	Oblast (Regional) Local council	Rayon local budgets	<i>no more than 3% from net profit, for example, 2.45%+ 0.55% or 2.0%+1.0%)</i>	The taxpayers are the legal organizations and enterprises located at the territory
4. User charges	Oblast (Regional) Local council	Rayon local budgets	<i>The rate depend on objects of taxable (parking, dogs and cats, etc)</i>	The taxpayers are the users of services (individuals, entrepreneurs)
5. Duties from suppliers	Oblast (Regional) Local council	Rayon local budgets	<i>no more than 5% from yield. The rate depend on local authority;</i>	The taxpayers are the suppliers (individuals)
6. Resort duty	Rayon local budgets	Rayon local budgets	<i>3.0% from the tourism services</i>	The taxpayers are the individuals (tourists)

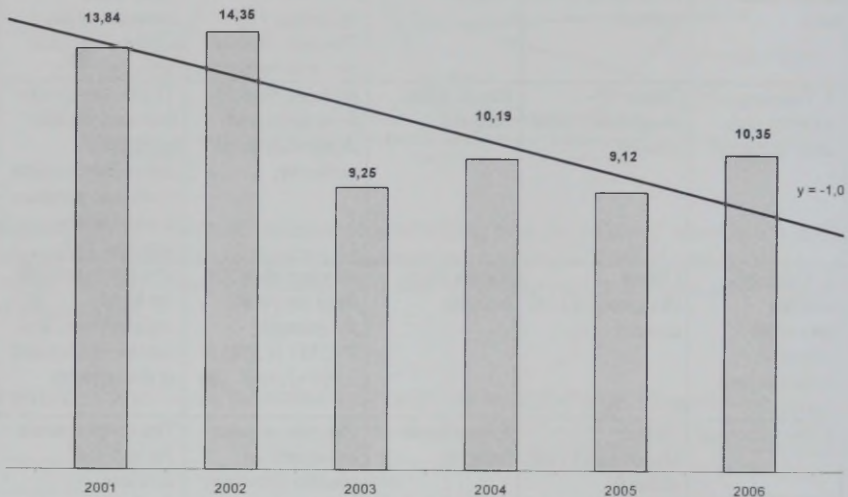
Source: Own working out of the author.

<sup>4</sup> These local taxes, duties and charges have been introduced by the annual Budget Law on 2009, adopted by the Belarus Parliament and confirmed by the President of the Republic of Belarus.

<sup>5</sup> The local authority may introduce tax rate lower than prescribed by the Budget Law or the Oblast local Council.

The rights to levy local taxes, duties and charges by the local authorities of subnational governments are permitted, however, in limits prescribed by the Budget Law. It characterizes the small size of local authorities independence from the central government in assets management sphere. But it at all does not show a local government inability to manage of financial sources at their territory. There is some positive experience of local tax administration in municipalities of Gomel region (Ševic, Z, eds., 2008, p. 58).

Nevertheless, local taxes, duties and charges make an insignificant share in local budgets. It illustrated by the following data of figure 3. The share of these financial sources in local budgets during the last years steadily decreases. If in 2000 the share local taxes, duties and charges made 15.8%, in 2007 it has decreased twice and has made 7.35% (figure 3). Such tendency at least is explained by the several reasons:



**Figure 3.** Dynamics of local taxes, duties and charges in Belarus sub-national budgets (in percentages).

*Source: The date calculated by author on base of financial reports of Ministry of Finance of the Republic of Belarus.*

1. Aspiration of the central government to centralise of financial resources to keep under the control all monetary flows.
2. Absence of stimulus at local authorities to collect of these taxes. This reason, perhaps, is a consequence from the previous one. As we seen above, tax bases and tax rates of local taxes, duties and charges are defined by the annual Budget Law, instead of the local governments. For example, tax rates from sales, services are defined by the Budget Law and local governments have opportunity to levy tax rate of no more than 5%. It concerns other local duties and charges the same. As tax base concerns the Budget Law regulate it, as well. Thus, the

local governments still have very “narrow” corridor for independence in local taxes, duties and charges administration. In fact, it does not stimulate to increase of local tax collection. There is one more circumstance which is “holding down” desire of local authorities to increase a share of local taxes, duties and charges in their budgets. It is imperfect system of grant transfers at which, their allocation is not put in dependence on the local taxes, duties and charges collected. In this connection the generation of local taxes, duties and charges is not favorable to local authorities as in any case shortages all expenditures to be needed will be covered by the grants and transfers from the higher budgets.

3. Measures of the central government to decrease of tax burden for corporate organisations. During last two years the radical measures for abolishing some taxes, reducing tax rates and unifying of some taxes, duties and charges have been introduced by the Ministry of finance and Ministry on taxes and duties. It has concerned the local taxes, duties and charges, as well. For example, earlier the regional (oblast) authorities could allow differentiating of sale taxes (retail sales taxes) for municipalities. For one they could make 15%, for others of 5%. Now they are established for all equally. The rates of tax on services (taxes from services) were reduced from 10% to 5% in 2009. Moreover, many regional governments have taken advantage of their right not to levy some local taxes, duties and charges on their territory, which not contradict by the Budget Law. It is obvious that for stimulation of local taxes, duties and charges collections a big freedom to local authorities in administration of these financial sources should be given. Tax bases and tax rates, providing reasonable limits of the taxation in local government jurisdictions should be established. At least, either the right of the local governments to establish tax rates or rights to determine of tax bases should be presented them by the central government.

In the conditions of restriction of tax rates by the central government, “flying the flag” decrease in tax burden become unique correct ways to increase local taxes, duties and charges owe attraction of investments, development of small and medium business, development municipal – private partnership which can fill local treasury considerably. It is necessary to create also stimulation system for increasing of local taxes, duties and charges in local budgets through the mechanism of grant transfers.

### **The real estate administration in municipalities**

In Belarus the local authorities exercise administration of the real estate by conducting the register of the property. In register the name of the organisations, form of their ownership, control authorities, data about quantity of the property, data about the land areas attached to the organisation, data on founders, data on the isolated structural divisions, data on not state legal bodies which shares belong to the enterprises are reflected.

The preservation of fixed assets of public utilities belong to the municipal ownership, write-off of objects of fixed assets with not expired terms of amortisation, revaluation of vehicles by an index method, sale of buildings at

auctions or directly concrete buyer, to leave as a deposit, to transfer property in rent for state and private enterprises, and also provide reception and assignation of assets into communal ownership can carry out by the local authorities.

#### Box 4.1.

**Case.** Example from practice of Molodechno municipality: *In municipality the real estate sales at auctions are made. The commissions on gratuitous assignation (within the limits of a state ownership) are created. If gratuitous transfer takes place, the assets estimation is carried out by the balance cost. If the assets are selling at auction, an index method taken into account and estimated assets by the following formula is made:*

$$\text{Estimated assets costs} = (\text{balance assets cost} - \text{depreciation of assets}) * \text{an estimated index (from 1 to 2)}.$$

Source: Own researches of the author.

In Belarus unfortunately, new and widespread forms of functioning of the public utilities, such as subcontract, rent, concession, privatisation are not developed. There are list of objects not privatizable is confirmed. Among the municipal objects there are public utilities providing for public services for the population: the water supply companies and waste entities, garbage entities, housing and communal enterprises, educational establishments. These utilities cannot be privatised by the law. Meanwhile, it is a serious obstacle to improve of public services providing for citizens and improve of their quality. Transformation process of the public entities into the entities of commercial type can occur only after long process of transformation starting from classical socialist understanding of this process when the state (budgetary) enterprises were responsible for maintenance of public services only.

Development of market relations in Belarus objectively demands expansion of the economic rights of local governments and their economic initiatives. In commercial activity it compels to be engaged more actively to the markets of the capital and securities. The commercialization of social sphere and public services should be extended. It is difficult to imagine the local government without material carriers of the property. Therefore obligatory and delegated functions of municipalities should be supplemented by the voluntary functions. First of all, with industrial and financial activity of the enterprises in territory irrespective of patterns of ownership they should be connected.

#### **Management of social and economic development on the territory**

Management of social and economic development in municipalities of Belarus is performed according to the plan of socially – economic development for 5 year period. Now in municipalities their activity on the basis of the developed plans for 2006–2010 is performed. The planning of municipal activity is directed by five lines: 1) branches of industrial sphere (industry, transport, communication,

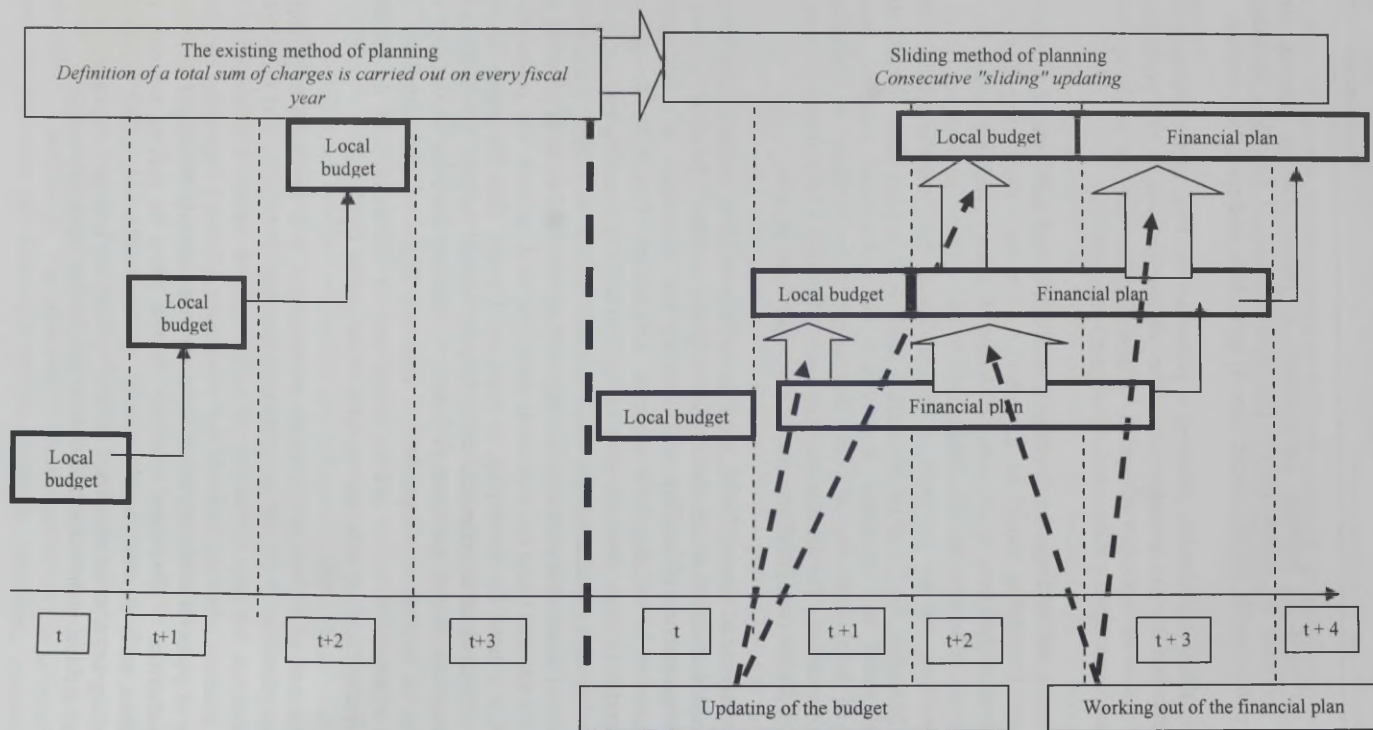
consumer services); 2) building construction; 3) public utilities, housing and municipal services; 4) social-cultural [neproizvodstvennye] branches including education, public health, culture, social care; 5) agriculture and agriculture service.

At the same time, municipality planning is performed on base of the old socialist methods inherited by the soviet period. The sliding planning is not practically developed, plans on branches of social – cultural sphere are not made up, and drawing up of municipality balances does not used into practice.

For overcoming of backlogs in development of tools and methods of territorial planning and forecasting would be expedient to introduce the sliding financial planning in municipalities. At the heart of sliding financial planning should put a three-year cycle to be provided for updating of the future municipal budgets. Being a basis for working out the prospects of financial plan and base for intermediate budgetary planning, the financial planning should be based on three documents: program of social and economic development on intermediate prospect; basic directions of local authority activity proceeding from scenario of operating conditions of economy for the intermediate period; forecast of social and economic development for the next fiscal year and intermediate term prospect.

As to the prospects of financial plan, proceeding from needs to create of conditions for maintenance of equation and stability of budgetary system, subject of budgetary planning, macroeconomic stability, predictability and continuity of a budgetary policy, execution of existing and accepted assignments should be developed. Scenario conditions to the financial plan, taking into account operating and accepted budgetary obligations, including the basic macroeconomic indicators, parameters and priorities of social and economic development on intermediate term prospect, as a rule, in two variants (base and expected) should be used, as well. The perspective financial plan is need for developing, at least, for 3 years. Thus the major factors promoting efficiency of intermediate term planning, should become: predictiveness and sequence of a central government policy; b) interdepartmental interaction; c) coordination in actions municipalities of different levels of administration; d) interaction of executive power and legislative one; e) interaction with the public. The municipality financial planning model is illustrated by figure 4.

For improvement of a municipality assets management, it is necessary to perform the business planning. It should be performed not only in housing and municipal services branches, but also in branches of social -cultural sphere. It is necessary to notice the business planning methods and procedures, allowing improving detailed elaboration of plans on rendering of public services are already developed and used by local authorities of developed countries. Similar plans for making not only in public utilities, such as water supply, sewage, garbage collection, public transport, central heating, but also for social and cultural spheres, for example, maintenance of schools, fire service, improvement of welfare services are especially useful.



**Figure 4.** Comparative characteristic of existing method of planning and “sliding” planning.

Source: Own working out of the author.

The service business plan in which should be analyzed strong and weaknesses of existing and the best ways for providing services in future should be carefully made. For scheduling of business plans, a command which would consist of experts on service for more wide range of disciplines is to be created. Experts can state an objective estimation of current rendering of services and, if necessary, to offer any innovations. Business plan, as a rule, should consist of 4 sections: introduction; review of a current state of affairs; strategic aspirations and the purposes; plan of action. Under the business planning should be taken into account that this process is not static. The business plan is a statement integral part. In order to concentrate on the purposes and activity priorities, on reporting perfection, on stimulation of activity on decision-making, on definitions of joint understanding of the purpose, on coordination of work of the personnel in strategic aspect of activity, on workings out of a practicable plan of actions, on expenses and ways of realization the business planning should be undertaken.

The wide circulation drawing up of balances of municipalities should receive. The combination of a local budget administration and balances of municipalities and regions allows defining credit status indicators, estimating of credit status from positions of reliability, instability and unreliability of the potential borrower like a separate municipality or region. So, the municipality balance allows defining some important financial indicators such as, return of capital, current ratio, liquidity ratio etc. which are used for credit status estimation.

Drawing up of municipality balances and region ones also promotes to maintenance of their credit rating. The municipality listings in credit status both leaders and losers can be made up. The economic information about potential investors who wishes to put investments in municipality sectors will be created, as well.

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## Summary

### LOCAL GOVERNMENT'S ASSETS MANAGEMENT IN BELARUS: DOES DECENTRALIZATION EXIST?

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The research conducted allows drawing the following conclusions:

The real assets management in Belarus municipalities after legal fastening of the independent municipal ownership not to be included in a state ownership is possible, only. Therefore, in nearest future by working out of new local government's legislative base it is necessary to deduce municipal ownership from the state ownership structure and to give it independent character. For these purposes it is necessary to make changes to the Belarus Constitution, Civil Code and other legislative documents having emphasising the municipal ownership as a separate and independent one from state ownership. It should be noted, however, there are "embryos" of the municipal assets management in Belarus: land resources operations, local taxes, duties and charges administration, real estate management and management of territorial development.

A serious innovation in sphere of municipality assets management has become the granting rights to urban and rural local authorities for selling lands in private ownership for inhabitation and for selling land renting rights for foreign investors and corporations. The given measure has allowed increasing revenues of rayon local budgets and rural ones. On the other hand, it should be considered as the important step to liberalisation of land recourses operation for subnational governments. At the same time, many municipalities, having received essential revenues from land operations did not know how to use them due to absence of sufficient adequate expenditure assignments and functions. As a result the revenues received by local authorities did not correspond to their expenditure assignments.

There is a bit independence of municipalities in local taxes duties and charges administration. Municipalities have got the rights to levy local taxes, to establish tax rates, to determine tax bases in limits prescribed by the annual Budget Law. However, if earlier the subnational governments could differentiate tax rates, now they are established for all municipalities equally, in the limits established by the Budget Law. The given measure acts as a restriction for the local governments in collection of local taxes, duties and charges and is the reason why these financial resources are constantly decreasing in subnational local budgets.

Clearly, for stimulation of local tax collections the big freedom of action for local authorities should be given. The rights to establish tax rates and tax bases in reasonable limits should be presented them. It is necessary to stimulate also allocation of grants from the central government depending on the sizes of "extracted" local taxes, duties and charges by the municipalities. In the conditions of

the central government's radical measures directed to decrease of tax burden obviously to reach the local taxes collections increasingly probably the development of municipal and private partnership, enlargement of small and medium business in municipalities and attraction of foreign investments should be needed.

For evolution of social and economic development on the municipal territories it is necessary to introduce a procedure of "sliding" planning. At the heart of sliding planning process should to put a three-year cycle which would provide updating of the future municipal budgets. There are problems to introduce business planning procedures into organisations of welfare sphere (education, public health services, culture, and social security). It is necessary to introduce into practice the drawing up of municipality balances as well.

New approaches to the management of public utilities in municipalities are required. Unfortunately, in Belarus such forms of the public utility functioning as subcontract, rent, concession, not to mention about privatisation in a private ownership, are not developed. It is a serious obstacle for communal fees reducing and improving of public services quality. Nowadays the state monopoly of public utilities takes place and any competitiveness in public services sphere is absent. Therefore, would be expedient a participant's circle of public services providers to expand reasonably by using of commercialization in social sphere and public utilities.

Perfection of assets management in municipalities objectively demands new forms of mutual relations between local authorities and business. Therefore development of municipal and private partnership in of small and medium business spheres is necessary. The basic directions, mutual relations of local authorities and business are complex territorial planning, placing of municipal orders, land and property operations, participation in the capital, budgetary guarantees, licensing, investment agreements. In long term prospect the model municipal and private partnership should comprise construction of schools, hospitals, highways, and other municipal objects.

# GOOD GOVERNANCE ACCOUNTING MODEL

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## Introduction

In view of the global financial and economic crisis Good Governance becomes more and more importance in the scientific discussion. Therefore the paper will elaborate the main elements of Governance Controlling to support the process of policy making and administrative management. The focus will be the accountability of performance in the Public Sector. The main elements of the Good Governance Accounting Model are developed on the basis of the "New Steering Model" in Germany, a concept of organisational management focusing on Public Management Innovation.

## Decentralised responsibility for the responsibility

In the classic pattern of public administration there is such a strong demarcation line between professional responsibility and resource management that the two hardly overlap at all. Specialist departments are given their tasks – for instance, the implementation of statutory welfare provisions – and are expected to get on with them. Yet the resources they need for the tasks are allocated by cross-section departments (the central executive, head office or personnel department), a process which is largely predetermined by the constraints placed on the organisation as a whole which determine the availability of material and human resources.

So far such cross-section units have proved their worth. They make it possible for an administration to ensure that a high standard of technical know-how is offered, while at the same time the books balance, the system does not break down and the staff receive fair treatment. Besides this, specialists can be called on or brought in to help solve particular problems in such areas as data processing, budget allocation, direct works, etc. This division of responsibility contents, however, certain inadequacies. These inadequacies and weaknesses are only to be overcome by presupposing a quite different method of self-regulation in the administrative machine: the professionals have to be given not only their professional responsibilities but also as much responsibility as possible for the resources – i.e. not only for what they have to do but for deciding whether it will actually get done.

So (within an agreed framework and rules) the specialist groups must have the say on

- how = organisation and method
- by whom = staffing
- with what = finance

they intend to meet their professional obligations. Within the agreed framework and rules the tasks previously undertaken by the central units must be decentralised – i.e.

passed to the specialist areas. Consistent application of this new decentralised system will – at least in theory – lead to the following reallocation of work for the specialist departments:

### **Organisation and Method**

The specialist team is responsible for their own life-support systems: i.e. the establishment of their own administrative machinery and methodology. They would thus have to work out for themselves such things as staffing levels or whether to introduce electronic data processing.

### **Staffing**

The specialist team selects its own staff. It should also be able to choose whether to use existing staff or an external service for a particular task (e.g. broad practical research into the organisation itself). Each specialist unit would do its own personnel management: hiring, firing, professional development.

### **Finances**

What used to be the total budget will now be subdivided and allocated to the specialist area, along the following lines:

**Outgoings** – the most significant elements will be

- staffing costs;
- purchases of materials;
- property costs;
- subsidies.

**Income** – the most significant elements will be

- receipts (statutory fees, payments for specific services);
- other income (grants, subsidies from outside sources);
- income from sale of assets).

There will be greater flexibility in budget disposal and income maintenance if the particular departments can decide for themselves what to do with their financial resources – for instance, whether to acquire more technology or extra staff – and if they can have a free hand in making the budget balance – either increasing the income or reducing the outgoings.

This has the further advantage when the unit's economic viability is under consideration of stimulating interest in the income side of the balance sheet and generating appropriate activity – such as research into demand or the offer of new or modified services – to bring in additional income. When all is said and done, it is only thus that a move is to be made from outlay-oriented budgeting to regulation by income. Furthermore, it is a pre-requirement for responsible use of funds that practitioners should be cost-aware and cost-conscious, and this can only be achieved when their performance (“products” as the outcome of purposeful administration of the professional's tasks) is subject to analysis in monetary terms. Bringing the income and outgoings together in this way, and thus also the immediate proceeds

and expenses, is, in addition, the mechanism by which a specialist group's budget can be subdivided into individual product budgets.

The counterbalance to this decentralised responsibility for the resources themselves will be provided by the political decision-makers at the centre who will, by virtue of their guidelines on political issues and financial targets, in effect be making available the resources. The implication is that the chief executive officers, the cross-section units and the individual specialist administrations must get together before each financial year and agree how they are going to make the frame of reference that has been set by the politicians workable by using organisational, human and financial resources.

It will be the function of what has been the cross-section units up to now not only to provide a regulator system but also to work out the guidelines for the use of resources which best reflect the political terms of reference. It will be the specialist area which is responsible for the 'product' and for the resources required to produce it. To what extent the targets have been met will be documented at agreed intervals to keep the chief executive officers informed: Report System. On the basis of this information (Indicative Values) chief executives and the political bodies can make adjustments in response to fluctuations in the achievement of targets.

### **Service delivery units**

Although public administration is in the main more concerned with activities ensuing on legislation, it has come to see itself – and it is reinforced in this by the attitudes of society as a whole – as an “enforcement authority”. This is clearly indicated by the fact that today's training in the generalities of (rather than the technicalities) of public administration has the application of law as its main emphasis. Nevertheless, there has been a perceptible growth in recent years away from pure enforcement and towards “de-bureaucratisation”: increasing numbers of clients (voters!) have confronted politicians and administrators alike with their demands for “value for money” in the performance they pay for in taxes.

It is appropriate to meet these internal and external demands by a change in structure and a conversion of the bureaucracy to a modern “service delivery unit” (the expression “service sector enterprise” is also used in the relevant literature) based on the criteria: that it should be

1. needs-based, where the needs are established through research into client needs
2. as a consequence of (1), organised from the “outside in” (e.g. client surveys)
3. in a state of constant adjustment so that service provision reflects both the demand and the resources available
4. conducted with constant regard to competitiveness / efficiency comparisons
5. capable of involving its workers much more fully in the setting up of targets, more scope for creative thinking and new ways of having their contribution acknowledged.

This model offers an eminently feasible means of reorienting the administrative 'machinery' in line not only with economic theory but also with the needs of the community as self-organising organism – and at the same time avoids giving the impression that what is happening is 'privatisation'. For this reason it is preferable to call the reoriented self-administering sections "service delivery units" rather than "service sector enterprises".

### **From input-orientation to output-orientation**

Discussion of regulation in administration, whether on the current or the proposed model, is characterised by two sets of "opposites" in each of which the same basic facts are conceptualised. Input-oriented means sharing out the resources available (organisation, staffing, finance) among the individual administrations according to the principles of budgeting and the requirements of the system. The 'objective' is to consume the resources (particularly the money available) as nearly as possible to 'perfectly' so that there are no cuts to the next budget. This latent goal is made manifest each year in 'December-fever'. As the money has been allocated in advance to the 'budget headings' there is very little bargaining (or recouping of deficits) required.

The administration's success admits of proof by a variety of 'performance indicators' but it is more difficult to tell if the appointed task has actually been completed and virtually impossible to establish what actual costs it has incurred without the help of unwieldy calculations. Being output-oriented, on the other hand, means the performance targets (quantity and quality of work to achieve targets) will be negotiated, the costs calculated and the resources then diverted to meet them. The degree to which targets are met becomes measurable. But the self-administering specialists have to be in a position to decide the actual amount (in cash or in kind) of whatever resources are available to them they will use for the appointed task; the scope of their budget (not only in respect of finance) will thus have to be considerably extended. Policy and senior officers no longer influence the process of task fulfilment 'simply' by diverting resources, but by a system of regulation (moderation, report systems) which will gently steer it back on course if it is going away.

### **The product of governance**

In the system which has obtained up to now the specialists have had the responsibility for the professional duties they have to perform to fulfil legal or other requirements, and these are allocated to the various departments on the basis of administrative convenience (the principle of logical distribution of tasks) – to put it differently, the tasks of local government are lumped together in the overall plan and then distributed to the various specialist areas according to a schedule of departmental functions.

This has ensured that everything to be done is given to a department to do; but on the whole there is nothing to tell the departments how they should do it. If no problems seem to arise, the job is seen as having been done properly. But in a service delivery unit if the 'resources applied' are to be kept in constant relation to the output (and as the idea is developed 'units of measurement' are devised to calibrate the regulator), then there must be a base-line from which deviations are measured – and that is the product.

The product is the outcome of the administrative activity of self-administrating specialist departments, as it affects the fulfilment of the department's duties. Products may be goods (concrete products) or services (abstract products) and may be produced in response to internal as well as external needs – the needs of the specialist organisation itself or the needs of parallel departments or of the government authority as a whole, or of the world outside. It is not necessary and perhaps not even desirable to start describing products according to a possibly too circumscribing system but preferable simply to list the important features of the product:

- it must be able to bear the costs of its own production and distribution ("**cost focus**").
- it must be able to act as focus for all the information necessary to the regulator mechanism ("**information focus**")
- it must make sense to all participants.

There should be a two-way process to establish what the individual products will be:

- in the first place ideas should be processed from the top downwards – a 'top-down' process starting from the abstract goals and focusing in on the individual products – a process to be undertaken with people in leadership roles;
- in the second place ideas will be processed from the bottom to the top – 'bottom-up' process in which products are described and categorised according to what goals they help meet, a process to be undertaken in the first place at ordinary office level.

The ensuing correlation of the product descriptions achieved by the two processes will ensure that they are precise and unambiguous. Equally, product descriptions must be developed for internal products (work flow, personnel management, organisation and method, regulatory mechanisms, financial management and budget control). It is not possible to say how many product definitions there should be – the number should not be able too low or too high; both too few and too many will reduce the impact of the regulatory information they generate. The description or analysis of activities, products and production points in itself demands that the organisation of development and workflow be scrutinised. At this point there is an opportunity for a critique of the departmental tasks to take place and for the structure to be adjusted to the concept of the 'products': dividing the budget headings as unambiguously as possible.

The individual costs of production (including the overheads) now have to be attributed to the products as defined, and the returns or proceeds established. In the course of this evaluation the following must be taken into account:

#### Costs:

- individual costs: costs that can be directly attributed to the product without any intermediate settlement process
- general costs: costs that cannot be directly assigned to the product but have to be borne by the product in a certain proportion – for instance personnel management, financial administration, organisation tasks.

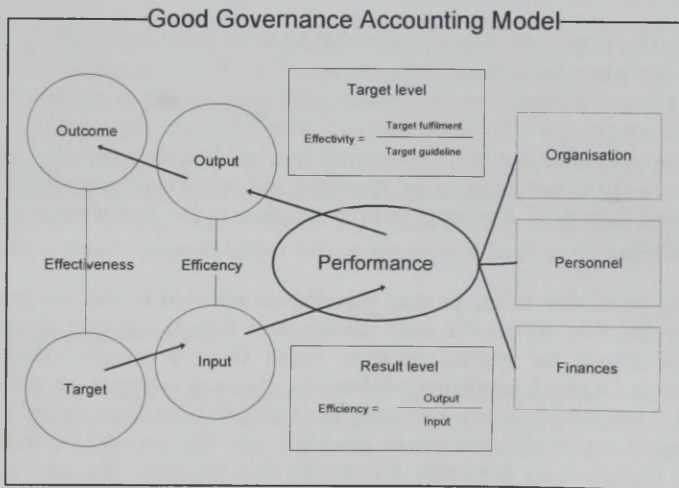
#### Proceeds:

Each product must have its own product budget which will perform two functions:

- allocation function – how much will be given to the department to cover production of the individual product?
- cost-analysis and assignment function – how are the costs calculated and assigned?

### Government Controlling

These product budgets are the basis for the ‘negotiations’ which will take place with the senior executive officers and the political decision-makers to establish budget frameworks. Each product should have someone directly responsible for its budget.



Systems of indicative values (or trigger figures) will make for better-founded decisions on the part of the politicians because they will be more thoroughly and more accurately informed. Indicative values are explicit and measurable indicators which will reveal a department's performance (e.g. product development in figures) or structures (e.g. staffing expansion). In relevant areas comparative figures must be

available for the same criteria both inside and outside the organisation. For example: If one is trying to analyse the creation of nursery places in a community, it is not enough to register the present number of nursery places – an ‘internal’ figure – but the ‘external’ figure is also required – predicted population growth in the community. The example shows that figures cannot be taken in isolation but only ever in a frame of reference, a whole network of indicators.

At the stage when the indicators are being established it will be necessary to decide who is going to use them (information recipient), as the degree of detail necessary will usually depend on the recipient’s position in the hierarchy. It will be particularly difficult, as it was at the product definition stage, to present the indicative figures in a manageable form for comparisons between communities. Comparable populations or townships should make maintain close contact with each other. The function of indicators when they are ‘read’ at intervals is to make it possible to assess efficiency (**cost-effectiveness**) and the actual degree of target achievement (**social effectivity**). Where this is necessary, course corrections or regulatory measures can be promptly applied

Therefore the implementation of a leadership support system is anticipated, which is marked as Controlling in public administration. The ratio between results (Output) and resources (Input) is the criterion of efficiency in planning and controlling in public administration. The striven result and not only the application of resources should stand thus in the centre of the administration activity. High consciousness and responsibility of result would be the necessary consequence. Thereby the political or the administrative leadership must be most concrete (objective) targets, which make possible the staff members to manage more result oriented. Through concrete result standards of decision the competencies are shifted on subordinate management levels, the number of participants involved in administrative process and the term steps are reduced, just as the so led staff members make possible an autonomous working. More management by delegation performs the orientation at the customers, i.e. at the citizens and with it the desired citizen proximity.

### **How to implement the Good Governance Accounting Model**

To support the reform process in public management the Project Seminar was developed which combines the classic notion of training with work on real projects. The Project Seminar is a specific methodic concept of personnel and organizational development, and is tested already successfully in practice by pilot projects in Eastern Germany and in the PHARE Project Development of Central and Local Government Organisation and Structures in Hungary 1994–1996.

Public administration is defined as a learning system, where the project team develops alternative solutions to a concrete practical problem, quasi in a genuine situation. The project team is also involved, if possible, in the implementation process within the department. Integrating practical experience is of a value not to be underestimated for behaviour-oriented learning. Learning is designated as a

project in itself and organised accordingly. Group work, case studies and role play are thus the preferred teaching methods. This approach is not – as sometimes happens – an artificial, didactic constructed problem sequence for incremental learning of reality. This approach has as its starting point from a more complex problem situation, resulting from the necessities of practical operation. In the programme of work there are three Building Bricks.

**(1) Basic Seminars:** In four one-week Basic Seminars there is a transfer of knowledge about modern management in the following four modules: General political and economical conditions, Business and Public Management, Accounting and Cost Accounting.

**(2) Project Focus Stage:** The second building brick is a seminar, in which the students are given the tools of analysis, of project management and of innovation management. In respect of innovation management the Good Government Accounting Model will be introduced and tested for the applicability to the reform process in Estonia.

**(3) Project Laboratory:** The programme is rounded off by Project Laboratory in which the acquired knowledge and skills are translated into practice. The Project Lab serves to put to the test the knowledge gained so that it can be assimilated into real-life pilot projects and into the initiation of further steps. The phases of any problem-solving process provide the headings under which the Project Seminar is organised. The method we use works as an information funnel with four stages: analysis of the immediate situation, analysis of the area round the problem, solution-finding and implementation.

The goal of this part of the entire Project Seminar is to give the students the tools to enable them to take an active role in the changes sweeping through Europe. The students are enabled to make practical use of the knowledge and experience they have gained in their seminar work. Experience has shown that consultancy combined with training (an integrated system) is a useful basis for the re-configuration of public administration. As the system is converted into practice it develops a network of multipliers and communities of practice. In this way Communities of Practice will be established to develop media to make learning experience stimulating and varied for distance learning in a mix of innovative learning. At the same time the working groups will – on the basis of the seminar bricks – elaborate a concept and fundamental materials for a MBA Curriculum for Controllers. A controller is a system specialist developing methods and instruments for decision-making. He is at the same time a consultant, analysing problems and developing proposals for the decision-makers.

Proceeding in such a way requires an organisational infrastructure to match, and the key to this is the establishment of a transfer system. Without such a transfer system, there would be no guarantee that individual measures which achieve success in the

initial stages will have a spread effect in economic structure and national government.

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## Summary

### GOOD GOVERNANCE ACCOUNTING MODEL

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The paper elaborates the main elements of a Good Governance Accounting Model, a concept of organisational management focusing on Public Management Innovation. The components to reach better results by increasing efficiency and effectiveness in government and public administration are: Local competence and responsibility, Output oriented steering by objectives, new understanding of management functions and especially a new understanding of control and of financial management. The new product oriented thinking in the framework of the performance: organisation, personnel und finances leads to a Government Controlling System. Performance Management means: Measurement of the results with development of a target system – social and economic indicators. To support the change from financial control to political administrative control the Project Seminar was developed which combines the classic notion of training with work on real projects. In this framework the university in cooperation with the practitioners in public administration can develop guidelines towards a Curriculum for a Bachelor/Master of Governance Controlling.

# MODERNISATION OF GOVERNMENTAL ACCOUNTING IN ESTONIA

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## Introduction

The transition to market economy started in Estonia similarly to other Central and Eastern European countries in the late 1980ies. The legal reform in accounting that took place at the same time required the preparation and implementation of new legal acts, which would lay foundations for the accounting system characteristic of a market economy. The first step here was the Regulation of Accounting, which laid foundations for the implementation of financial accounting in accordance with the International Financial Reporting Standards under the conditions of market economy (Järve, 2006). A further development was the Accounting Act that came into force on January 1, 1995. The Act was prepared by the members of the Estonian Accounting Standards Board; three members out of seven were expatriate Estonians who had international working experience in Sweden, Canada and Great Britain. The contribution of the specialists having international experience in market economies was crucial in order to prevent several mistakes and problems. (Haldma, 2006).

The Accounting Act, which was really progressive at that time, had its drawback in the determination of the framework that could be implemented in the public sector only to a limited extent. Although the generally accepted accounting principles and concepts apply both to the business and public sector, financial accounting and its administration are characterized by certain peculiarities due to the different, and in some aspects also contradictory, purposes of business entities and public sector entities, which had not been fully taken into account by the act.

The purpose of the article, the first one in series, is to investigate the historical development of governmental accounting theories and to analyse the implementation of theory-based accounting systems in the Estonian public sector, as part of a process of public sector reform. The given article does not focus on the development of budgetary systems.

The paper is set up as follows. The next part introduces the historical development of the different accounting systems for public sector, when the main emphasis has laid on cameral accounting, and sets a theoretical framework for the public sector reforms. The following section gives an overview of the modernisation of Estonian financial accounting and reporting process for public sector. The next section identifies the major problems to be paid attention. Finally the concluding remarks are presented.

## 1. Theoretical framework

### 1.1. The historical development of the government accounting systems

While taking a closer look into the historical development of the government accounting systems one can distinguish between two opinions (Sevim *et al*, 2008: 2466):

1. Classical Government Accounting
2. Modern Government Accounting

The classical opinion consists of

- Cameral and
  - Schneider Accounting Systems,
- while the modern opinion consists of

- Constante and
- Logismography Accounting Systems

According to Monsen (2008), cameral accounting was developed as early as the 16th century onwards in order to contribute to increased control of public money. It was applied in Austria in 1768 for the first time. Most of the literature dealing with cameral accounting is published in German, and it seems to be known only to a small extent beyond the German speaking countries.

The cameral accounting system only consists of the income and expense estimations included in the budget, and the results of the budget applications on special tables and columns. "Cameral accounting has developed a special account for use in cameral single-entry bookkeeping" (Monsen, 2008: 55).

In this system, only monitoring the cash flow is possible. The receivables and payables of the State, as well as its assets are excluded from the scope of the system. The cameral accounting system was accepted as a benchmark for Central Europe. Throughout its historical development, the cameral accounting system appeared in two types as, Simple Cameral(istic) accounting system and New Cameral(istic) accounting system. The most important innovation brought with the New Cameral(istic) accounting system was the inclusion of the accrual basis into the system. (Sevim *et al*, 2008). The New Cameral(istic) accounting system is sometimes referred to as "enterprise cameralistics" or "commercial cameralistics".

Monsen (2008) presents cameral accounting as an alternative to accrual accounting. He appears to rely on Wynne (2007) for support. Monsen (2008) stresses the cash focused accounting as a benefit for governmental entities and concludes as follows. "A better strategy would be to continue using cameralistics and by adding enterprise cameralistics. By so doing we can continue to prepare cash information as the basic information for the government and we can add accrual accounting information for those government units where such information would be of interest" (Monsen, 2008: 59).

The Schneider accounting system follows the cameral accounting system. It was introduced in the middle of the nineteenth century. In this system, in addition to the cash flows and budget transactions; settlement transactions and off budget receivables and payables accounts are also included. The system enables issuing a balance sheet through making the profit-loss calculations. In the Schneider accounting system, the records are kept according to double entry system. "In common with the double account system, therefore, Schneider&Co.'s record keeping system enables the preparation of two financial statements that can be combined to produce what would today be regarded as the conventional balance sheet, but there the similarity ends" (Edwards, 1999: 175). The cash book which was kept in the cameral system is not included in this system. The journal, which was used in this system for the first time, consists of the daily income and expense records. The income and expense book is kept in order to carry out the audit required by the budget. (Edwards, 1999)

The Constante Accounting System was founded in the end of the nineteenth century by F. Hügli and applied in the Swiss Canton of Berne. In this system, in addition to the budget calculations, the asset calculations are also included. All transactions are recorded according to the double entry system, and the system is capable of showing the profit and loss statuses at the end of the fiscal year. (Sevim *et al.*, 2008).

In the Logismography Accounting System, the budget accounts and asset accounts are seen together, similar to the Constante accounting system. In this system, arising from the understanding that the assets from the state have an owner and an administrator, two separate accounts are held as the owner (state) account and the attendant (public servants) account. The Logismography system covers an important place among the government accounting systems as it is a technique able to show both the budget and asset accounts at any time, and takes into account the cost of government transactions. This system is similar to the American Accounting System as it simultaneously records the transactions both according to their dates and subjects. (Nikitin, 2001).

## **1.2. The Basis of New Public Management and New Public Financial Management**

The necessity for public institutions to work more efficiently is under discussion in almost all developed countries. The most wide-spread reform strategy in the given field is New Public Management (NPM) whose main idea is use the action model of the private sector for the public one. (Barzelay, 2001; Christensen & Lægheid, 2001; 2007).

Madise (2000) referring to papers by Mastronardi and Schröter&Wollmann summarizes the content of NPM as follows:

- a) transition to management by results ("orientation to outcome" instead of "orientation to input");

- b) orientation to clients' (service philosophy and "clients'" satisfaction as the criterion of legitimacy of public administration);
- c) "cost orientation" of administrative performance (introduction of shared responsibility for providing a "service" and the related costs incurred);
- d) "service" or "product orientation" (treatment of all the state's activities, both medical care and giving residence or pollution permits as services (products)).

To achieve the mentioned goals, according to NPM the following means have to be applied:

- a) replacement of legal rules and superior orders by tasks and contracts, on the basis of which it would be possible to chose freely the ways of fulfilling the task;
- b) separation of strategic management (setting objectives) and operational management (meeting objectives);
- c) adoption of the principles of business management in the management of public institutions (according to some authors also in controlling the whole state);
- d) "splitting" monolithic administration into decentralized, autonomous parts, which work on the contractual basis;
- e) setting circumscribed objectives for institutions and officials as well as criteria for performance appraisal;
- f) providing officials with more freedom and consequent responsibility to make use of their personal creativity and activity;
- g) abandonment of detailed budgets (i.e. delegation of responsibility to the "front line");
- h) working out methods to increase officials' initiative;
- i) implementation of competitive elements in public administration under the consideration that competition will ensure higher quality of labour and more economical exploitation of resources

The complexity of the problems arising from public administration reforms is subject to several discussions. Public administration is not a circumscribed phenomenon existing in an isolated environment, but part of the state and society.

Administrative reforms have given rise to a controversy both in Estonia and all over the world. Laar (2000) finds the challenges faced by the Republic of Estonia to be similar to those faced by developed countries. The need for reforms is caused by citizens' dissatisfaction with the quality of the services provided, too high expenses of the public sector, the pressure arising from globalization and competition between countries, which compels the administrative system to work more efficiently to support economic development.

Guthrie, *et al* (2005) find that public administrative reforms have financial dimensions, i.e. it is necessary to have access to qualitative and up-to-date financial information in order to administer the public sector in an effective way. They claim that the reformation of the public sector will give rise to the reformation of the financial accounting system of the public sector at least in five key areas

“...including changes to financial reporting systems, the development of commercially based, market-oriented management systems and structures to deal with the pricing and provision of public services, the development of a performance measurement approach; the devolution of, or delegation of, budgets; changes to internal and external public sector audits...” (Guthrie, *et al*, 2005: 2). They are stating that the move to accrual based accounting is generally part of New Public Management reform strategy – New Public Financial Management. Over the last two decades there have been strong supporters for the transition to accrual accounting by governments (Hughes, 2007). However, the use of accrual based accounting is not a new idea and the discussion for and against its use by public sector has been held for centuries (Wynne, 2007).

Based on the experience in the reformation of the financial accounting system in the public sector performed within the framework of administrative reforms carried out or those still in process in OECD countries, Diamond (2006) discusses the universalism of the paradigm, the possibilities of transferring the strategies to non-OECD countries and the question whether all countries possess the management potential required for the reformation of the accounting system.

Randma and Annus (2000) warn us against simplified solutions and insist on prudence while transferring Western European models into Estonia, emphasizing the qualitative and cultural differences of the environment of the administrative reform.

### 1.3. Discussion

Today the accounting systems in use are the developed versions of the four basic models presented in the first section of this paper. According to the Government Financial Reporting Accounting Issues and Practices (2000), four specific bases of accounting have been implemented by governments of different countries: the cash basis, modified cash basis, modified accrual basis and accrual basis accounting.

In spite of strong support by the International Public Sector Accounting Standards (IPSAS) Board, the use of accrual accounting by public sector is still rare. Table 1 below presents governments having adopted accrual accounting at the state level.

**Table 1.** The use of accrual accounting by countries

Country	Adopted by central government	Accrual budgeting used
Spain	1989	No
New Zealand	1993	Yes
Sweden	1993	Yes
Australia	1994	Yes
USA	1998	No
UK	2002	Yes
Canada	2003	No
Finland	2005	No
France	2006	No

Source: Wynne, 2007: 26

As for now Switzerland, Greece, and also Iceland and Italy, using some cash-basis elements, have been added to the OECD countries shown in Table 1 (European Commission, 2008: 3). The Estonian public sector has also adopted accrual-basis accounting. The first consolidated balance sheet in Estonia was prepared as of December 31, 2004, and the first consolidated income statement for the year 2005. However, in Estonia a cash-basis budgeting is being used.

Transition to full accrual-basis accounting is a long process. The leaders of French and UK reforms think that a thorough analysis can be carried out only after the new system has been in use for several years (Wynne, 2007). The benefit from improved quality and better resource management will be clear even later.

There is almost no studies carried out by independent researchers on the actual cost benefit effect on the move to accrual accounting.

## **2. Regulation of accounting for public sector entities in Estonia and concurrent problems**

According to Haldma (2004), during the process of improving Estonian financial accounting and reporting regulation, one can distinguish between three stages:

1. the introductory stage (1990–1994);
2. the system building stage (1995–2002) and
3. the system improvement stage (since 2003)

In the introductory stage of the development of accounting the main emphasis was laid on the regulation of accounting in business entities.

The regulation of accounting in public institutions was under serious focus only in the system building stage. The situation was analyzed by the Ministry of Finance and the conclusion was that the existing regulations did not meet the expectations set for the public accounting system both from the aspect of internal and external users. The Accounting Act almost did not touch upon the regulation of accounting in the public sector. However, the given field was regulated by the regulation of accounting for public institutions and decrees by the Minister of Finance.

The accounting methods used were a mixture of cash-basis and accrual-basis accounting, and therefore the outcome was unsystematic both in content and in form. The lack of systematic methods also casts doubt upon the reliability of the data. Thus, we can claim that the state did not have a true overview about its assets, liabilities, accrual revenues and expenses. There were two parallel accounting and reporting systems – bookkeeping and fulfillment of the budget, whereas the latter was considered of primary importance. The mentioned systems did not have any logical connection. It was not possible to consolidate the data. Consistent information was available only in accounting for money earned and spent. (Jansen, 2004). The regulation of accounting in Estonia in those days is comparable to the

UK model, where the issuance of standard documents was the responsibility of the respective ministries (Currstine, 2007: 33).

The system improvement stage saw a breakthrough in the regulation of accounting in public sector entities. The harmonization of the legal acts regulating financial accounting with the International Financial Reporting Standards fell into the same time period with the reformation project of public sector accounting. A new accounting act was worked out, which was enforced on January 1, 2003 and it also applied to the public sector with a few exceptions. Accounting in the public sector was converted into accrual basis accounting and harmonized with the International Accounting Standards. The new general regulations of public sector accounting that came into force on January 1, 2004 were already based on the International Public Sector Accounting Standards (IPSAS). In the given stage the accounting principles in the public and private sector were harmonized. The regulation of accounting in the mentioned period can be compared to the Canadian model, where standard documents are issued by both the state and the respective ministry (Currstine, 2007).

The reformation of accounting in the public sector was characterized by the top-down implementation approach. The leading role in the reformation process was taken by the Ministry of Finance. Currstine (2007: 33) emphasizes better co-ordination, decision-makers' sufficient access to information and pressure to carry out the reform as the positive aspects of such an approach. Negative aspects are seen, for instance, in limited flexibility, lack of motivation in subdivisions and possible distortion of the situation, as subdivisions might want to present data that are expected instead of the actual data.

Due to the modernisation of the accounting policy in the public sector certain problems have arisen that need to be solved. They can be categorised as follows:

1. Problems arising from the development of the structure of the governmental accounting system – at present there are 227 municipal authorities, as a result of the reform their number is seen as 20. The decrease in the number of municipal authorities in the process of the administrative reform will bring along a change in the number of accountable entities and in the structure of the accounting system.
2. Consolidation of statements – problems arising from the complexity of administrative structure(s). In accordance with accrual-basis accounting a true and fair collection of information about all assets, liabilities, revenues and expenses is of great significance at the level of both an individual organisation and the whole system.
3. Qualification training for specialists and the quality of financial statements – the job of an accountant was unpopular some time ago. Also a person who does not have adequate qualification may become an accountant. Accrual accounting is much more complex than cash basis accounting. At present we can also feel that accountants do not have enough theoretical knowledge. In practice it means that practical ways of accounting are passed on and the same mistakes recur “from

generation to generation". Financial accounting for the public sector is taught at few universities or in a very limited scope. In addition, staff of ministries, the auditors, the government, members of Parliament – they all need continuous training in this field.

4. Sociological and psychological problems – the reform has been slower in the public than in the business sector. Also academic circles have been passive in reforming accounting in the public sector. General resistance to innovations.
5. Departmental conservatism – reforms in the public sector began later and progressed at a lower speed than in the business sector. Therefore the public sector was an impediment to the economic development of the country (the country developed fast due to the rapid development of the business sector).
6. Problems arising from internationalisation – the implementation and amendment of equivalents of the international public sector accounting standards. Ensuring the transparency and understandability of the statements. Increased complexity of financial control.

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## Summary

### MODERNISATION OF GOVERNMENTAL ACCOUNTING IN ESTONIA

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The necessity for public institutions to work more efficiently is under discussion in almost all developed countries. The most wide-spread reform strategy in the given field is NPM whose main idea is use the action model of the private sector for the public one.

The reformation of financial accounting in the public sector is also part of NPM, the purpose of which is performing financial accounting in public sector entities according to the principle of accrual-basis accounting. At the state level the full implementation of accrual-basis accounting will mean the usage of both the accrual-basis accounting system and the accrual- basis budgetary system.

In spite of the fact that the modernisation of financial accounting and management in the public sector is under great focus all over the world, only few governments have actually taken action. The transition to accrual accounting in the public sector is an issue both in the EU and other parts of the world. Not only does it concern technical innovation but also an important change in the culture of administration. A consolidated financial statement comprising the whole country gives a comprehensive overview about the assets and liabilities and revenues and expenses of the country. It is prepared only in Australia, New Zealand, the USA, Great Britain, Canada, Finland, Sweden, Switzerland, France, Greece, also Iceland and Italy, where certain cash-basis elements are used. Estonia was added to the list in 2004 with the first consolidated balance sheet at state level. However, in Estonia a cash-basis budgeting is being used.

A lot has been done in Estonia to modernize accounting in the public sector. A reliable foundation has been laid for the transition to full accrual-basis accounting, which is also supported by developed IT-systems. Nevertheless, it is evident that both the administrative and the accounting system need further regulation. The reformation of the public sector, including the reformation of accounting, will bring along improved quality of services, including information. However, it will be a long-term and expensive process, the benefit of which can be seen to full extent only after decades.