



A methodical means for
monitoring the progress of
activities of Higher Education
institutions (HEIs)



The aim of the project

to create a system for monitoring the progress of the HEIs activities, which would ensure timely monitoring of the activities of HEIs and their changes: to collect, analyse and systematically prepare information on the activities of Lithuanian HEIs and their changes; to identify trends in the activities of HEIs:

- constructing the list of indicators and descriptions of indicators in order to monitor the progress of HEIs activities; data collection and analysis;
- aggregation and visualization of the methodical means (aggregation of indicators, construction of indexes, visualization of results (university and college indexes));
- preparation of a report (discussion of results, preparation of individual HEIs profiles, recommendations);
- developing a tool for visual profiles of all HEIs.

Monitoring the progress of activities of Higher Education institutions (HEIs)

Introduction

Data and Methodology

Indicators and Construction of Composite Index

Indicators and Composite Indexes of HEIs

Introduction

The **object** of monitoring the progress of HEIs consists of:

1. **general** characteristics of HEIs;
2. characteristics of **students and studies**;
3. characteristics and performance of the **research staff** of HEIs;
4. characteristics of **teaching and administrative staff**;
5. **financial** characteristics;
6. characteristics of the process of **graduates' transition** from studies to the labor market.

The aim of monitoring the progress of HEIs

is to **systematically collect, analyze and prepare** information on the activities of Lithuanian HEIs and their changes; to **identify** trends in the activities of higher education institutions.

The information can be used:

1. to identify the strengths and problem areas of HEIs;
2. To identify the need for further research to propose public policy measures to ensure the progress of HEIs in their areas of strength;
3. to identify the need for additional research that would allow proposing public policy measures to solve the problems of HEIs;
4. to initiate the necessary systemic changes in HEIs.

Data and Methodology

Composite indexes

- constructed from indicators, calculation and analysis of which in most cases was performed on the basis of 2018 **periodically collected data files: administrative data** provided by ŠVIS (*Lt.:* Education management information system), other official data sources.
- **calculating, grouping, aggregating, comparing and analyzing the obtained data.**
- **Equal weighting** was applied to the calculation of composite indexes, when the results of the indicator values were summed without adding anything.
- The methodology of compiling the composite index was applied to compile the performance monitoring indices of **18 public and private universities** and **22 public and private colleges.**

Indicators and Construction of Composite Index

Indicators

The indicators of methodological means consist of indicators for monitoring the progress of **universities (28 indicators)** and indicators for monitoring the progress of **colleges (22 indicators)**.

According to the object of monitoring, the indicators can be divided into **six groups**, reflecting:

- 1. general characteristics of HEIs** (number of students and doctoral students, number of positions held by lecturers, researchers, heads with administrative staff);
- 2. characteristics of students and studies of HEIs** (characteristics of the study program, change in the number of enrollments; scoring of enrollments in HEIs; share of drop-outs; potential socio-economic role of institution in a region; internationalization of studies);
- 3. characteristics of research staff of HEIs and results of performance** (ratio of the number of positions occupied by researchers to the number of positions occupied by lecturers; number of doctoral students per researcher position; assessment of benchmarking; income of university from R&D);

Indicators

-The indicators of methodological means consist of indicators for monitoring the progress of **universities (28 indicators)** and indicators for monitoring the progress of **colleges (22 indicators)**.

According to the object of monitoring, the indicators can be divided into **six groups**, reflecting:

4. characteristics of teaching and administrative staff (data on participation of lecturers and administrative staff in the activities of the institution, qualification of lecturers, age profile, structure of staff);

5. financial characteristics (financial data on salaries, studies, R&D);

6. characteristics of the process of graduates' transition from studies to the labor market (employment status of students and graduates (employed, continuing studies, unemployed, etc.), data on salaries of employed ones).

Standardisation and Aggregation of Indicators

The number of indicators forming the index group is n .

Each indicator is standardised by calculating the value of z according to the formula $z_i = (x_i - \bar{x}) / s$ (x_i = value of the indicator; \bar{x} = mean; s = standard deviation).

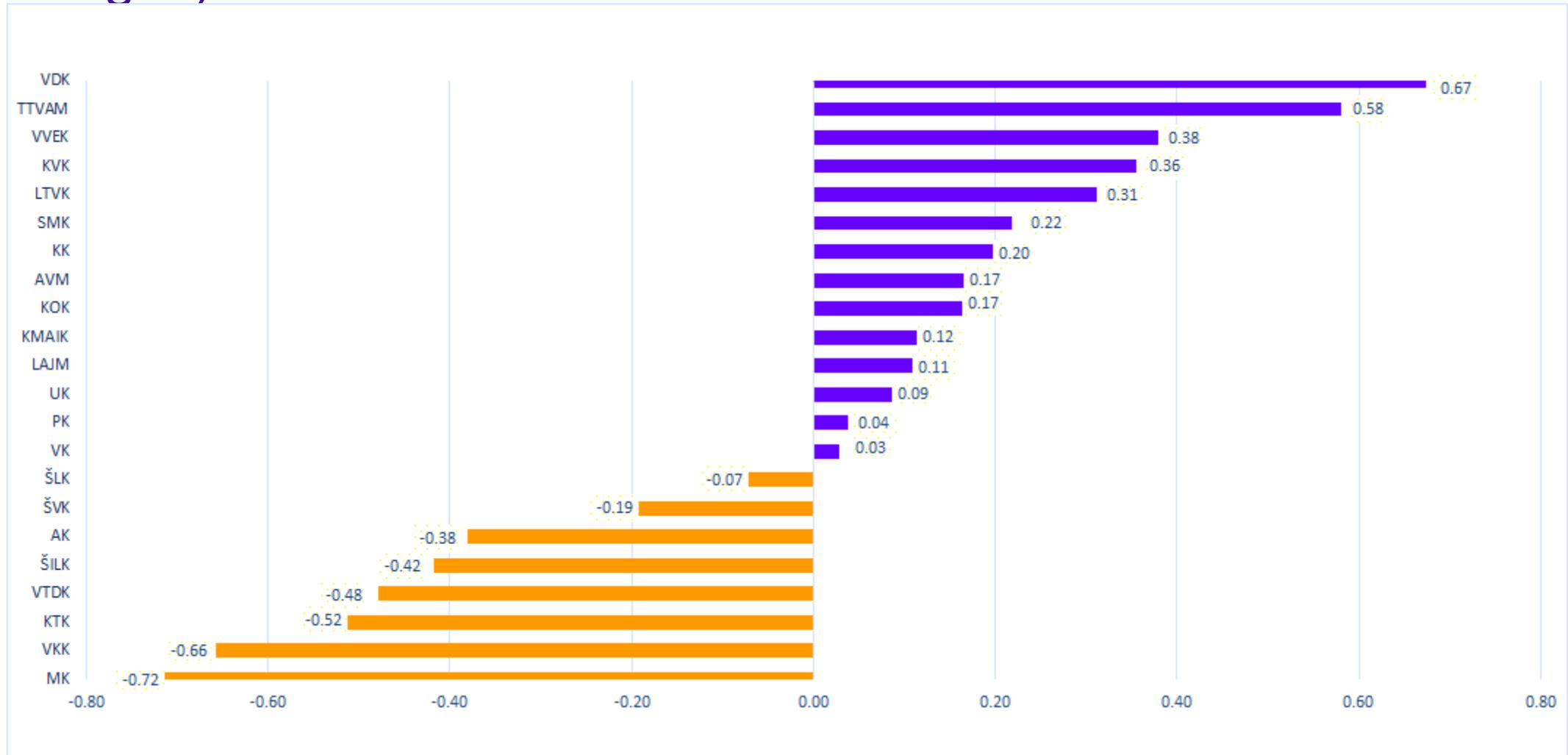
After standardising the values of indicators, new values of indicators of index z_1, z_2, \dots, z_n are obtained, the average of which in the index is always equal to 0, and the standard deviation is always equal to 1: $\bar{z} = 0, s_z = 1$.

A **positive standardised value** shows a better than average result, **negative** – worse than average result.

After that, standardised indicators of the index are **aggregated by assigning equal weights** to them (the weight is calculated only according to those indicators that have values).

The index is calculated according to the formula $ln_{gr} = (z_1 + z_2 + \dots + z_n) / n$ (z_1 = standardized indicator; n = number of indicators in the group).

Composite Index: Students: Preparation and Participation in Studies (Colleges)



Monitoring the progress of activities of Higher Education institutions (HEIs)

Standardised z values

Equal weighing

The **equal weighting method** was used to construct the indexes of composite HEIs, in which **each of the indicators has the same effect on the constructed index.**

Used: QS Higher Education System Strength Rankings, QS Best Student Cities Index, etc.

Disadvantages of assigning equal weights:

- the risk of unreliability of results, where equal weights can be assigned to variables without any empirical justification for choosing a different scheme.
- different result of equal weighting using different weighting methods.
- if the indicators are given equal weight, then the number of different indicators in the index may be different, thus forming an unbalanced structure of the composite index.
- **In order to avoid such a situation, it is proposed to combine less correlating indicators or to use a lower total number of indicators for such weighting.**

Indicators and Composite Indexes of HEIs

Indexes of universities

Indexes of colleges

Profile of individual HEI

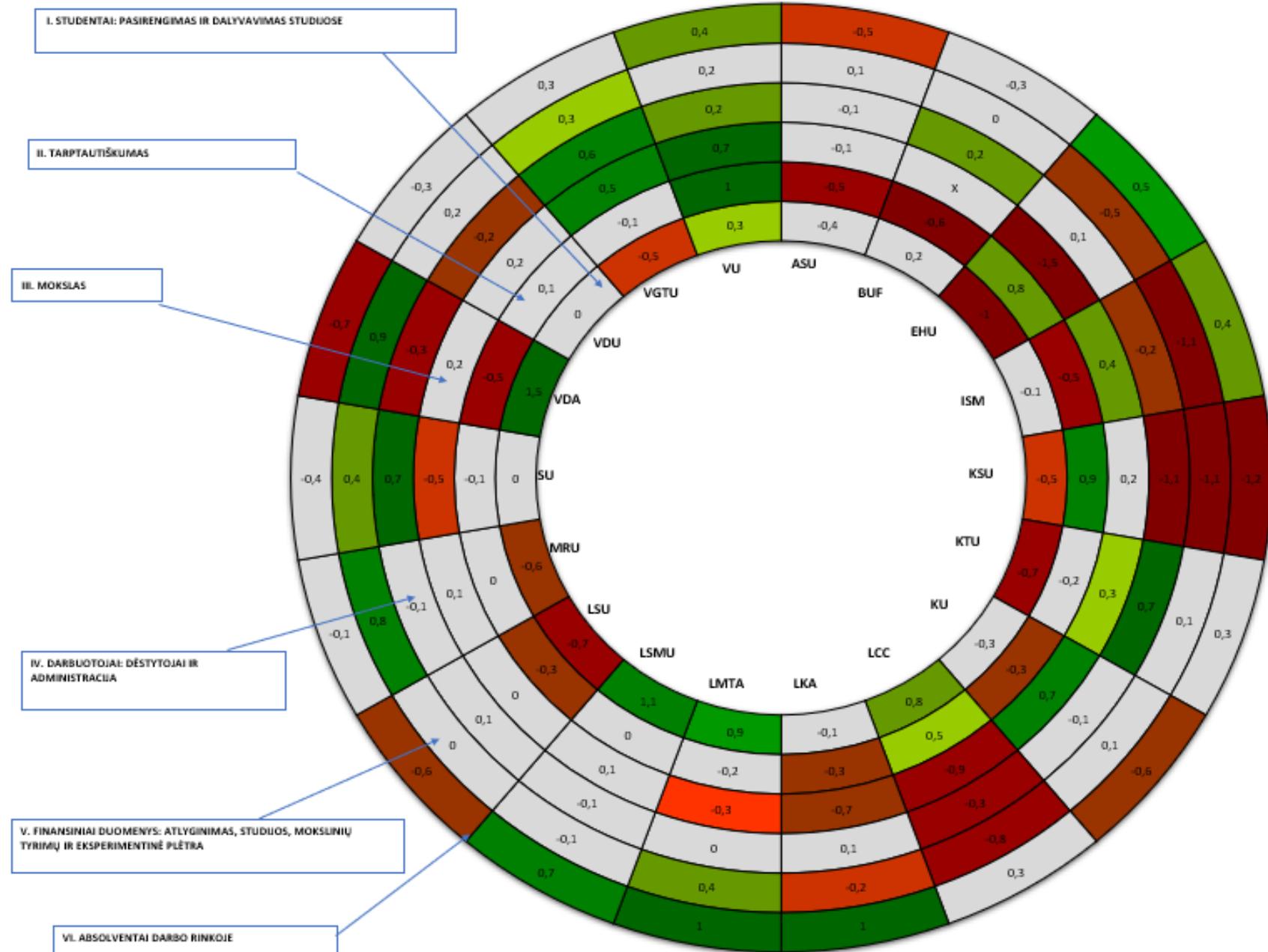
Table 1. General data of universities in 2018

Institution	1. Number of students	2. Number of teaching staff (full time)	3. Number of PhD students	4. Number of researchers (full time position)	5. Number of staff positions (full time): heads with administration
VDU	8035	410,1	232	145,1	244,6
ISM	1787	63,8	32	17,9	26,5
KTU	8720	557,1	316	260,5	227,1
VG TU	9134	602,6	199	236,9	131,5
VU	18679	1089,3	805	806,4	444,0

COMPOSITE INDEXES

Indexes of universities

- I. Students: preparation and participation in studies
- II. Internationalisation
- III. Science
- IV. Staff: lecturers and administration
- V. Financial data: salary, studies and R&D
- VI. Graduates in the labor market

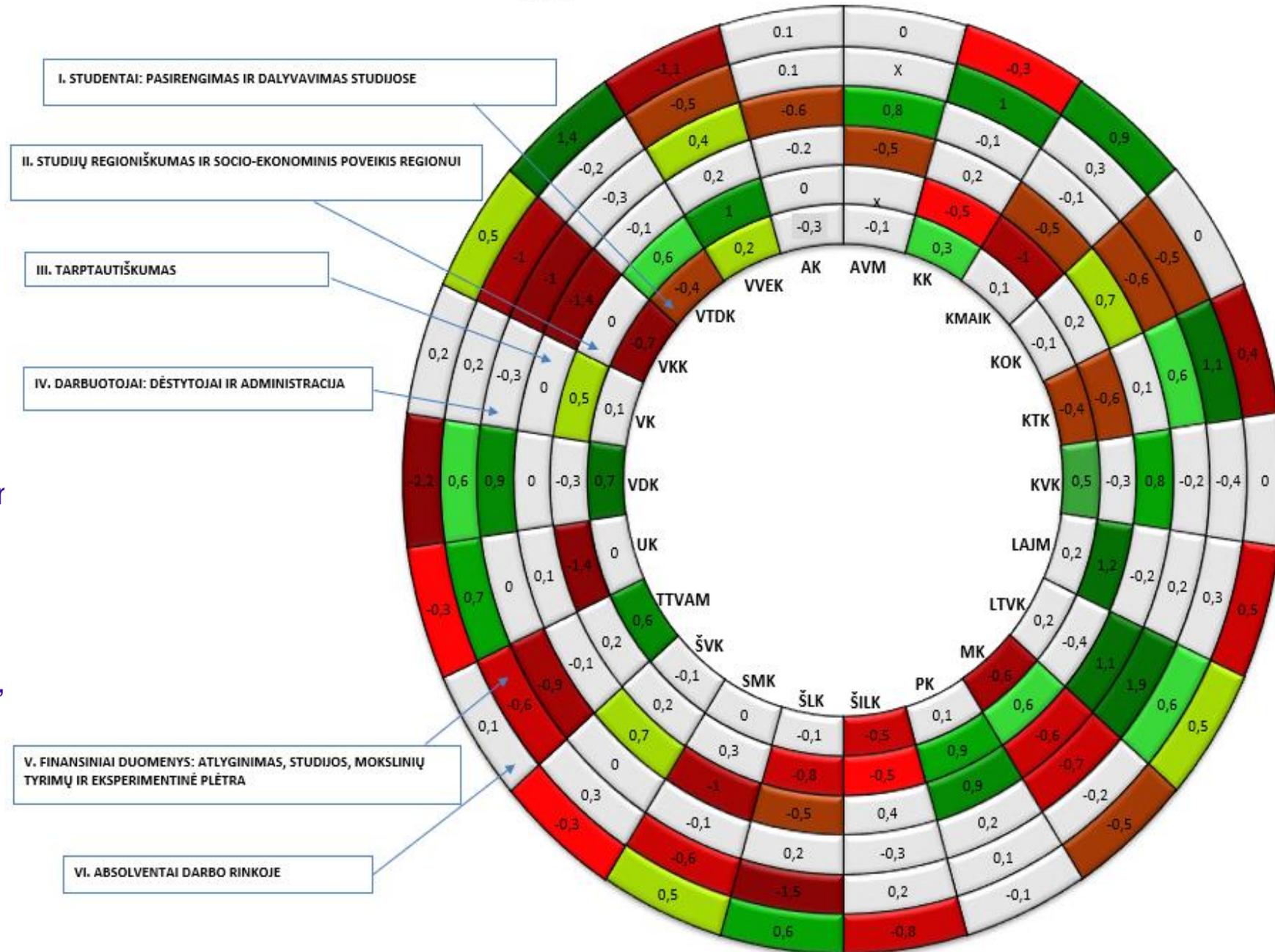


Monitoring the progress of activities of Higher Education institutions (HEIs)

Kolegijų indeksai. 2018 m.

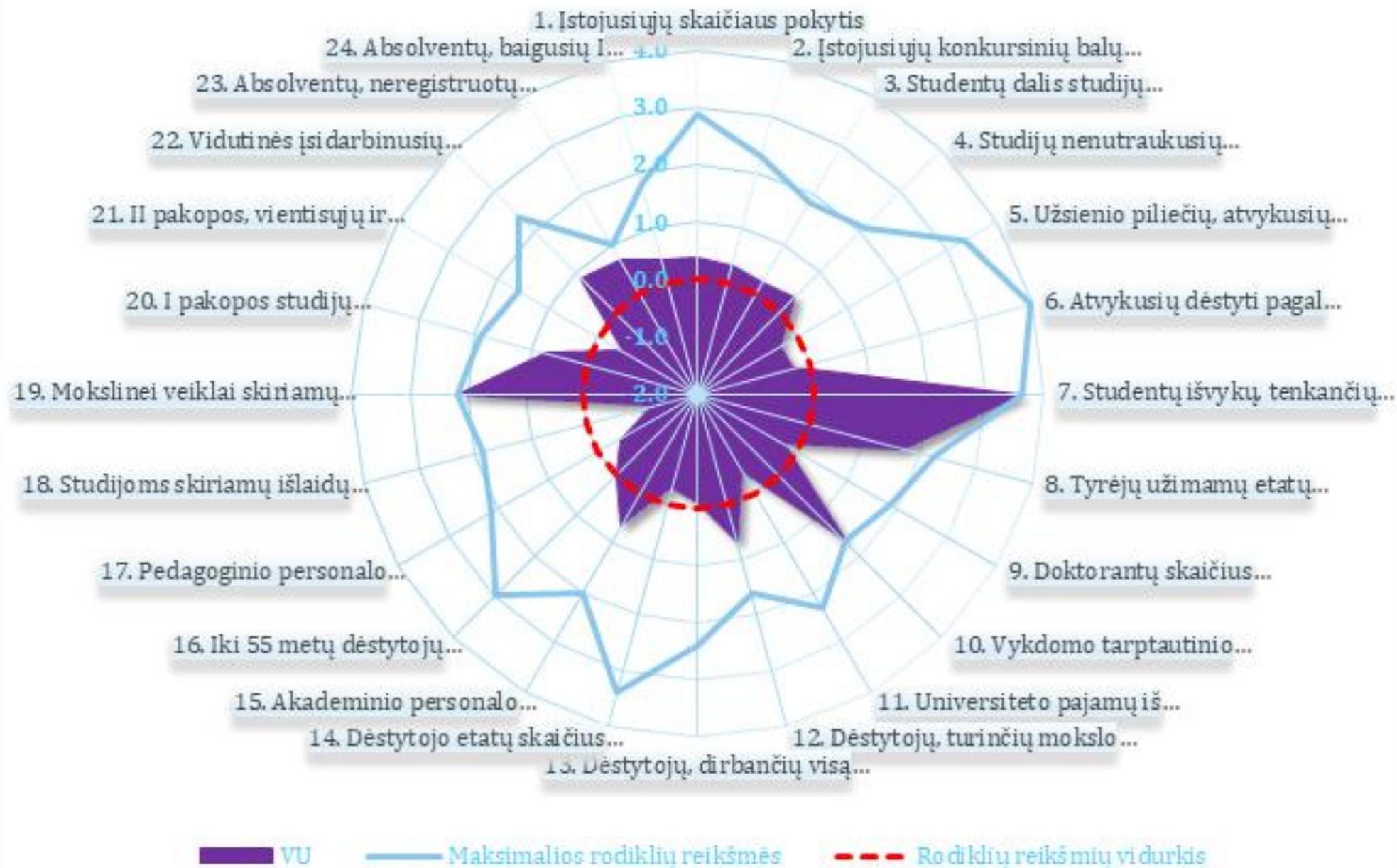
COMPOSITE INDEXES Indexes of colleges

- I. Students: preparation and participation in studies
- II. Regionality of and socio-economic role in region studies
- III. Internationalisation
- IV. Staff: lecturers and administration
- V. Financial data: salary, studies and R&D
- VI. Graduates in the labor market

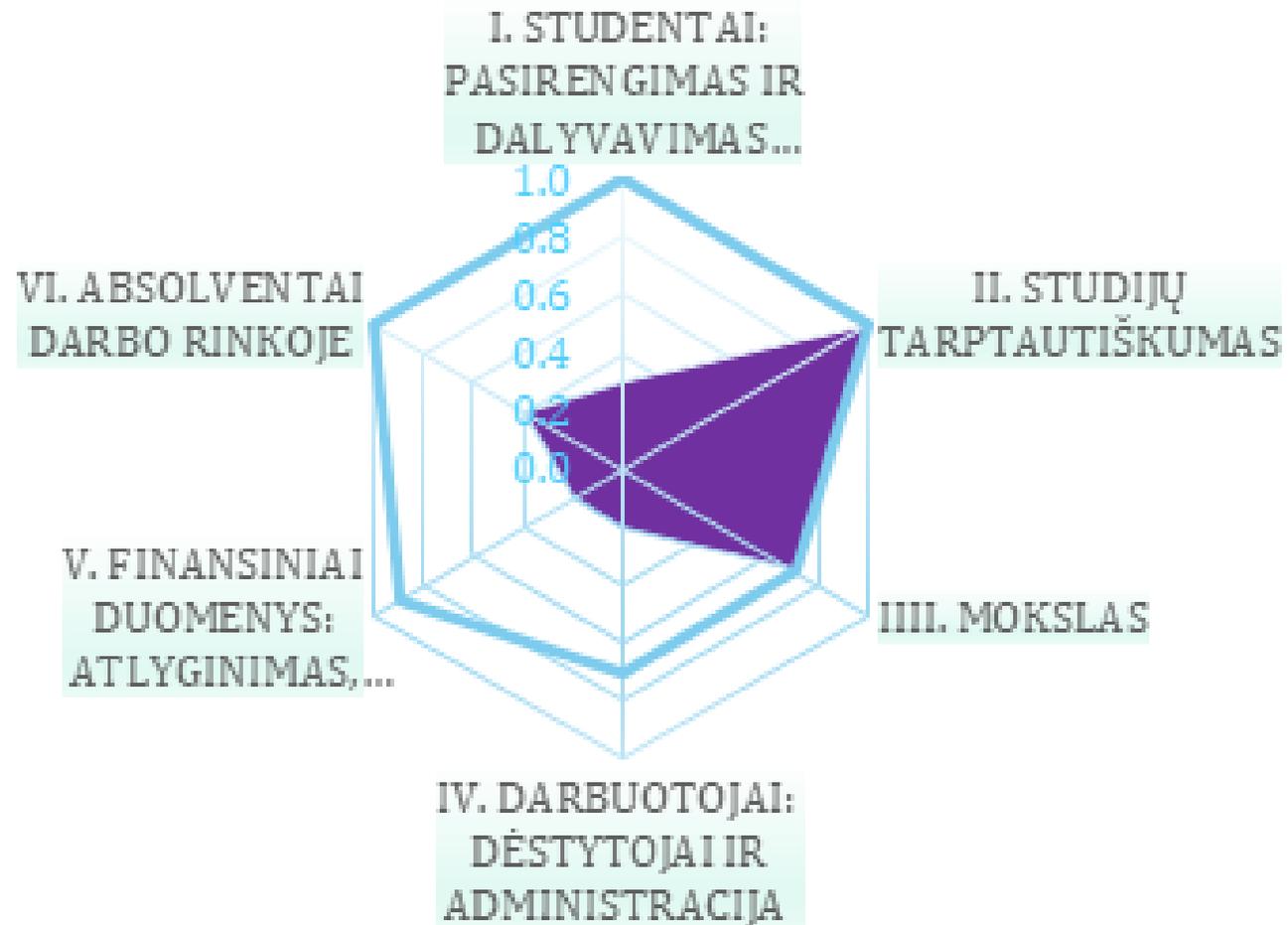


Monitoring the progress of activities of Higher Education institutions (HEIs)

Vilniaus universitetas



Vilniaus universitetas



■ VU

— Indekso reikšmių vidurkis

— Indekso maksimali reikšmė

VILNIAUS KOLEGIJA. 2018 M.

BENDRIEJI RODIKLIAI

Studentų skaičius	6653
Dėstytojų etatų skaičius	289
Vadovų su administracijos darbuotojais užimamų etatų skaičius*	88

STUDENTAI: PASIRENGIMAS IR DALYVAVIMAS STUDIJOSE

Istojusiujų skaičiaus pokytis	-4%
Istojusiujų konkursinių balų mediana	3.72
Studentų dalis studijų programose / kryptyse, akredituotose maksimaliam laikotarpiui	67%
Studijas nutraukusių studentų dalis nuo visų studentų	17%

STUDIJŲ REGIONIŠKUMAS IR SOCIO-EKONOMINIS POVEIKIS REGIONUI

Stojusiųjų iš regiono, kuriame veikia kolegija, dalis	52%
Regiono įsidarbinusių absolventų dalis nuo visų institucijos ar jos filialo absolventų (po metų nuo baigimo)	44%

TARPTAUTIŠKUMAS

Atvykusių dėstyti pagal mainų programas dėstytojų santykis su dėstytojų užimtais etatais	11%
Studentų išvykų, tenkančių vienam studentui, dalis	(nepateikti 2018 m. duomenys)

DARBUOTOJAI: DĚSTYTOJAI IR ADMINISTRACIJA

Dėstytojų, turinčių mokslo laipsnį (pripažintų menininkų) dalis nuo visų dėstytojų užimamų etatų	4%
Dėstytojų, dirbančių ne visą darbo laiką, dalis nuo visų dirbančių dėstytojų	11%
Studentų skaičius tenkantis vienam dėstytojo etatui	56
Administracijos kartu su vadovais užimamų etatų ir akademinio personalo (dėstytojų kartu su mokslo darbuotojais) užimamų etatų santykis	(nepateikti 2018 m. duomenys)
55 metų ir vyresnių dėstytojų užimtų etatų dalis	39%

FINANSINIAI DUOMENYS: ATLYGINIMAS, STUDIJOS, MOKSLINIŲ TYRIMŲ IR EKSPERIMENTINĖ PLĖTRA

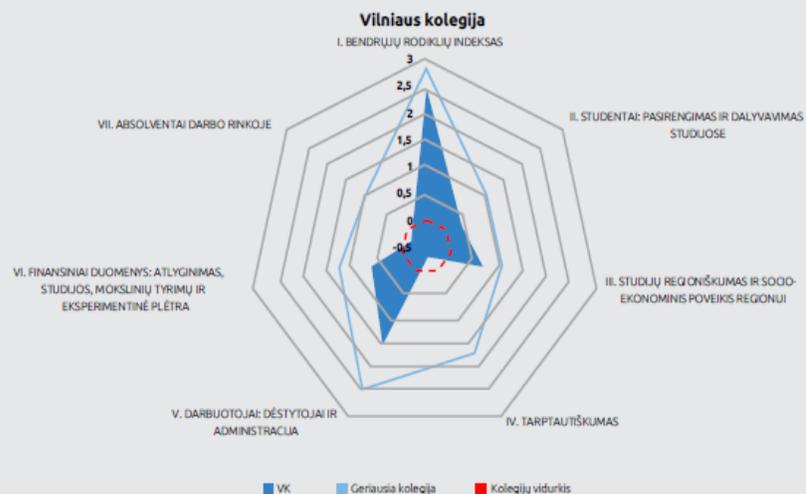
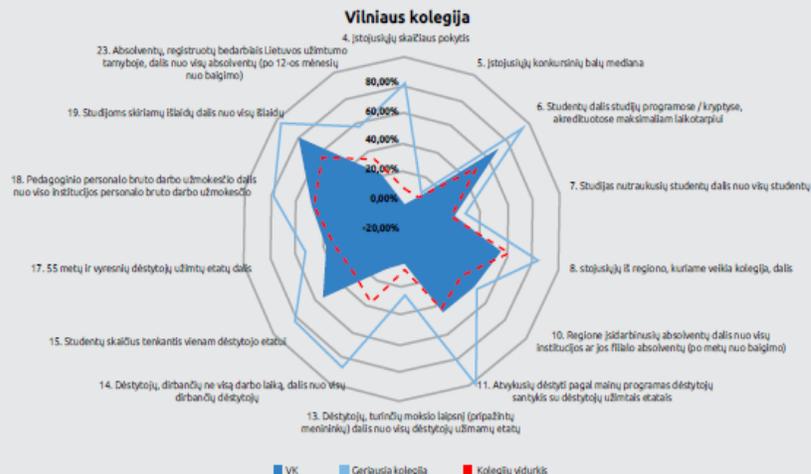
Pedagoginio personalo bruto darbo užmokesčio dalis nuo viso institucijos personalo bruto darbo užmokesčio	50%
Studijoms skiriamų išlaidų dalis nuo visų išlaidų	79%
Pajamų iš mokslo tyrimų ir eksperimentinės plėtros (MTEP) veiklų dalis nuo visų kolegijai skirtų MTEP lėšų	(nepateikti 2018 m. duomenys)

ABSOLVENTAI DARBO RINKOJE

Absolventų, bent vienoje darbovietėje dirbančių 0-3 pagrindinėse Lietuvos profesijų klasifikatoriaus profesijų grupėse, dalis nuo visų dirbančių absolventų (po 12-os mėnesių nuo baigimo) **(nepateikti 2018 m. duomenys)**

Vidutinės įsidarbinusių absolventų mėnesio draudžiamosios pajamos **653EUR**

Absolventų, registruotų bedarbiais Lietuvos užimtumo tarnyboje, dalis nuo visų absolventų (po 12-os mėnesių nuo baigimo) **21%**



Thank you for the
attention!

