FORECASTING SOCIAL RESPONSIBILITY OF UNIVERSITIES IN THE ECONOMIC DEVELOPMENT OF THE PROVINCE

Svetlana G. Kreneva [1*]**, Yulia A. Shuvalova**[2]**, Evgeni I. Tsaregorodtsev**[3]**, Tatyana V. Sarycheva**[4]

[1*]Ph. D in Economics, Assistant Professor at the Chair of Small and Medium-Sized Business Management, Mari State University, Russia, kreneva.sv@yandex.ru

[2]Ph. D in Economics, Assistant Professor at the Chair of Economics and Finance, Mari State University, Ph. D in Economics, Assistant Professor at the Chair of Economics and management, interregional open social Institute, Russia, y.a.shuvalova@mail.ru

[3]Doctor of Science, Economics, Professor at the chair of Economics and Finance, Mari State University, Russia, evgts@yandex.ru

[4]Ph. D in Economics, Assistant Professor at the Chair of Applied Statistics and Computer Science, Director of the Institute of Economics, Management and Finances, Mari State University, Russia, tvdolmatova@bk.ru

*Corresponding author

Abstract

Universities today play an important role in promoting sustainable development of provinces by uniting the key participants of social processes to create the conditions required for the society's well-being. Forecasting the social responsibility of universities in the economic development of the province based on quantitative evaluation parameters, such as the cost of developing all categories of personnel and the cost of developing the local community, has become increasingly relevant now.

This article talks about the main criteria for evaluating the social responsibility of a university, which may be used to build forecast models of the province's economic development.

Keywords: social responsibility, university, evaluation criteria, forecast of economic development of province.

1. INTRODUCTION

Interest in the matters related to forecasting social responsibility of the Russian universities in the development of the regional economy is based on the fact that the higher education sector today is becoming an integral and equal part of the market which has its specifics connected with the functioning conditions, which, in their turn, depend on the competitive environment of education under the influence of globalization, integration and fast innovation development. The market of educational services today is characterized by more severe competition between higher educational institutions, this makes universities look for new development patterns. Currently, universities are seeking new methods of forecasting the

activities aimed at implementing social responsibility.

2. REVIEW OF LITERATURE

The tasks of analyzing, evaluating and forecasting social responsibility of universities in the development of regional economy are the subject of research conducted by some scientists. Currently, research in social responsibility defines the methods of evaluation and forecasting the contribution of each university to the wellbeing of the local community at the regional level. Not only researchers into regional aspects of economy, but also recognized experts from other fields use, for the purposes of evaluation and forecasting, the methods applied to assess the corporate social responsibility of business (Litovchenko 2013, Lugovaya 2012, Kaplan 2008, Norton 2008, Harrop and Breslin 1998, Mescon 2014, Albert 2014, Khedouri 2014): balanced scorecard method, London Benchmarking Group method, SA8000 standard, Dow Jones Sustainability Index, FTSE4Good indx, DSI 400 index, ISO26000:2010 Guidance on Social Responsibility and others, including ISO 26000:2010 Guidance on Social Responsibility SA8000 (Social Accountability 8000). However, in practice, more and more scientists tend to use quantitative methods to forecast social responsibility of universities in the regional economy (Niyazova 2015, Sidorov 2012, Shuvalova 2015). The parameters which are used most frequently are the costs of development of all the employees of the university, including the salary, social benefits to employees, the costs of training and re-training of personnel and the amounts spent by the university on the development of the local community, including various social and charitable programs, the amounts spent towards the improvement of the environmental situation. Currently, the researchers into the prospects of the regional economic growth note the influence of universities on this parameters because there is a direct connection between the growth of the gross regional product and the growth of the gross reginal product in such economic activity as education. The system of analysis and forecasting of social responsibility of universities in the development of regional economies should be based on the statistical data (Tsaregorodtsev 2015).

3. METHODS AND MATERIALS

The objective of research is to study, summarize and add to the approaches to determining the quantitative parameters of universities' social responsibility to evaluate their influence on the economic growth parameters and build the forecast models of regional economic growth.

Research methods:

− Research into theoretical quantitative approaches to evaluating social responsibility of universities in the regional development on the basis of the works of Russian and foreign authors;

− Empirical: collection, analysis and primary processing of the required statistical data; correlation analysis, analysis and forecasting of data on the basis of the development trends.

4. RESULTS

The structure of the data being studied includes observations of economic parameters over a certain period of time (2005-2015). For the purposes of our research, dynamic data (time series) were used for such parameters as the amounts spent by the universities in the region on the development of all categories of employees, including salary, social benefits, the costs of personnel training and retraining and the gross regional product for the type of economic activity "education" and specifically, higher education. The data are provided in RUB million (the Federal State Statistics Service 2016). To perform the analysis of data and calculation of numerical computations, software working under Windows operating systems was used.

In order to forecast the social responsibility of universities in the development of regional economy and to build the forecast models of the economic development of the province, these data are not enough. It would be more suitable to use the universal indicator of the economic development of the region which will serve as an effectiveness criterion of the quantitative performance parameters for the social responsibility of regional universities.

This indicator must fully reflect the key priorities of the economic policy of the province in the short an mid-term which are based on the policy of the country as a whole. Such universal indicator is the gross regional product which characterizes the level of the economic growth of the region. For the purposes of the research presented, it is feasible to use the gross regional product for the economic activity "education" and, specifically, higher education.

It goes without saying that full research and the final forecast of the social responsibility of universities in the development of regional economy cannot be built on the basis of the above three parameters only. To

conduct the full analysis and forecasting, additional information is required with deeper subsequent analysis. Below, we present a fragment of the forecasting of internal social responsibility of universities in the Mari El Republic (Russia).

Figure 1 shows the dynamics of the costs of development of all categories of the university personnel, including salary, social benefits, costs of training and retraining.
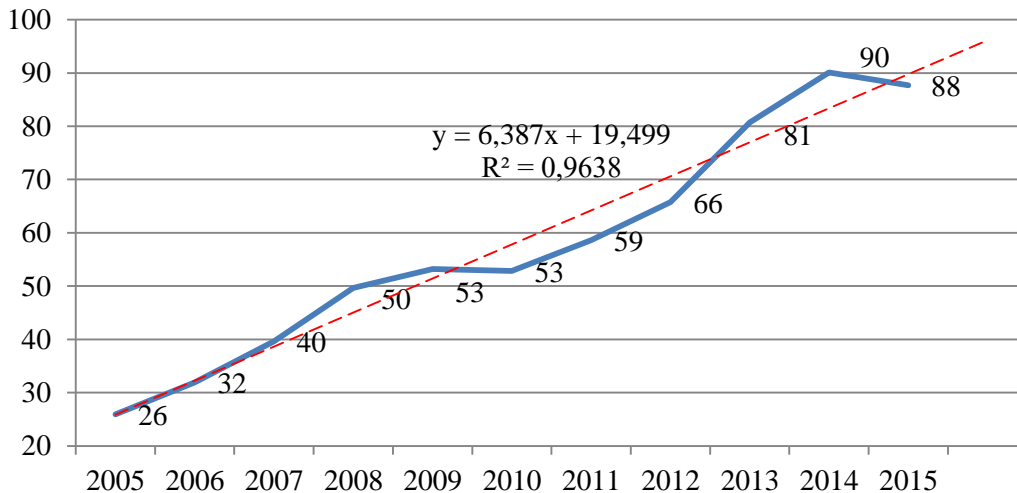

Fig.1 Personnel costs of the niversities in the Mari El Republic in 2005-2015

The dyagram clearly shows that during the period 2005-2015, the parameter demonstrates positive dynamics, the growth of the parameter is according to the formula: y=6.387x+19.499, the approximation coefficient is R^2=0.9638, which is viewed positively, as the value is close to 1, the calculation is deemed accurate.

Evaluating the parameter trends, it can be said that in the forthcoming short-term period, the trend towards growth in the university personnel costs will remain, it is clear from the forecast trend, the total amount will be over RUB 90 million. Figure 2 presents the dynamics of the gross regional product for the economic activity of education (higher education), RUB million. The data presented graphically demonstrate that the gross regional product for the economic activity of education (higher education) in 2005-2015 also shows stable growth. The growth of the value is calculated according to the formula y=546.14x+2304.1, the approximation coefficient is R^2=0.9768, which is, same as in our previous example, seen as positive and the calculation is deemed accurate.

Assessing the trends in the changes to this parameter, it can be said that in the forthcoming short-term period, the growth trend in the gross reginal product in education (higher education) will continue, this can be seen from the forecast trend, the total amount of the gross regional product will come close to RUB 9,000 million.
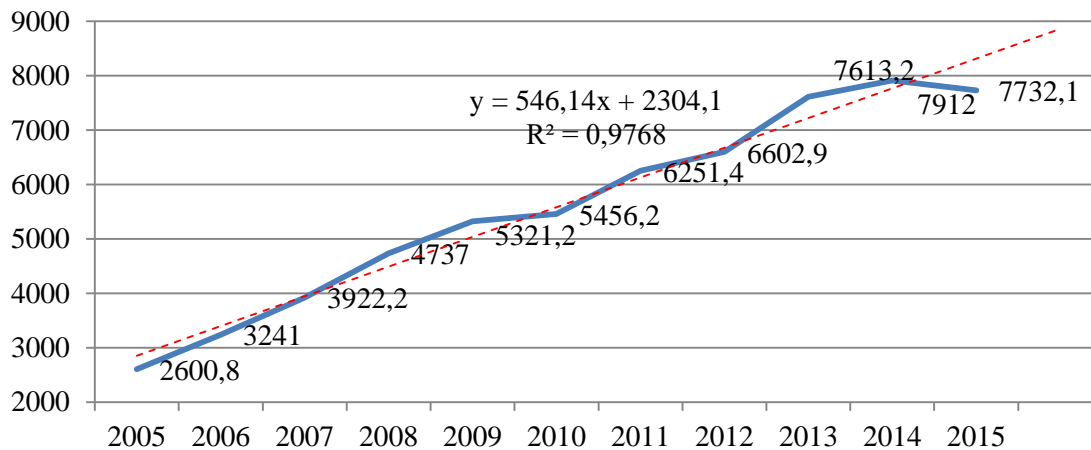

Fig. 2 Gross reginal product in education (higher education), RUB million

Therefore, it is evident that the two parameters, the cost of development of all categories of the university employees, including the salary, social benefits for employees, the costs of training and re-training of personnel, and the gross reginal product in education (higher education) are growing simultaneously.

For the purposes of evaluation of the relationship between these two variables and calculated the Pearson correlation coefficient:

$$r_{xy} = \frac{\sum(x_i - \overline{x}) \times (y_i - \overline{y})}{\sqrt{\sum(x_i - \overline{x})^2 \times (y_i - \overline{y})^2}} \qquad (1)$$

where — the value of a variable X; variable Y; — arithmetic mean of variable X; -the arithmetic mean of the variable Y.

In our case, the coefficient is equal to 0.98, therefore, the connection between the two parameters is strong and direct.

Taking into consideration the results received, it may be possible in the future to make an analysis and, consequently, forecast the costs of financing the social responsibility of universities in the development of regional economy, because the gross regional product in education, specifically, higher education, can and should serve as the indicator and target parameter.

5. DISCUSSION

Using the methods presented will make it possible to create relevant strategic alternatives and criteria for the development of the educational sector of the province, develop and implement specific action plans with regard to the social policy of universities, provide substantiation for the development of social responsibility of universities for various time intervals. It is of great importance that the approach presented will help to form optimum budgets to finance the projects related to universities' social responsibility, changing them according to the objectives of the economic development of the province and the growth of the gross regional product.

Forecasts of the social responsibility of universities in the development of regional economy based on the quantitative parameters may be used to forecast the social responsibility of universities in the development of the economy of any area. All these actions will, undoubtedly, contribute to creating an effective university development strategy at the regional level, one of the objectives of which is raising the level of the economic development of the province.

6. CONCLUSION

The practical importance of research into the quantitative methods of evaluating the effectiveness of social responsibility of universities at the regional level lies in the fact that one of the integrators for the economic growth in the province that can be used is the effectiveness parameter of the regional economic development – the gross regional product in the economic activity classified as education, specifically, higher education, as the important factor of its economic growth. Another benefit of this research is discovering the correlation between the parameters presented and the significant statistical importance of the results of their analysis. All the above will, in the future, create effective approaches to building forecast models of the economic development of any given area.

7. ACKNOWLEDGMENTS

REFERENCES LIST

Litovchenko, S. E. (2013). Social Responsibility of Business: Current Agenda. Moscow. Association of Managers.p.23-36.

Lugovaya, E. S. (2012). International Practice of Forming and Implementing Organizational Social Policy. Year-Book of Modern Science and Education. No.7.p.74-77.

Kaplan R. (2008). The Balanced Scorecard: Translating Strategy into Action / Kaplan Robert, Norton David.

Moscow, CJSC Olimp-Business, 320 p.

Michael H. Mescon, Michael Albert, Franklin Khedouri. (2014). Published by: Delo, 704 p.

Niyazova, M. V. (2015). Result of Higher Education Institution: Concepts, Approaches to Management and Evaluation. Matters of Modern Professional Education: Scientific Conference Materials, Moscow, RANH, p.677-682.

Sidorov, S. G. (2012). Priorities in the Development of a Classical University in the Situation of Education Modernization. Volgograd: Volgograd State University Press, p.132-136.

Tsaregorodtsev E. I., Sajranova1 M. V. (2015) The Economic Development Potential of Socio-Economic Systems in the Region - Yoshkar-Ola: MarGU.178 p.

Shuvalova, Yu. A., Polikarpova N. K. (2015). Ways of Implementing Social Responsibility Policy of Autonomous Non-profit Organization of Higher Institution (Based on ANO HE IOSI). Bulletin of Interregional Open Social Institute No. 2(2) - p. 17-22

ISO 26000:2010, Guidance on Social Responsibility

SA8000 (Social Accountability 8000)

Harrop M. and Breslin S. (2008). Comparative Government and Politics: An Introduction. – 4th ed. – Houndmills, Basingstoke, Hampshire and London: The Macmillan Press,