

MEASURING FINANCIAL SUSTAINABILITY OF PRIVATE HIGHER EDUCATION INSTITUTIONS

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Abstract. Currently, one of the main priorities of the development of the higher education system is ensuring the quality of education. As it is noted in “Standards and Guidelines for Quality Assurance in the European Higher Education Area”, developed by the European Association for Quality Assurance in Higher Education (ENQA), institutions should ensure the availability of sufficient, relevant education resources. At present, there is no single methodology for assessing the financial provision of educational services supplied by private commercial companies in Latvia. The aim of this paper is to define a set of indicators for assessing the financial sustainability of a private higher education institution (PHEI). The author presents the results of the financial sustainability analysis (based on such ratios as leverage, debt-equity, liquidity, etc.) of Latvian PHEIs and suggests: 1) indicators most suitable for assessing sustainability of an educational institution; 2) permissible range of these indicators recommended for Latvia and methodology for their aggregation. The developed methodology may be recommended to national committees of quality assessment for accreditation procedures of higher education institutions (HEIs) and study programmes. In addition, it will allow to harmonise information on the use of financial resources in preparing self-assessments and other reports by HEIs. The novelty of this research consists in the development of the system of indicators specific for assessing the sustainability of such private enterprises, which provide higher education services and are controlled and regulated by the state. The author’s contribution is in substantiation of the thesis that a private HEI should be viewed not as an ordinary economic subject, but as a socially significant business entity that fulfils the requirement of the society to educate high-quality specialists.

Keywords: private higher education institutions, financial sustainability indicators, ranking financial sustainability.

Introduction

Main goal of HEI activities is preparation of specialists subject to the certain regulations established by the local legislation. Official confirmation of successful HEI activities in the form of, for example, state accreditation is a sign of recognition of HEI functions. Latvia belongs to the countries of the European Higher Education Area (EHEA), which were among the first to develop the education quality assurance system [1].

In the author’s opinion, one of the important aspects of ensuring the quality of higher education is its financial component. According to the Standards and Guidelines for Quality Assurance in the European Higher Education Area developed by ENQA [2], the HEIs have to ensure the availability of sufficient, accessible and goal-related resources. Regulatory documents of the Republic of Latvia among other criteria for evaluation in education [3] define the availability of financial resources aimed at achieving the objectives of the study programme and the concept of long-term development containing the information on the amount, rationale and sources of financing. Adoption of the unified approach to assessment of financial sustainability of the HEI and the growing need to provide reliable information to all stakeholders in conducting internal and external assessment of the education quality is a matter of special importance.

PHEIs have been selected as an **object of the research** because of their importance for development of the entire sphere of higher education in Latvia. According to the data of the Ministry of Education of Latvia, in 2016/2017 academic year there were 17 state owned and 15 PHEIs in Latvia with 56,788 and 16,002 students (approximately 22 % of all students), respectively. In Latvia, the PHEIs generate nearly 0.1 % of GDP [4].

In the meantime, with sufficient research in the field of higher education at the national and international levels, insufficient attention is paid to the problems of the non-state sector of higher education. Demographic decline, which has occurred in recent years in many countries of the world, significantly decreased the demand for private education [5]. As a result, some study programmes could not enlist enough students and some PHEIs were closed or have been “consolidated” as a result of the merger. Some of PHEIs lose their competitive edge, operate at a loss and their equity becomes

negative [6]. Can the PHEIs provide the conditions for quality specialist training with the available financial resources?

Theoretical and methodological basics of this research are the studies of Latvian and foreign economists dedicated to the problems of analysis and assessment of financial sustainability, legislative and regulatory documents and publications of scientific conferences.

Financial sustainability is the key element in assessment of the long-term stability of financial position [7-8]. Unified interpretation of the HEI financial sustainability's essence and the methods for its assessment has not yet been developed. The research conducted by the author has shown that the concept "financial sustainability" of the HEI is treated differently in economic literature. In the aggregate, the majority of economists (A.Altman, L.Bernstein, I.Blank, J.K.Van Horn, A.Sheremet, R.Sayfullin) [9-11] represent this concept in a strict sense, confusing it with the concept of solvency. They understand the financial sustainability of the HEI as a developed structure of its resources, i.e. as a criterion for its long-term solvency. The model of financial sustainability assessment created by the authors is based on the study of the funding source structure. Mainly the share of borrowed funds in the general and private liabilities structure is calculated, but the analysis of assets is not included in the study of financial sustainability of the HEI.

However, some authors (M.Vakhrushina, V.Kovalev, A. Kovalev, G.Savitskaya) [12-14] consider the financial sustainability in a loose sense not only as a criterion of payment stability, but also as a criterion of liquidity, stability of property status and investment attractiveness. G.Savitskaya, for example, considers that "the stable financial condition is achieved at the sufficient capital adequacy, good asset quality, sufficient level of profitability, taking into account operational and financial risk, sufficient liquidity, stable income and broad opportunities of fund borrowing" [14]. The wider range of indicators for assessment of the financial sustainability is recommended.

The author supports the concept of financial sustainability loosely and suggests an approach, according to which the financial state characterises the situation of the HEI on the certain date, but the financial sustainability characterises the level of financial sustainability in dynamics. In the author's opinion, assessment of financial sustainability is to be characterised by the general-purpose approach and consists of several blocks: Block 1: analysis of liquidity and solvency, Block 2: indicators of activity, Block 3: financial sustainability, and Block 4: efficiency indicators.

Selection of the given indicators is based on the fact that modern approaches of financial analysis offer the assessment from the point of view of stakeholders. „But before we begin, we must decide on the viewpoint and purpose of our analysis" [16]. If we talk about the financial sustainability of the HEI as one of the criteria for ensuring the quality of education, the main stakeholders in this case are external quality assessment agencies, external experts, the HEI and its employees in charge for internal assessment. The higher education institution is to be considered as a socially significant subject. The level of financial sustainability of the HEI has to ensure the timely repayment of the payables on current liabilities, responsiveness to the changing market conditions, ability of financing the new programmes and strengthening the material and technical base. Only those institutions that have sound financial structures and stable income flows will be able to fulfil their multiple missions [15].

The aim of the research is to identify the indicators most suitable for assessment of the financial sustainability of PHEIs and to determine a permissible range of these indicators recommended for Latvia, as well as the methodology for their aggregation.

In order to achieve this aim the following **objectives** have been set:

1. explore the essence of the concept "financial sustainability";
2. classify and substantiate the system of financial sustainability analysis indicators;
3. evaluate the financial sustainability of the Latvian PHEIs on the basis of the methodology developed by the author.

Materials and methods

The work used both general scientific methods of cognition (analysis, comparison, abstract-logical and systemic approaches) and methods of financial analysis (balance method, coefficient method, comparative analysis, scoring system ranking).

Empirical base of the research is formed by 14 Latvian PHEIs. In order to ensure confidentiality, the PHEIs have been assigned the letters from A to N. Within the framework of the research, the data of publicly available financial reports of the PHEIs for 2016 or 2015/2016 (where the fiscal year of the PHEI does not coincide with the calendar year) were used. The information has been received from the Lursoft database [17]. At the time of publication of the research, the data for 2017 or 2016/2017 have not been published for all PHEIs. As a result, it was not possible to make calculations in dynamics.

Results and discussion

The results of the analysis of the financial sustainability of 14 Latvian PHEIs are summarised in Table 1.

Table 1

Indicators of financial sustainability of Latvian PHEIs in 2016, %

| Ratio\PHEI | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---------------------------------------|-------|-------|-------|--------|--------|-------|-------|--------|-------|-------|---------|--------|-------|---------|
| Liquidity ratios | | | | | | | | | | | | | | |
| Current ratio | 1.37 | 1.60 | 2.31 | 0.41 | 1.18 | 1.10 | 0.93 | 0.83 | 2.74 | 5.04 | 89.48 | 0.12 | 75.75 | 9100.50 |
| Quick ratio | 1.23 | 1.56 | 2.27 | 0.39 | 0.60 | 0.98 | 0.93 | 0.83 | 2.74 | 5.04 | 87.29 | 0.08 | 50.80 | 9100.50 |
| Activity ratio | | | | | | | | | | | | | | |
| Total assets turnover | 1.44 | 1.60 | 0.92 | 0.98 | 0.50 | 3.64 | 2.38 | 1.32 | 0.76 | 2.04 | 0.07 | 0.28 | 3.18 | 9.62 |
| Fixed assets turnover | 1.31 | 9.25 | 0.75 | 0.64 | 0.31 | 9.45 | 2.70 | 1.37 | 0.42 | 0.00 | 0.03 | 0.15 | 29.89 | 64.38 |
| Accounts receivable turnover | 12.85 | 11.83 | 31.55 | 10.67 | 4.95 | 44.66 | 5.86 | 85.65 | 9.02 | 2.05 | 674.55 | 9.44 | 28.11 | 40.48 |
| Days payable outstanding | 60.70 | 93.11 | 78.25 | 301.32 | 147.75 | 72.27 | 93.02 | 131.69 | 45.36 | 35.43 | 0.72 | 958.49 | 1.44 | 0.59 |
| Financial sustainability ratio | | | | | | | | | | | | | | |
| Debt to equity | 0.32 | 0.70 | 0.24 | 4.36 | 0.25 | 2.59 | 1.70 | 0.91 | 0.10 | 0.25 | 0.00 | 2.62 | 0.01 | 0.02 |
| Equity ratio | 0.76 | 0.58 | 0.80 | 0.18 | 0.80 | 0.28 | 0.36 | 0.52 | 0.91 | 0.80 | 1.00 | 0.28 | 0.99 | 0.98 |
| Profitability ratios | | | | | | | | | | | | | | |
| Net profit margin | 5.79 | 7.22 | 8.88 | 0.62 | -0.37 | 15.04 | 0.005 | 32.21 | 0.77 | 58.44 | -154.27 | -17.69 | -0.51 | 2.84 |
| Return on equity (ROE) | 5.50 | 9.88 | 5.06 | 1.63 | -0.12 | 98.33 | 0.02 | 40.78 | 0.32 | 74.54 | -5.20 | -8.84 | -0.82 | 13.90 |
| Return on assets (ROA) | 4.18 | 5.78 | 4.06 | 0.30 | -0.09 | 27.39 | 0.01 | 21.24 | 0.29 | 59.69 | -5.20 | -2.44 | -0.81 | 13.69 |

The results of the analysis have shown that education has its own industrial dimensions [18]. The education sphere is characterised by sufficient **liquidity**, both current and absolute. All the HEIs, except 4 of them, are liquid. This evidences that HEIs have enough money to cover the short-term obligations. Their current assets practically do not contain stocks; the average specific weights of accounts receivable and the money resources constitute approximately 10 % and 57 %, respectively.

Activity of current assets: this group is characterised by rather low turnover of both current and non-current assets, as well as by rather high duration of repayment of receivables, 62.24 days in average. This is caused by specifics of education activities, namely the duration of the period of services provision during the semester. Today many students pay the fees for education in instalments.

Financial sustainability: all HEIs, except 4 of them, are independent of financing external sources. The larger part consists of internal funds.

Profitability: most of the HEIs work profitably. Their average indicators are higher than the recommended ones. The greatest difficulties are encountered by the HEIs in which the number of students does not exceed 200.

The author suggests a methodology of HEIs ranking based on the integral scoring in order to monitor their financial sustainability. The main goal is to aggregate different financial indicators to a common denominator [19]. The essence of the proposed methodology is classification of HEIs by classes of financial sustainability depending on the number of scored points and the actual values of

indicators. The author has defined the index of significance for each indicator. The most significant are the capital structure indicators (4 points) and liquidity indicators (3 points); efficiency indicators (2 points) and profitability indicators (2 points). Values of indicators, which fall outside the range of average for the industry or recommended values, are estimated with the maximum number of points, in the range between industry-average and recommended - as average, below the recommended values – as the lowest value (see Table 2).

Table 2

Criteria for assessment of financial sustainability of HEIs

| Ratio | Formula | Recommended | Average | Min | Max | Rating | Measurement | | |
|--------------------------------|--|-----------------------------|---------|---------|---------|--------|-------------|------|------|
| | | | | | | | Max | Med. | Low. |
| Liquidity ratios | | | | | | | | | |
| Current ratio | Current assets /current liabilities | >1 | 1.1 | 0.12 | 9100.50 | 3 | 3 | 1.5 | 0 |
| Quick ratio | Current assets-Inventory / Current liabilities | 0.3-1.0 | 1.02 | 0.08 | 9100.5 | 3 | 3 | 1.5 | 0 |
| Activity ratio | | | | | | | | | |
| Total assets turnover | Net sales /Average total assets | Higher is better | 0.56 | 0.07 | 9.62 | 2 | 2 | 1 | 0 |
| Fixed assets turnover | Net sales/Non-current assets | Higher is better | 1.1 | 0.03 | 64.38 | 2 | 2 | 1 | 0 |
| Accounts receivable turnover | Net sales/Average accounts receivable | Lower is better | 5.86 | 2.05 | 674.55 | 2 | 2 | 1 | 0 |
| Days payable outstanding | Average accounts payable/Net sales / 365 | 60-90 days, Lower is better | 62.24 | 0.59 | 958.49 | 2 | 2 | 1 | 0 |
| Financial sustainability ratio | | | | | | | | | |
| Debt to equity | Total liabilities / Total equity | < 0.45 | 0.54 | 0 | 2.62 | 4 | 4 | 2 | 0 |
| Equity ratio | Total equity / Total assets | > 0.55 | 0.64 | 0.18 | 1.0 | 4 | 4 | 2 | 0 |
| Profitability ratios | | | | | | | | | |
| Net profit margin | Net income / Net sales | > 1, Higher is better | 8.20 | -154.27 | 58.44 | 2 | 2 | 1 | 0 |
| Return on equity (ROE) | Net income / Total equity | > 0.2 | 7.20 | -8.84 | 98.33 | 2 | 2 | 1 | 0 |
| Return on assets (ROA) | Net income / Total assets | > 0.15 | 4.64 | -5.20 | 59.69 | 2 | 2 | 1 | 0 |
| Total scores | | | | | | 28 | 28 | 14 | 0 |

Integral index of financial sustainability for each PHEI and the boundaries of financial sustainability have been determined on the basis of calculation of the coefficients and their valuation. The results are shown in Table 3.

Table 3

Classification of types of financial sustainability of PHEIs by the sum of points

| Ratio \ PHEI | A | B | C | D | E | F | G | H | I | J | K | L | M | N | Total | Total max. |
|--------------------------|-------|-------|-------|------|-------|-------|------|-------|-------|-------|-------|------|-------|-------|--------|------------|
| Liquidity | 6.00 | 6.00 | 6.00 | 1.50 | 4.50 | 4.50 | 1.50 | 1.50 | 6.00 | 6.00 | 6.00 | 0.00 | 6.00 | 6.00 | 61.50 | 84.00 |
| Activity ratio | 6.00 | 4.00 | 4.00 | 3.00 | 3.00 | 5.00 | 6.00 | 4.00 | 4.00 | 6.00 | 2.00 | 0.00 | 6.00 | 6.00 | 59.00 | 112.00 |
| Financial sustainability | 8.00 | 2.00 | 8.00 | 0.00 | 8.00 | 0.00 | 0.00 | 2.00 | 8.00 | 8.00 | 8.00 | 0.00 | 8.00 | 8.00 | 68.00 | 112.00 |
| Profitability | 3.00 | 5.00 | 4.00 | 2.00 | 0.00 | 8.00 | 0.00 | 6.00 | 2.00 | 6.00 | 0.00 | 0.00 | 0.00 | 5.00 | 41.00 | 84.00 |
| Total | 23.00 | 17.00 | 22.00 | 6.50 | 15.50 | 17.50 | 7.50 | 13.50 | 20.00 | 26.00 | 16.00 | 0.00 | 20.00 | 25.00 | 229.50 | 392.00 |

The results of assessment by the scoring system have shown that the financial sustainability of PHEIs has varying degrees from 6.50 points to 26 points (see Table 3). At the same time, the whole group of PHEIs has rather high liquidity. Financial sustainability and profitability are above the average level and the efficiency of using assets is below the average. It has been established that 6

PHEIs have a satisfactory situation; their performance indicators are in line with the recommended ones and exceed the average for the industry; 5 PHEIs have unstable financial situation, the indicators are lower than recommended; 3 PHEIs are in the risk zone.

Grouping of PHEIs by the levels of indicators characterising certain elements of financial sustainability has made it possible to establish the types of the financial sustainability determined by the quality and level of efficiency of the use of capital, financial stability, liquidity and solvency. The author suggests the following classification of types of financial sustainability of HEIs on the basis of the possible range of changes and the standard values of financial indicators (see Table 4).

Table 4

Classification of types of financial sustainability by the sum of points

| Number of points | Type of financial sustainability | Characteristics |
|------------------|----------------------------------|--|
| Max. 28 | Stable | Indicators are at an optimal level |
| 20-26 | Satisfactory | High level of liquidity and financial sustainability, while efficiency indicators are average |
| 10-19 | Unstable | Unstable capital's structure, average indicators of liquidity, low efficiency indicators |
| Less than 10 | Unsatisfactory | Insufficient capital's structure, while indicators of solvency, profitability and efficiency are low |

The analysis performed by the author has shown that it is reasonable to assess the financial sustainability of PHEIs both on the basis of individual components of financial sustainability and on the basis of the integral indicator.

Conclusions

1. Financial sustainability is a factor of paramount importance for the PHEIs because this factor characterizes the sustainability of the HEI in the long term. Specificity of higher education is characterized just by the duration of service provision.
2. Currently, there is no single assessment methodology of HEI provision with financial resources as a whole and in terms of their study programmes.
3. As a result of the research, the integrated concept of the financial sustainability as a level of financial sustainability in dynamics and the indicators of its assessment such as liquidity, financial sustainability, efficiency of the use of assets and capital have been defined.
4. The author has proposed the method of financial sustainability assessment of HEIs, based on the integrated financial analysis with the use of individual and integral indicators. This method can be applied both for monitoring of the financial sustainability dynamics within the HEI, and for external assessment.
5. Assessment of financial sustainability of PHEIs by the scoring system made it possible to determine the average values of indicators, as well as to classify the types of financial sustainability, which are characteristic for this group of HEIs.
6. At the same time, this method has its limitations. The analysis is based on the publicly available financial reports and cannot cover the "academic" indicators related to the study process, such as the costs related to science, academic staff, library fund, student activities, etc. This is the subject of the following studies.

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