DYNAMIC FACTOR ANALYSIS OF FINANCIAL VIABILITY OF LATVIAN SERVICE SECTOR COMPANIES

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Abstract

A business activity is a process which is orientated over a long period of time but under the influence of various circumstances. The success of business is the result of a company's ability to maintain the sustainability. Taking into account authors' competence, they consider that sustainable development of Latvian enterprises, which deliver services in Riga region, mostly depends on the level of their financial viability.

The aim of research is to make the factor analysis of financial viability of Latvian companies of Riga region service industry in the dynamic to enable commercial organizations to make the process of decision making optimal, to achieve financial sustainability and to redefine the development strategy of their activity. The applied research methodology is factor analysis based on chain substitutions method and method of absolute differences.

Keywords: financial viability, factor analysis, indicators of financial viability.

Introduction

The financial crisis of 2007–2010 has been called by leading economists the worst financial crisis since the Great Depression of the 1930s (Roubini, 2009). The 2008–2009 Latvian financial crisis, part of the global financial crisis, is a major ongoing economic and political crisis in Latvia. In 2008, after years of booming economic success, the Latvian economy took one of the sharpest downturns in the world, picking up pace in the last quarter which saw GDP contract by 10.5% (BBC News, 2009).

The success of the business activities of Latvian companies was significantly affected by the world financial crisis. According to the "Lursoft" data, in 2009 there were 2,786 insolvency proceedings initiated. In comparison with the number of insolvency proceedings started in 2008, there was an increase of 70.2%. In 2008 the rise in the number of insolvency proceedings comprised 59.2% (Yansone, 2009). At the end of last year the research carried out by the business information service and debt collection organisation Verband der Verein Creditreform (VVC) showed that among 8 new European Union member countries the Baltic States would suffer the most from the effects of the world financial crisis. Last year in the Baltic region there was registered the highest number of insolvent companies. In Lithuania 115 companies out of every 10,000 became insolvent, in Estonia – 108, in Latvia – 99.

Last year on average in the 8 new EU member countries, 52 companies out of every 10,000 were declared insolvent (NRA.lv, 2009).

It should be noted that the insolvency of commercial organizations has an impact on the country's economy in general and adds to the crisis. In 2009 the debt of Latvian taxpayers against whom insolvency proceedings were brought, comprised Ls 17,487 millions, which is a significant part of the state budget (Latvian ratings, 2009).

Nowadays success and development of commercial organizations depend on the ability of an enterprise to maintain and increase the level of its financial viability to be solvent and sustainable. In order to function successfully and for a long time in the market, enterprises need to constantly control their financial condition. Controlling the financial viability is one of a company's crisis management tools the implementation of which is becoming an integral part of any business management in conditions of nowadays world financial crises.

The aim of research is to make the factor analysis of financial viability of Latvian companies of Riga region service industry in the dynamic to find out the level of impact and interrelationship between different elements of financial viability to enable commercial organizations to make the process of decision making optimal, to redefine the development strategy of their activity, to achieve sustainable development, financial viability and solvency.

Theoretical background

The concept of financial viability characterizes a competent and focused management of all factors which determine the results of a company's business activities.

In microeconomics in the sphere of financial analysis authors examine the financial stability of an enterprise characterizing it in the following way:

1. The ability of an entity to continue to achieve its operating objectives and fulfill its mission over the long term (Business and Personal Finance Dictionary, 2009);
2. The ability of an organization to raise the funds required to meet its functional requirements in the short, medium and long-term (Lusthaus, 2002);
3. Conditions of financial viability are multiple sources of funding, positive cash flow, financial surplus (Adrien & Lusthaus, 1999);
4. The ability to cover costs with earned revenue (Ledgerwood, 1999);
5. Business line that at minimum pays for all the costs, that are required to carry out the related activities (Allison & Kaye, 2005);
6. There is also an opinion that financial viability as a component of sustainability is defined in terms of an adequate return for the level of risk undertaken (Crowther & Aras, 2009).

The authors examined the concept of financial viability in the context of sustainable development, assuming that sustainable development is a kind of function of various elements (like environmental, social, economic, structural), one of which being financial viability. In the course of morphological analysis of definitions of financial viability and sustainable development the authors have studied the following concepts which are connected with this idea: balance; stability; development (Yefremova, 2009; Lopatnikov, 2003; Wikianswers, 2009; Merriam-webster online dictionary, 2009).

In the course of the research carried out by the authors they have come to the conclusion that financial viability presupposes such distribution and use of financial resources which allows to sustain the state of a company's equilibrium in a short-term period and provide sustainable development of a company in a long-term period.

In order to create the mechanism for managing financial viability the authors find it necessary to discover which factors influence financial viability the most. The results of the factor analysis presented in this article are the logical continuation of the research carried out by the authors (Koleda & Lace 2009; Koleda & Lace 2008).

The indicators of financial viability

In order to evaluate financial viability the authors use the indicators (debt to equity ratio, profitability of assets; profitability of sales, interest coverage ratio) included into the methodology of evaluation of financial viability offered by the International Monetary Fund (IMF, 2007). The authors have elicited that the given methodology is a good tool of controlling the level of a company's financial viability. The offered indicators objectively evaluate the company's financial condition (Koleda & Lace, 2009).

The authors of the article analysed the impact of such factors as price, cost, structure of capital and assets, and demand on the growth rate of indicators of financial viability. The growth rates of indicators of financial viability and impacting factors is calculated based on formula below (1):

$$GR_n^i = ((V_n^i - V_{n-1}^i) / V_{n-1}^i) * 100 \ \% \qquad (1)$$

where

GR_n^i - growth rate of i indicator/impacting factor in n year, %;

V_{n-1}^i - value of i indicator/impacting factor in n-1 year;

V_n^i - value of i indicator/impacting factor in n year.

The factor models of indicators of financial viability

The study of the influence of the factors on the indicators of financial viability was carried out using the models of economic analysis (Gilyarovskaya & Sobolev, 2002; Savickaya, 2005; World Finance and Credit, 2009) which are shown in table 1.

ISSN 1822-6515

Table 1. Factor models of indicators

Indicators IND_i	**Factor models** $IND_i = f(X^1_{ind_i}, X^2_{ind_i}, ...X^n_{ind_i})$	**Description of factors** $X^j_{ind_i}$
Profitability of sales	*(Q*P-PRC-AC-SC)/(Q*P)* (2)	Q- sales volume, units P – price PRC – operating costs AC – administrative costs SC – sales costs
Debt to equity ratio	*((L/A)/(FC/A)/(CA/FC)/(ECA/CA))*(ECA/E)* (3)	L- debt A- assets FC – fixed assets CA – current assets E – equity ECA – own working capital
Percentage coverage ratio	*P/IC* (4)	P- profit IC- interest charges
Profitability of assets	*((S/(AC+SC+PRC))-1)*(CA/A)*(I/CA)*((AC+SC+PRC/I)* (5)	S-sales I – inventories

Description:

IND_i indicator i of financial viability, i=(1,2...4)

$X^j_{ind_i}$ - factor j of indicator i, j=(1,2…n)

Timing and Regional Scope of Research

Number of observations selected on a systematic basis was chosen by authors according to the following principles:

1. Industry sector, which has major contribution to Latvian economics, is analyzed. The level of its impact on successful state of economic is evaluated by GDP. The contribution of services branch to Latvian economic is crucial - 42% of total GDP (Central Statistical Bureau of Latvian Republic, 2009).
2. The most economically active region is chosen for analyses according to the quantity of companies operating in Latvian regions. The most economically active region is Riga. It is proved by fact that 67% of all active business units operate in Riga region (Central Statistical Bureau of Latvian Republic, 2009).
3. The sample of statistical information is limited according to the sizes of the companies. 39681 micro enterprises, 7176 small enterprises, 1454 medium-sized enterprises and only 258 large companies operate in Riga region (Central Statistical Bureau of Latvian Republic, 2009). Statistical sample consists of information on small and medium sized companies.
4. The time diapason of the research is limited due to unavailability of the statistical information. The time diapason of the research is going to be limited to the years 2003 – 2007. This analyzed period represents such stages of the Latvian economy as admission to the European Union, the peak of economic development, beginning of the world financial crisis.

The authors consider that it is important to evaluate the financial stability of small and medium-sized enterprises, which are operating in Riga region on service market, because they have crucial influence on Latvian economy.

Results of research

The authors have analyzed the dynamics of the growth rate of financial viability of the Latvian companies, the results of which are given in the diagram (Fig.1).

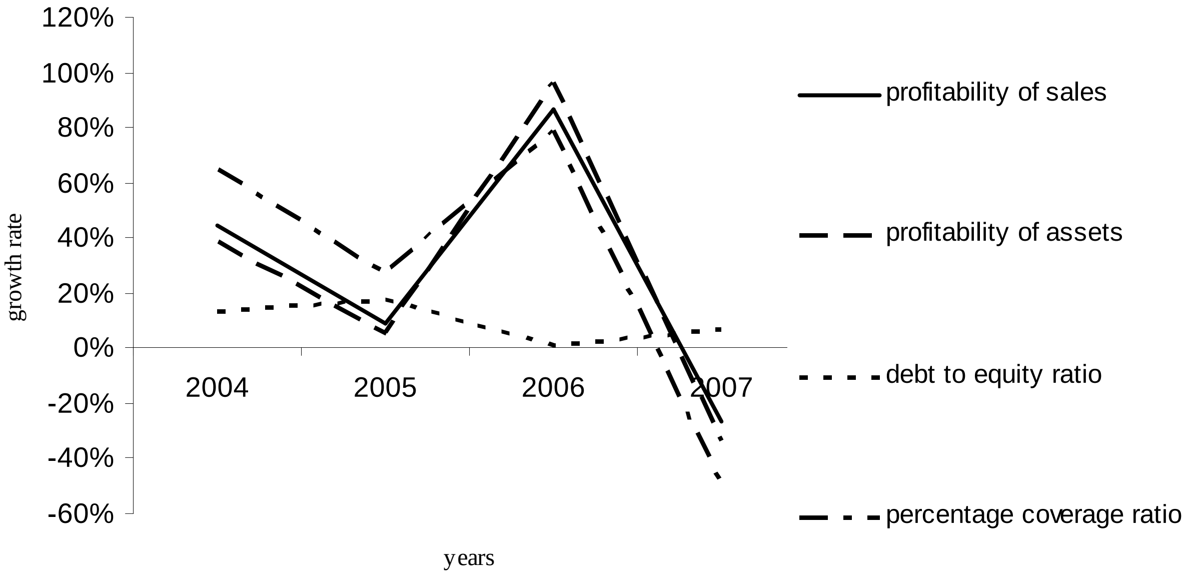

Figure 1. Dynamic of growth rates of indicators of financial viability

As it is seen in diagram 1, the dynamics of change of the factors of financial viability reflects a sharp deterioration of their values in 2007. The authors have performed the factor analysis of the change trends of the values of the factors of financial viability.

Growth rate of profitability of sales of the analysed Latvian enterprises in the period 2004-2006 comprised on average 47%, but in 2007 decreased by 27%. This trend was affected significantly by the growth of actual volume of sales until 2007 and then its fall. In 2007 the most important role in the decrease of the level of profitability of sales was played by the price factor and high costs with a relatively low volume of sales. The authors have performed the analysis of the service market in the period 2003-2007 and came to the conclusion that the real estate property business was the most influental sphere in the service industry. From the beginning of 2007 the amount of the real estate deals started to reduce in average by 60% every quarter (Arco Real Estate, 2006; Arco Real Estate, 2007) – it becomes the main reason for the sharp fall of the average level of profitability of sales in the service industry sphere. The results of the factor analysis of the change of growth rate of companies' profitability of sales are presented in diagram 2.

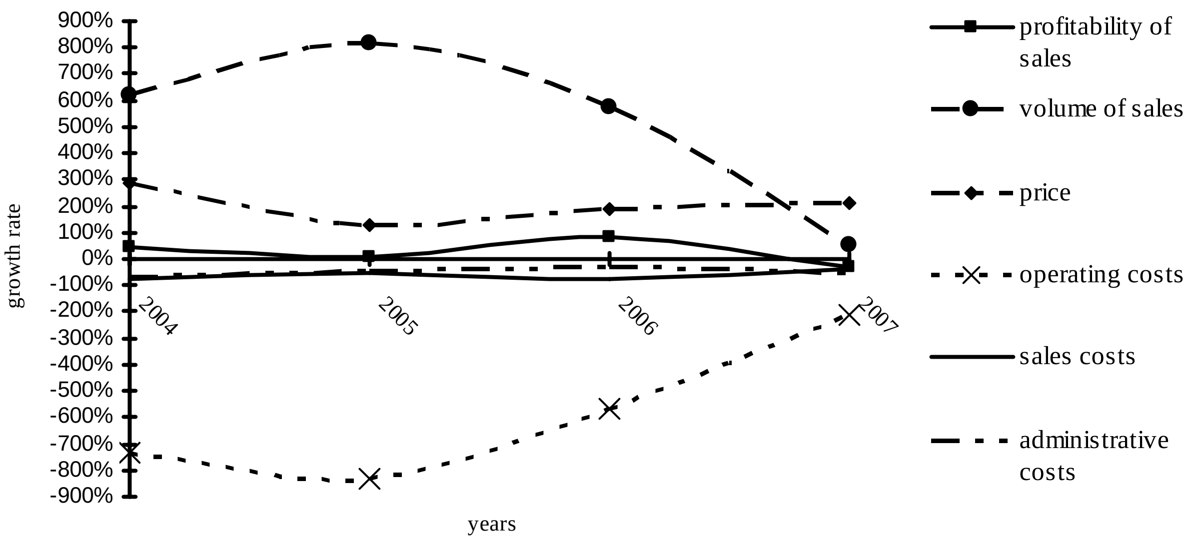

Figure 2. Factors influencing growth rate of profitability of sales

The authors have also carried out an analysis of sensitivity of the indicator of sales profitability analyzing the changes of the indicator according to the change of the costs growth rate by 1%. In the result of the analysis it was found out that the decrease of growth rate of operating costs by 1% can increase growth rate of sales profitability on average 26 times, decrease of growth rate of sales costs by 1% - 2 times, decrease of growth rate of administrative costs – also 2 times, providing that the growth rate of sales volume does not change.

The growth rate of profitability assets in the period 2004-2006 was rising on average by 47%, but in 2007 fell by 34% (Fig.3). The trend until 2007 was strongly influenced by the price factor – the price growth positively affected the value of the given indicator, but in 2007 low stock turnover negatively was detrimental to profitability of assets.Stagnation in the real estate market in 2007 as well as the specific character of this type of business could affect the decrease in stock turnover.

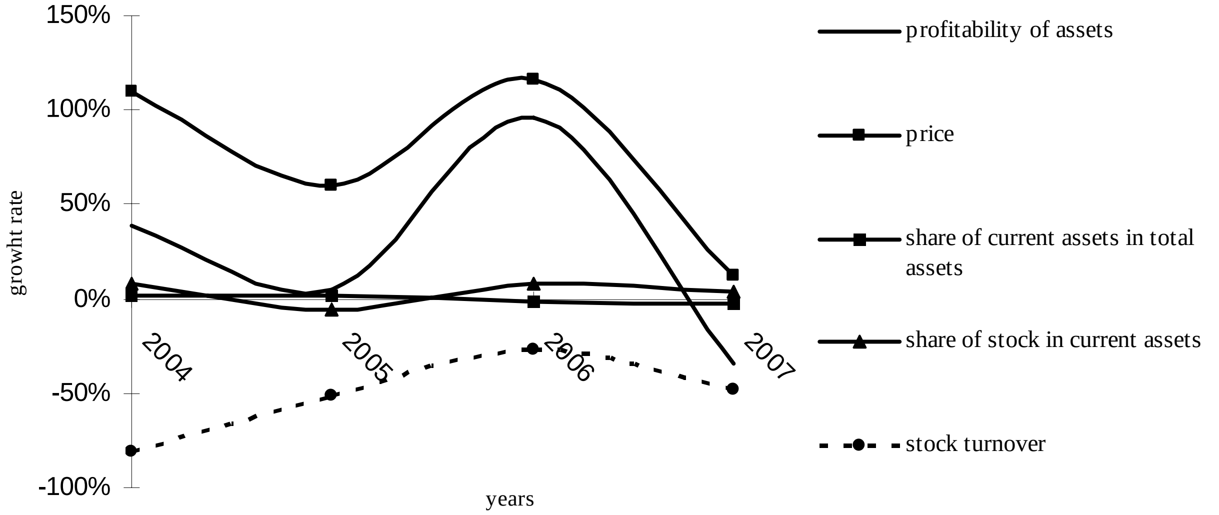

Figure 3. Factors influencing growth rate of profitability of assets

Growth rate of debt to equity ratio in 2004, 2005, 2006 and 2007 comprised 13%, 17%, 1% and 13% respectively (Fig.4). The low growth rate of this indicator in 2006 was determined by the decrease of the share of fixed assets in total assets and the increase of the shares of own operating assets in working assets. The role of both these factors mutually compensate for positive and negative influence on the indicator analysed.

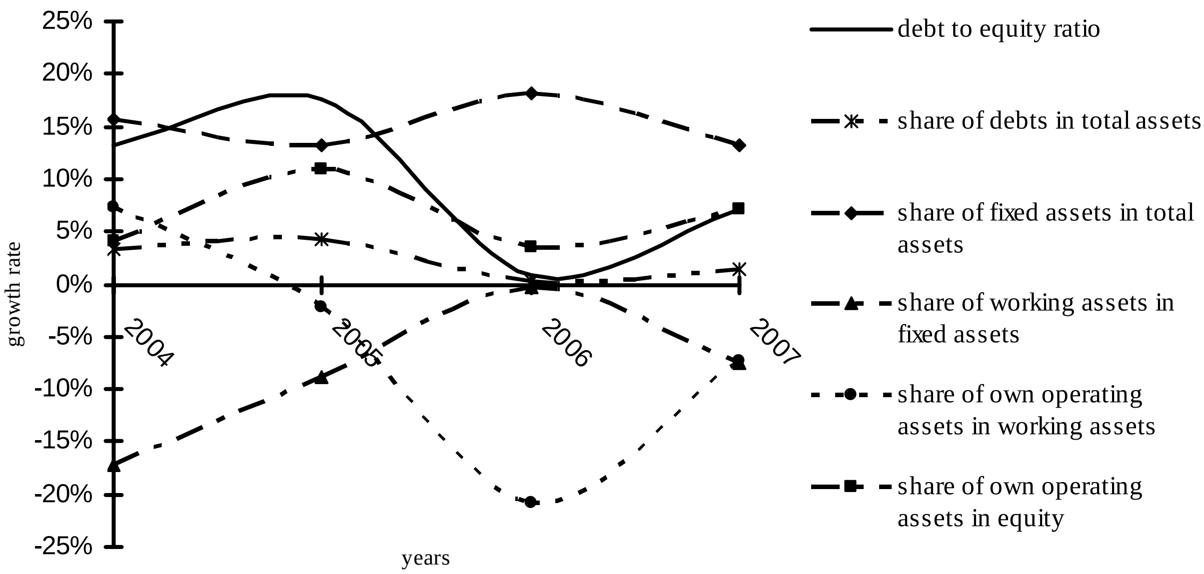

Figure 4. Factors influencing growth rate of debt to equity ratio

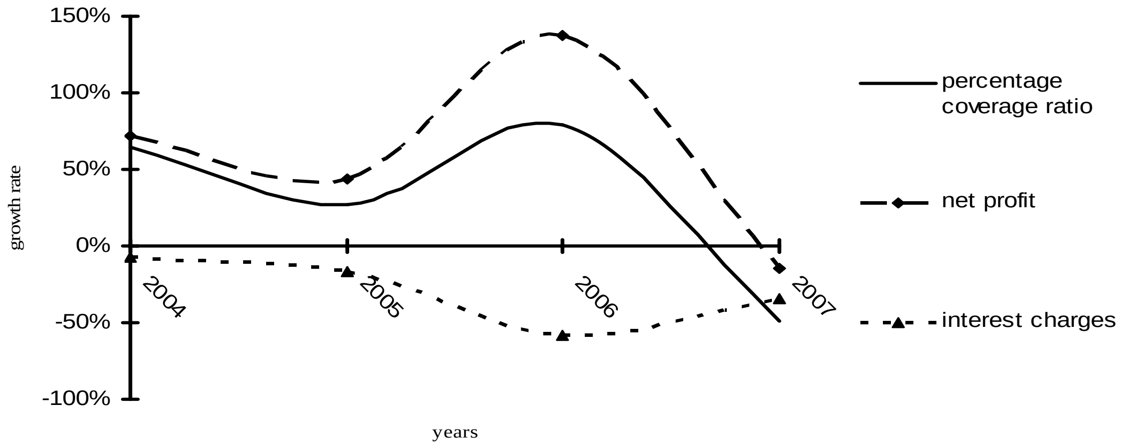

Figure 5. Factors influencing growth rate of percentage coverage ratio

Growth rate of percentage coverage ratio in the period 2004-2006 on average comprised 57% (Fig.5).

The profit growth influenced greatly the growth rate of the indicator analysed. In 2007 the growth rate of the given indicator comprised 49%, which was mainly influenced by the rapid growth of percentage coverage ratio as well as the decrease in profits. One of the reasons for such a trend is a decline in the real estate market – the key sector of the service sphere in Latvia in 2007.

Conclusions

The issues of providing companies' financial viability are extremely important for successful sustainable development and stability of enrepreneurship. You can only manage those things which you can measure. Nowadays the necessity for objective assessment of a company's financial viability as a basis for taking management and investment decisions has been enhanced. That is why particular emphasis is put onto revealing the factors of providing financial viability. Factor analysis is one of the sectors of modern multidimensional statistics and is widely used in various spheres of research. It allows a deeper understanding of the essence of a company's financial viability. The factor analysis of the financial viability of the companies which operate in the service industry in Riga region showed that the main factors which positively influence the values of the indicators of financial viability were price and actual volume of sales – these are the factors which companies can hardly influence, these are the factors which characterize demand, the fall of which in 2007 had a crucial impact on companies' financial viability. The research also demonstrated that financial viability was negatively influenced by the growth of operating costs, low stock turnover and high interest charges when the profit was low in 2007 – a company can manage these factors.

The retrospective dynamic factor analysis of financial viability on the basis of statistical data on finance accounting of the companies operating in the sphere of the service industry in Riga region, which was carried out by the authors, allows: 1) comprehensively measure financial viability; 2) to reveal the changes of a company's financial viability in the time span concerned; 3) to reveal latent and the most significant factors which influence sustainability of a company; 4) to reveal the reserves for increase in financial viability and decrease in risks of the loss of solvency; 5) to determine a degree of interrelation between the factors and values of the indicators of financial viability; 6) to work out a financial strategy and tactics for a company's development, to substantiate financial plans; 7) to predict the trends of a company's financial viability; 8) persons concerned to take managerial decisions on the basis of assessing companies' financial viability in a prior period and projection of financial position in perspective; 9) to carry out a comparative analysis of alternatives in the process of decision-making.

In the process of managing a company in the modern business environment one of the key aims of its functioning is provision of a company's sustainability in the market and improving its prosperity. Factor analysis and sensitivity analysis of the indicators of financial viability play an important role in implementing this task. The research carried out revealed the factors which have the strongest influence on financial viability, which is the necessary information for creating the mechanism of managing a company's harmonious and sustainable development.

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