COMPOSITE FINANCIAL INDEX AS A METHOD TO IMPROVE FINANCIAL MANAGEMENT AT HIGHER EDUCATION INSTITUTIONS

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Abstract

Key development directions of Latvia and both national and social key tasks until 2013 are determined in the National Development Plan of Latvia. Education and knowledge for the growth of national economy and technological excellence are determined as the main strategic target.

Within the national educational system the sector of higher education gives more impact on other sectors of national economy and processes of social life areas. In academic year 2010-2011 there were 34 national and 26 private higher education institutions operating in Latvia. Regardless of sources of financing available to each institution, they are obliged to provide competitive services – to offer maximum quality with the financial resources available. Therefore improvement of financial management and complete methodology of analysis of financial strategy are the components necessary for professional management of higher education institutions (HEI).

Keywords: the higher education institution's funding, financial management, financial analysis, financial ratio, financial analysis pattern.

1. INTRODUCTION

In the context of priorities determined by the state strategic plan for the development of higher education, overall changes of the economic situation in the country resulting in decrease of state funding for higher education, as well as the competition created by private institutions in the higher education sector, authors have carried out research on financial management in institutions of higher education.

The objective of research is to examine characteristics of financial management, particularly modern approaches to financial analysis in higher education, and to develop proposals for improvement of financial management in higher education institutions in Latvia.

To achieve the objectives set by authors the following tasks were identified: to study legislation and resolutions of the institutions of higher education, to study the sources of funding, to investigate contemporary approaches to financial analysis used in Institutions of Higher Education and to determine the most appropriate way of utilization of modern financial analysis pattern for institutions of higher education with the purpose to improve their financial management. In this paper financial management is studied starting from financial planning to the analysis of actual results in close inter-relationship with mission and strategic objectives.

During the research quantitative and qualitative methods of research in management science were used, including induction and deduction, analysis and synthesis, logically constructive and statistical methods, description and display methods of numeral information. During the research on higher education environment in Latvia indicators of financial management, funding and financial analysis were used in order to evaluate and to compare competition environment in higher education.

2. FINANCIAL RATIOS ANALYSIS SYSTEM

Already since 1991 the basis of normative acts regulating the activity of higher education is being formed and developed in such manner that their standards are in accordance with the guidelines for providing qualitative and competitive education within the educational environment of Europe defined by

the Bologna Process. In Latvia requirements for implementing these standards are determined by the Law on Institutions of Higher Education, which applies to all the institutions of higher education located in the Republic of Latvia, regardless of the procedures for the founding and financing and the specialization thereof.

Table 1

Number of students in EU countries and their changes in 2005-2010

Country	Number of students (1000)						Change (%)	
	2005	2006	2007	2008	2009	2010	2010/2005	2010/2008
Latvia (LV)	131	131	130	128	125	113	-14%	-12%
Finland (FI)	306	309	309	310	297	304	-1%	-2%
Poland (PL)	2118	2146	2147	2166	2150	2149	1%	-1%
Estonia (EE)	68	68	69	68	68	69	2%	1%
France (FR)	2187	2201	2180	2165	2173	2245	3%	4%
Lithuania (LT)	195	199	200	205	211	201	3%	-2%
Denmark (DK)	232	229	232	231	235	241	4%	4%
Norway (NO)	214	215	215	213	219	225	5%	6%
Sweden (SE)	427	423	414	407	423	455	7%	12%
United Kingdom (UK)	2288	2336	2363	2330	2415	2479	8%	6%
Germany (DE)	2269	2290	2279	2245	2439	2556	13%	14%
Netherlands (NL)	565	580	590	602	619	651	15%	8%
Switzerland (CH)	200	205	213	225	234	249	24%	11%
Czech Republic (CZ)	336	337	363	393	417	437	30%	11%
Austria (AT)	244	253	261	285	308	350	43%	23%

Source: Eurostat. UOE data collection

As Table 1 shows number of students in Germany, Czech Republic and Austria increased significantly, in Estonia, Finland and Lithuania they were stable, but in Latvia the number of students decreased dramatically (14%).

Table 2

Annual public expenditure on higher education as a % of GDP, 2008

Country	DK	NO	FI	SE	NL	AT	IS	BE	IE	CH
Expenditure (%)	2.41	2.05	1.89	1.82	1.52	1.49	1.49	1.37	1.32	1.29
Country	FR	DE	EE	ES	PL	LT	LV	CZ	UK	
Expenditure (%)	1.25	1.22	1.11	1.07	1.04	1.03	1.00	0.93	0.84	

Source: Eurostat. UOE data collection

According to statistical data in 2008 the most part of GDP on higher education purposes were spended Denmark and Norway (2.41% and 2.05%) and less than 1 % was spended United Kindom (0.84%) and Czech Republic(0.93%), Latvia government funds for HE consisted with 1% of GDP.

The issues of financial management of higher education institutions have been studied by such world-famous financiers as Prowle, Morgan (2005), Barr, .McClellan (2011), Cekic (2010); Gibson, Spring (2009). In order for higher education institutions to be able to evaluate their positions of achieving their strategic targets and implementing their mission, a group of such authors as F.Tahey, R Salluzzo, F.Prager, L.Mezzina, C.Cowen (2010) in collaboration with company KPMG have developed suggestions for financial analysis of higher education institutions. According to the authors' advice, overall financial position of HEI should be evaluated on the basis of the key indicators (see Figure 1).

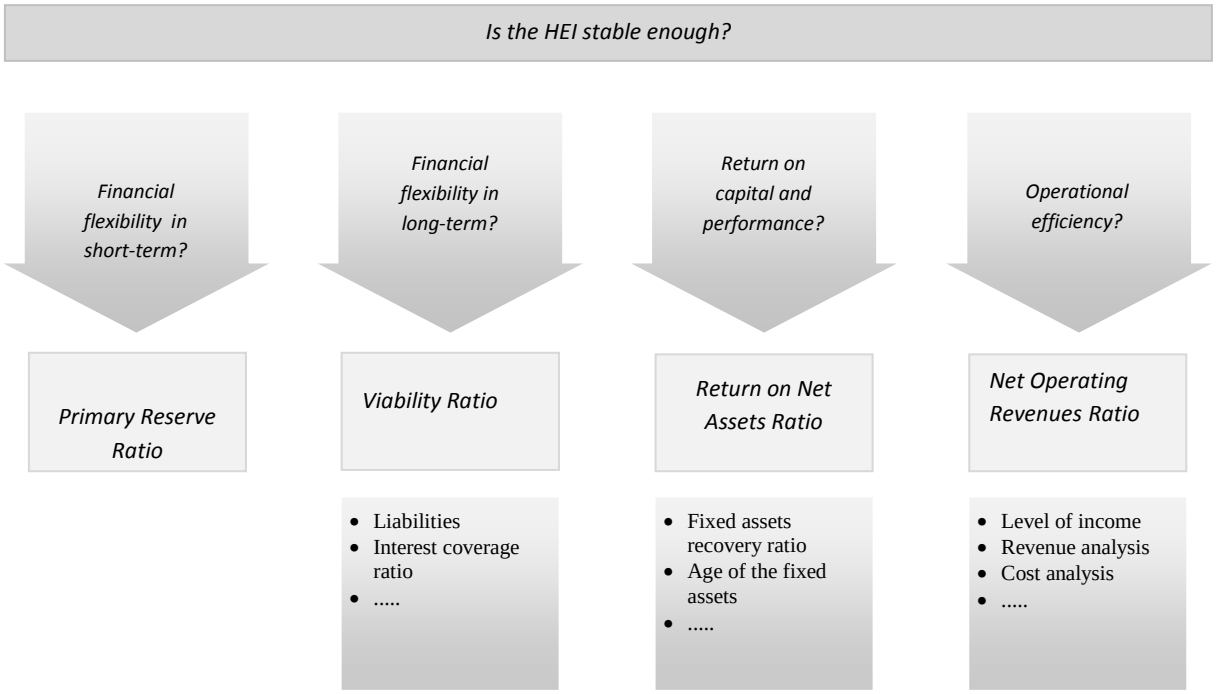

Figure 1. Interrelationship of the HEI financial rates for evaluating financial position
Source: devised by the authors

As the figure suggests, the primary task is to find out if the liquidity of the HEI is sufficient, because if the HEI is not able to provide its operational activities, analysis of the rest of the ratios becomes insignificant. After determining liquidity, the rest of the matters regarding evaluation of overall financial position of the HEI are determined:

- *Primary Reserve Ratio* allows to evaluate if resources of the HEI are sufficient to support the mission of the higher education institution;
- *Viability Ratio* indicates if the financial resources are managed strategically, and if the mission of the HEI is promoted;
- *Return on Net Assets Ratio* indicates if expenditure and management of assets comply with strategic directions of the HEI;
- *Net Operating Revenues Ratio* allows to evaluate if the results of operational activity indicate HEI's capability to survive with the resources available.

In addition to the four key indicators mentioned above, the HEI is able to perform detailed analysis of other ratios on its own discretion, what would provide more grounded decision making in processes of financial planning, calculating actual cost and prices, and other stages.

Net current assets of the HEI will be the assets available to "spend" in order to provide activity of the higher education institution. In order to ascertain if the amount is sufficient, it is divided by the total costs of the HEI (see Formula 1).

$$\text{Primary Reserve Ratio} = \frac{\text{Net current assets}}{\text{Total costs}} \quad (1)$$, where

Net current assets – current assets minus short-term liabilities.
Total costs – all the costs included in the profit and loss account minus loss from elimination of long-term investments.

Operating liquidity can be used in order to determine, for how long will the HEI be able to operate with the net current assets available at the moment in order to provide its activity in the same level as previous year, without relying on additional net assets created by operational activity.

When considering the dynamics of the operating liquidity, it should be evaluated, if net current assets have increased in at least equal proportion to the increase of total costs, thus sufficient amount of net assets are provided for situations when increase of costs arise (without increase of activity). Negative ratio or descending tendency confirms week financial position of the HEI. In the case of rapid decrease of operating liquidity strategic initiatives regarding amount of the manageable activities should be overviewed, and reducing them should be considered (especially of those related to capital expenditure). Also the budget level can be limited.

Operating liquidity can also be expressed in numbers as a time period. A time period in which the HEI is able to secure its activity with existent net current assets. In case of need the HEI should be able to make changes to stabilize its financial activity within this time period. For example, if operating liquidity equals 0.5, it means that the HEI will be able to operate at the former capacity for approximately 6 months (50% of 12 months). The higher the ratio, the more flexibly will the HEI be able to organize its operational activities (make changes, adapt). Low ratio, for its part, should not be considered as critical, if significant investments in fixed assets (or in intangible assets) have been made recently, and further an increase of primary reserve standard is planned.

Net current assets can be examined also in relation to investment activities of the HEI. In order to encourage the mission of the HEI and to achieve the long-term goals, the HEI can make a decision about necessity for long-term liabilities in order to implement some particular projects. Usually purchasing fixed assets or intangible assets, or significantly improving them is planned within such projects. By determining the amount of net current assets which is funded with long-term liabilities (related to implementing long-term projects), a general concept can be obtained of which are the sources the HEI's operational activities are financed from. By decrease of funding from equity capital, flexibility of operational activities can be affected significantly, therefore this ratio is called the *viability ratio* of the HEI and it is expressed by the Formula 2.

$$\text{Viability Ratio} = \frac{\text{Net current assets}}{\text{Long- term debts}} \quad (2)$$

The correlation of the formula's numerator and denominator 1:1 (Tahey, 2010) suggests that on the date of the balance sheet there are enough net current assets to cover the borrowings related to purchasing long-term investments or renewal of them. However, such correlation should not be considered as optimal ratio for all the institutions of higher education. HEI can operate successfully also if long-term liquidity rate is lower than 1, however, in this case flexibility of operational activities is more limited. Viability ratio of a particular HEI can be inconsistent in dynamics, because the denominator of the Formula 2 is the sum of long-term liabilities, which is larger in the beginning of a project, but it tends to decrease over the further years. Financial specialists suggest that 1.25 could be considered as the average viability ratio of HEI. However, each HEI should determine the acceptable level of long-term liquidity of its own, on the basis of the strategic targets set. Analysis of long-term liquidity should always be performed by considering it in coordination with operating liquidity. For example, if the amount of long-term liabilities within net current assets is small (in this case long-term liquidity rate is high), then operating liquidity is more significant ratio and decision making should be based on the changes of the ratio.

In order to evaluate to what degree funding HEI depends on credits received for long-term development (for developing the basis of fixed assets) and how does it affect total cost of HEI, *Debt Burden Ratio* is calculated with the Formula 3.

$$\text{Debt Burden Ratio} = \frac{\text{Current period debt services}}{\text{Total costs – fixed asset depreciation + repayable part of principal debt within the year of account}} \quad (3)$$, where

Current period debt services – repayable part of principal debt and interest within the accounting period.

There is no strict allowable limit determined for debt burden ratio. This ratio should be evaluated within dynamics and in coordination with other ratios (like Primary Reserve Ratio) and strategic targets of each particular HEI. If the tendency of debt burden is decreasing, it means that the HEI is able to successfully absorb the debt costs and it is not necessary to use funds provided for other goals to cover such costs. Increasing tendency formally means the opposite, which can not always be considered as a bad thing, because a HEI with a sufficiently high operating liquidity rate (more flexible possibilities of operational activities) can afford to maintain higher debt burden. Increasing tendency will be characteristic also if there are significant activities planned in the strategy of the HEI for renewing fixed assets. Low debt burden ratio, on the other hand, in certain situations will not be necessarily considered positive, for example, under conditions of insufficient funding, without developing infrastructure of HEI and without attracting additional funding in a form of credit, there can occur problems with attracting students in future.

Debt Service Coverage Ratio which is calculated by the Formula 4 allows to determine, if HEI's revenue flow is sufficient to cover the debt burden.

$$\text{Debt Service Coverage Ratio} = \frac{\text{Adjusted changes in net assets}}{\text{Current period debt services}} \quad (4)$$, where

Adjusted changes in net assets – revenue excess over costs from basic activity, and increasing it by calculated depreciation of long-term investment in the year of account and by interest.

The higher the debt service coverage ratio, the more secure the HEI can feel about its capability to meet the liabilities even then, if decrease of the budget would be expected. Under inconsistent conditions when significant changes of net assets occur during following years of account, it would be preferable to use average Debt Service Coverage Ratio of two previous years, thus overall tendency of ratio changes would become apparent.

Analysis of the use of assets has to provide the answer, whether the use and the management of assets have been sufficient in order to support strategic goals of the HEI. Increasing tendency of net assets suggests that the HEI is capable of generating additional funding source for further development. By calculating *Return on Net Assets Ratio* (Formula 5) it is possible to analyze if the increase has been sufficient.

$$\text{Return on Net Assets Ratio} = \frac{\text{Current period changes in net assets}}{\text{Total net assets}} \times 100 \quad (5)$$

For each HEI the threshold of return on net assets ratio will be different, because missions and strategic goals of higher education institutions vary. Return on net assets has to be evaluated in dynamics, because, if strategic goals of a HEI include developing new activity (for example, new program of studies), then the particular HEI has to set higher demands for return on net assets ratio. Decrease of return on net assets ratio, on its part, also is an acceptable tendency, if only it does not restrict implementation of the HEI's mission. By making decision about the achievable level of return on net assets, also the possible impact caused by external economic conditions (inflation, changes in fiscal policy, etc.) has to be taken into consideration. This means that both real and nominal return on net assets ratios have to be evaluated, in order to observe the impact caused by inflation. Due to changes in corporate income tax policy starting 2013, higher education institutions founded by Latvia's government will be under the necessity of reassessing the acceptable threshold of return on net assets ratio, because with the ending of the transition period (until 2013) higher education institutions founded by government also will have to pay corporate income tax for the revenue excess over costs from providing paid services. Thus the expected revenue excess could decrease by approximately 15%.

When managing assets of HEI it is important to consider the peculiarity that majority of higher education institutions are capitalintensive, since they require significant amounts of financial and material assets in order to provide services of good quality.

Therefore it is important to ascertain if sufficient resumption of tangible assets (capital assets – buildings, equipment, computer equipment, etc.) is happening in the HEI, by calculating *Fixed assets reinvestment ratio*:

$$\text{Fixed assets reinvestment ratio} = \frac{\text{Fixed assets Expenditures}}{\text{Current period depreciation}} \qquad (6)$$

Correlation above 1:1 in the Formula 6 displays increase of tangible assets, however, the increase has to be evaluated in a complex manner, ie., if at the same time increase of budget and operational activity volume occurs. Correlation below 1:1 suggests that investment in capital assets by the HEI is postponed. In cases like these it is helpful to clarify the average age of capital assets:

$$\text{Age of fixed assets ratio} = \frac{\text{Accumulated depreciation}}{\text{Current period depreciation}} \qquad (7)$$

Within the industry of higher education the acceptable average age of capital assets of higher education institutions related to science is up to 10 years. Lower average age of capital assets indicates that the HEI recently has made an investment in capital assets, and that it has not been done at the expense of funding necessary for other strategically important activities. The average age of capital assets only indicates to what degree the resumption is managed by the HEI, however, it does not indicate the necessary funding amount. In order to acquire such information, it would be necessary to determine depreciated substitution costs of each capital asset, which requires additional input of work, and not always it is preferable to do that in order to clarify the tendencies.

Revenue excess over costs of the accounting period develops positive contribution to net assets of the HEI and vice versa – net assets are reduced by shortage. From this point of view, the HEI should strive to generate as high revenue excess over costs as possible, however, due to various considerations, including historical and socially political, it is not easy for the HEI to determine the preferable amount of the excess, because higher education institutions founded by the government basically are supposed to operate as nonprofit organizations. However, if the target selected by the HEI is to operate with invariable net asset, and it is planned to fully absorb the budget revenue share with costs, then an "airbag" for compensating possible budget deficit of the further periods is not established, as well as there is no reserve necessary for future development. For comparative evaluation of revenue of accounting period *Net Operating Revenues Ratio* is calculated:

$$\text{Net Operating Revenues Ratio} = \frac{\text{Net unrestricted operating revenues}}{\text{Total unrestricted operating revenues}} \times 100 \qquad (8)$$

The higher the profitability of net operating revenues, the more significantly net assets of the HEI increase, which makes a positive impact on Primary Reserve Ratio, Viability Ratio, Return on Net Assets Ratio. The minimal acceptable limit is determined by each HEI individually, by evaluating ratio changes over the years. For example, if during development of the operating budget expenditure of the budget is planned to be with limitations (to a definite percentage of planned income), then the minimal profitability level of Net Operating Revenues could be within limits from 2% to 4%. Thus it is planned that yet in addition to planned reserves also net assets would increase by several percentage. If the reserves are not planned, then the minimal profitability of Net Operating Revenues should be higher than 4%. If profitability of Net Operating Revenues is negative and that is not a comprehensive tendency, then the situation also should be supported in cases when it is required by the strategic targets of the HEI.

3. COMPOSITE FINANCIAL INDEX

In order to evaluate overall financial position of HEI, a good solution is to merge the following four ratios – Primary Reserve Ratio, Viability Ratio, Return on Net Assets Ratio and Net Operating Revenues Ratio – into one ratio – *Composite Financial Index* (CFI). By determining the lowest allowable limits and optimum rates of each separate ratio, an overall statement regarding correspondence between financial position of the HEI and capability to achieve its strategic targets and implement the mission is developed. In order to calculate CFI, the following actions have to be performed:

- Calculating Primary Reserve Ratio, Viability Ratio, Return on Net Assets Ratio and Net Operating Revenues Ratio;
- Establishing strength scale of each ratio, by determining their minimal and optimum limits, which have to be included within united value scale from 1 to 10;
- Determining weight (materiality level) of each ratio expressed as a percentage from total index;
- Summing the Primary Reserve Ratio, Viability Ratio, Return on Net Assets Ratio and Net Operating Revenues Ratio, that are adjusted by strength and weight, and thus CFI is obtained.

Indicators to help determining if financial position of the HEI is in correspondence with ability to achieve its strategic targets and implement the mission can be developed and established in order to **develop the united value scale**. The scale could be useful to higher education institutions of Latvia as well (see Figure 2).

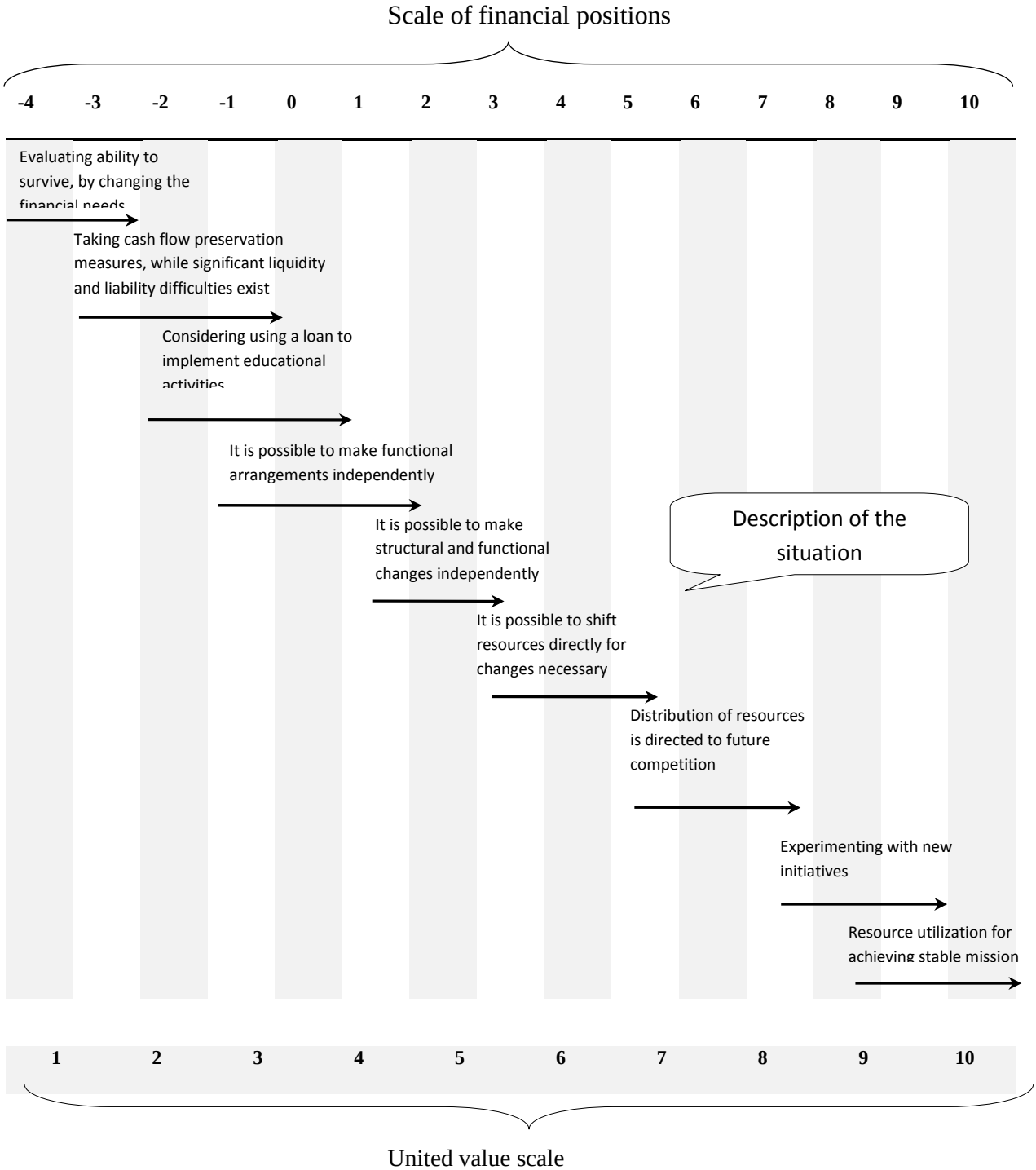

Figure 2 Interrelationships between the rating of HEI's financial possibilities and the united value scale
Source: Tahey (2010)

The united value scale is developed as a system of ten grades, where the value 1 represents a weak financial position of the HEI, while the value 10 – a stable financial position based on implementing the mission.

Further on the values of Primary Reserve Ratio, Viability Ratio, Return on Net Assets Ratio un Net Operating Revenues Ratio are determined, which are adjusted to the united value scale. In order to determine that, the following considerations should be made:

- What would the critical time period be, in which the HEI would be able to provide covering its costs with net assets available immediately;
- What profitability ratios can not be considered sufficient anymore, in order to compensate the increase of costs and to build up reserves;
- What liability ratio should be considered as critical.

According to the opinion of financial analysts (7), critical ratio limits (ratio strength) complying with the value 1 of the united value scale, as regards the sector of higher education, are following:

- Primary Reserve Ratio 0.133;
- Net Operating Revenues Ratio 1.3%;
- Return on Net Assets Ratio 2%;
- Viability *Ratio* 0.417.

Overall the numeral values mentioned above reflect the following situation: available operating resources of the HEI are sufficient for 48 days, however, return on basic activity (1.3%) and return on net assets (2%) with debt burden exceeding available operating resources 2.4 times, indicate insufficient capability of the HEI to secure itself against increasing cost tendency and to supplement the level of reserves within the structure of net assets.

Determination of ratio materiality level weighs out the significance of each ratio within overall CFI. Assuming that HEI operates for the interests of whole society, a bigger importance should be given to the ratios related to maintenance of possible activity, while less – to the ratios affected by results of operational activity of one accountable year. Having regard of the above mentioned, significance is divided as follows: *Primary Reserve Ratio* – 35%; *Viability Ratio* – 35%; *Return on Net Assets Ratio* – 20% and *Net Operating Revenues Ratio* – 10%. HEI has to maintain the proportion constant, otherwise the information gathered through the years will not be mutually comparable.

Merging results into united index is based on the determined critical limits (ratio strength) of particular ratios and the significance of the ratios (ratio weight). The procedure of calculating CFI is displayed in Table 1.

Table 3

Procedure of calculating the Composite Financial Index

HEI ratio	Rating of ratio
Primary Reserve Ratio (PRR)	PRR / 0.133 x 0.35
Net Operating Revenues Ratio (NORR)	NORR / 1.3% x 0.1
Return on Net Assets Ratio (RNAR)	RNAR / 2% x 0.2
Viability Ratio (VR)	VR / 0.417 x 0.35
HEI Composite Financial Index	**Sum of ratings**

Source: worked out by the authors

Hence, CFI of HEI forms as a sum of separate component ratings, which, on their part, are acquired by applying the appropriate factor of strength and weight. Further on, HEI is able to use the information displayed in Figure 2, in order to evaluate its positions within overall system of financial stability rating.

For more foreseeable analysis of CFI result changes, it is convenient to use a radial diagram, which is suited for graphic illustration of the ratios that are not mutually comparable in direct manner, but there is a definite correlation between them. Thus, Return on Net Assets Ratio and Net Operating Revenues Ratio must be placed on the X axis, while Primary Reserve Ratio and Viability Ratio – on the Y axis (see Fig. 3).

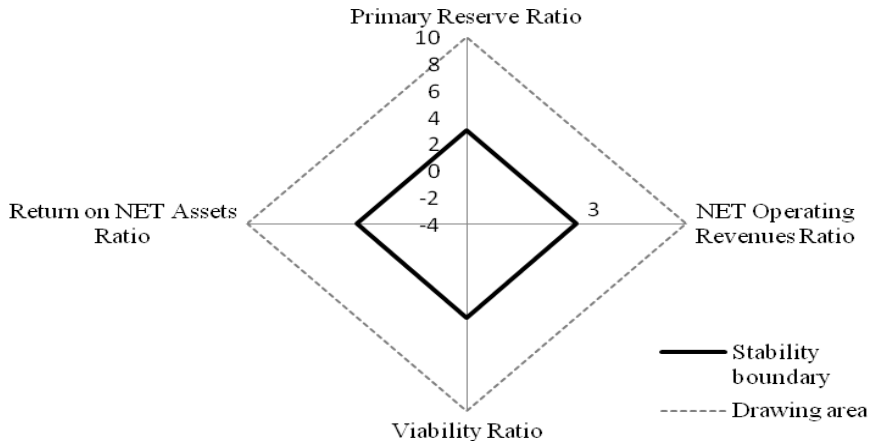

Figure 3 Placement of financial ratios within radial diagram
Source: Tahey (2010)

According to Figure 3, intersection of the X and Y axis complies with the critical limit of the financial position of the HEI. Lines connecting the value 3 of the X and Y axis outline the limit of a stable financial position, while lines complying with value 10 of the X and Y axis outline a situation fully suitable for meeting the needs of implementing the mission of the HEI. If the values of the calculated ratios exceed the marginal limits (-4 and 10), then in diagram they are reduced to values -4 and 10 accordingly. Thereby the graphic illustration displays, how a weaker performance of one ratio can possibly be compensated by high performance of the correlating ratio. The diagram can serve as additional information source for the purpose of interpreting CFI, because it gives recapitulative insight of how financial management of the HEI has been integrated with strategic targets of the HEI to implement the mission.

4. COMPOSITE FINANCIAL INDEX AND IT ANALYSIS AT HEI X

As an empirical example the description of HEI X (one of the modern private Latvian higher education institution) and its specificity is given. HEI X implements the programs in social sciences, commerce and law, where competition between both publicly funded and private HEI is very strong in Latvia.

HEI X main activity is the implementation of study programs, and within the study period it offered to acquire the first level, bachelor's and master's degree programs, 60% of these programs provide acquisition of degree within periods less than 3 years.

Table 4

The dynamic of number of social sciences student number in Latvia and HEI X

Indicator	2008./2009.	2009./2010.	2010./2011.
The total number of students	125360	112568	103782
Number of the social sciences students	66308	56184	48614
% Of total	*53%*	*50%*	*47%*
Number of students at HEI X, as % of the soc. sciences students	*6.25%*	*6.21%*	*6.22%*

Source: devised by the authors

As shown in Table 4, the number of social science students (group “social sciences, commerce and law”) continuously decreases, still, the demand for studies in these fields is the highest in Latvia. HEI X students share in these studies during the analyzed period firmly occupy 6.2% of social science students.Number of academics and structure during the period from 2008 to 2010 in HEI X has not changed significantly.

Academic staff with a PhD within the same period was 21% of the total number of academic staff and it matches the required level set by Law on Higher Education Institutions.

During this period on average 95 HEI X students each year in the education exchange programs studied in 20 European universities, and 35 foreign lecturers have provided study courses at the HEI.

The main source of funding of HEI X is own revenues. In 2008 they reached 87% of total university funding, but in 2010 the revenue share of funding has dropped to 83% thus increasing the share of EU funding up to 17%.

HEI X used the analysis of projected revenues and expenditures comparing them with the respective actual indicators, thereby obtaining information on the displacement volume of individual revenue and expenditure items, as well as information on the actual cash inflows and the adequacy of the actual costs. In accordance with the HEI X data during the analyzed period there is no long-term liabilities in HEI balance sheet, so there is no need to calculate the long-term liquidity.

Primary Reserve Ratio of HEI X in 2008th was negative, but already in 2009 it provides a positive result and in 2010 reaches the value of 0.14 indicating HEI X capability to ensure its operation with existing net working capital for 1.7 months without additional funds received from operating activities.

Net operating revenues ratio is HEI operational output indicator, similar to the Primary Reserve Ratio of the research period, exhibits the lowest value in 2008 decreasing to 4%. It can be concluded that the decrease in profitability is due to the expenditure increase (12%) compared to the rate of revenue increase (2.7%). In the period 2009- 2010 when shortages (both a reduction in the number of employees by 42% and their salaries) were made and HEI reserved fund was created. The Net Operating Revenue was already 17% compared to the company KPMG's recommendations (2 -4% when the HEI budget creates a reserve fund), it is a high indicator.

Table 5

HEI X Composite Financial Index during the period from 2008 to 2010

Composite Financial Index, 2008.				
Financial ratio	Indicator	Indicator Strength	Indicator Weight	CFI reiting
Primary Reserve Ratio	-0.09	/ 0.133	x 0.55	-0.38
Net Operating Revenues Ratio	-0.04	/ 0.013	x 0.15	-0.51
Return on Net Assets Ratio	-0.08	/ 0.02	x 0.30	-1.22
Viability Ratio	---	---	---	---
			Result (CFI) =	**-2.1**
Composite Financial Index, 2009				
Financial ratio	Indicator	Indicator Strength	Indicator Weight	CFI reitings
Primary Reserve Ratio	0.04	/ 0.133	x 0.55	0.15
Net Operating Revenues Ratio	0.11	/ 0.013	x 0.15	1.26
Return on Net Assets Ratio	0.34	/ 0.02	x 0.30	5.13
Viability Ratio	---	---	---	---
			Result (CFI) =	**6.5**
Composite Financial Index, 2010				
Financial ratio	Indicator	Indicator Strength	Indicator Weight	CFI reitings
Primary Reserve Ratio	0.14	/ 0.133	x 0.55	0.60
Net Operating Revenues Ratio	0.17	/ 0.013	x 0.15	1.92
Return on Net Assets Ratio	0.34	/ 0.02	x 0.30	5.08
Viability Ratio	---	---	---	---
			Result (CFI) =	**7.6**

Source: devised by the authors

Integrated Financial Index (CFI) results of the calculation are summarized in Table 5.

As can be seen from table 3.11., the result of the calculation, HEI X Composite Financial Index was negative in 2008 and during the period from 2008 to 2010 it increased significantly.

Figure 4 shows that there are low level of liquidity (Primary Reserve Ratio) as well as high level of profitability (Net Operating Revenues Ratio, Return on Net Assets Ratio) at HEI X . Similar financial position is related in others Latvian HEIs.

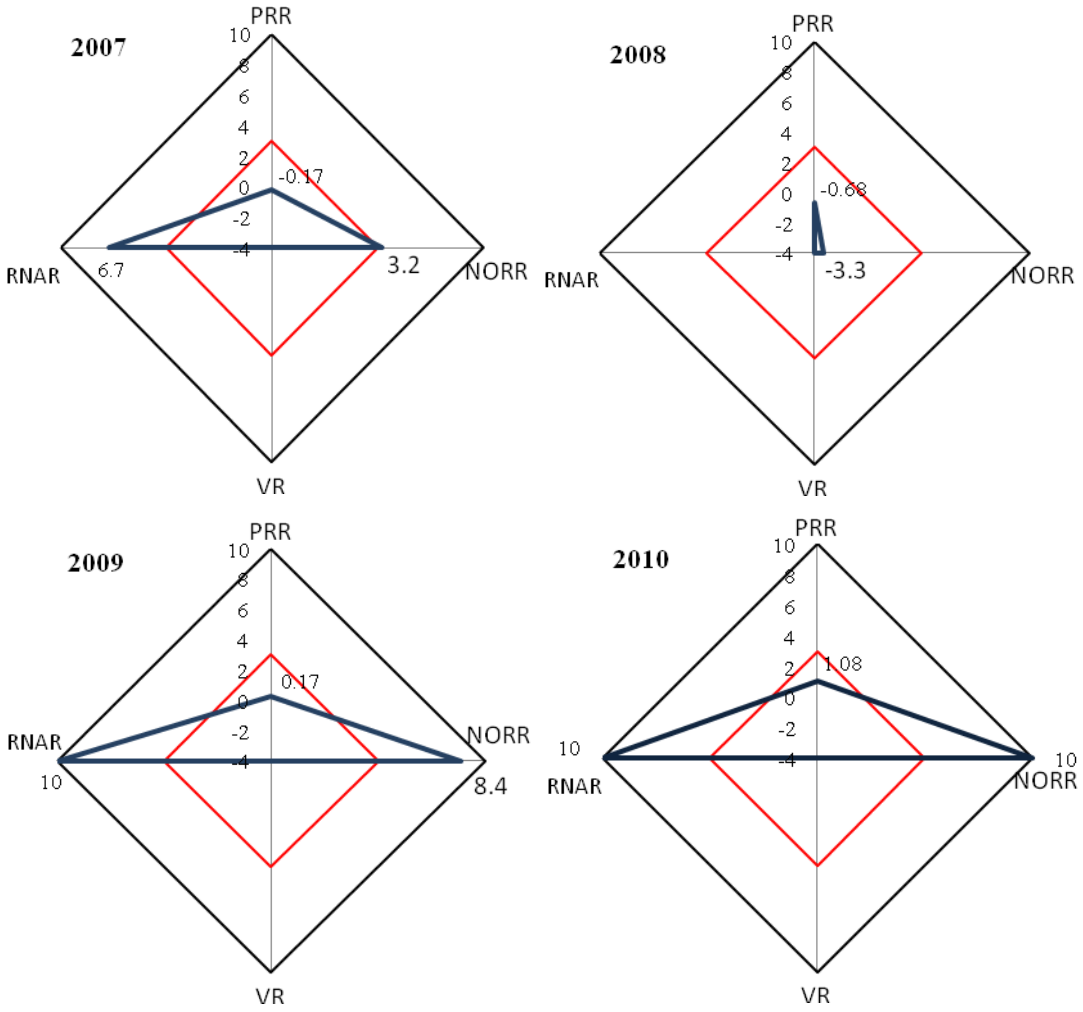

Figure 4 The dynamic of HEI X Composite Financial Index ratios

Source: worked out by the authors

The authors believes that composite Financial Index estimation and connected financial ratios calculation and evaluation give possibilities to collect comprehensive information about HEI X activities and the financial results and compliance with HEI X strategic goal and make management decisions based on HEI X stable financial position in accordance with HEI X mission.

5. CONCLUSIONS

1. On the basis of the mission defined and strategic targets set higher education institutions determine financial management strategy, where financial prognostication and planning is performed within. The system of prognostication and planning and the aggregate of the methods used depend on possibilities of attracting funding sources, organizational system of the HEI and organizational culture.
2. During the process of financial planning the results gained have to be analyzed by using appropriate (describing activity of the HEI) financial ratios, that allow to make conclusions both on acceptability and consistency of the results gained regarding the strategic targets of the particular HEI, as well as on strengths and weaknesses of the methods used and overall planning system.

3. In order to evaluate the overall performance of financial activity, analysis of various financial ratios calculated should be applied in interconnection and dynamics, because the strategy and the mission of the HEI can be achieved and implemented in long-term.

4. Information about correspondence between financial position of the HEI and its strategic targets is acquired through implementing the method of determining Composite Financial Index. Analysis of the ratios forming it allows to explain the causes of changes of financial position and to analyze the results of the budget execution. Implementing the method is related to evaluation and improvement of strategic financial planning and budget system, thus encouraging improvement of financial activity results of the HEI, as well as enabling more precise evaluation of financial position.

5. Composite Financial Index system implementation in Latvian higher education institutions and relevant calculation and its explanation could obtain significant information about current HEI financial position and show its improvement possibilities in accordance with HEI strategy.

6. The process of implementation of Composite financial index system in Latvian higher education institutions consists of two steps:

   a. To compose the single scale of values characterizing financial position according to the strategy of the institution of higher education.
   b. To define standards for ratios of Composite Financial Index according to the specifics of the institution of higher education.

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