

## ESTIMATION OF STABILITY OF HIGH SCHOOL IN THE CONDITIONS OF THE SOCIAL AND ECONOMIC ENVIRONMENT OF THE REGION

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**Key words:** stability, high school, social and economic environment, region, the entrant, management.

In this article is considered the approach to an estimation of stability of functioning of HIGH SCHOOL within the limits of the social and economic environment of separate region. Defined the parameters which mutual interests make stability of HIGH SCHOOL. In article it is shown, on how many each parameter is influential on stability of HIGH SCHOOL and as who possesses possibility to operate in these parameters for stability maintenance, both separate HIGH SCHOOL, and region (regional level of management, High school level of management).

The HIGH SCHOOL is subject to instability under the influence of external factors of environment which differ the complexity and dynamism. Hence, it is possible to talk about the analysis of dynamic development of HIGH SCHOOL as social and economic system. This analysis shows that catastrophic jumps are put in this system<sup>1</sup>.

As influence of an environment on the HIGH SCHOOL sustainable development it is expedient to consider a sequence principle.

The HIGH SCHOOL ( $Y_1$ ) is in interaction with two subsystems: institute of entrants ( $Y_2$ ) and social and economic environment ( $Y_3$ ) - the State (fig.). Mutual relations of HIGH SCHOOL with entrants

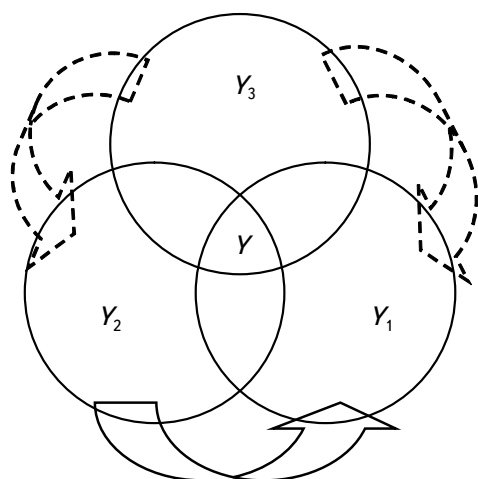


Fig. Flow diagram of co-operation of research object

are shown on the scheme of drawing by 1 continuous pointer. On HIGH SCHOOL and institute of entrants constantly operates revolting influences from outside the social and economic environment, designated on the scheme of drawing 1 dotted pointers.

Aims and tasks here can be presented as crossing of these subsystems: subsystem *Entrant* subsystem *HIGH SCHOOL* and subsystem *the Socio-economic environment*.

**Subsystem high school ( $Y_1$ )** is a policy of Institute of higher at the market of requiring payment education. There are several parameters which inherent to this subsystem, determining its stability: maintenance of prestige of Institute of higher; spiritual and intellectual level of teaching staff; variety of specialities; got income; high pay-envelope of teachers; financial base; stability at the market of educational services; favourable competitive positions at the market of educational services.

As stability and risk are a complete group of unjoint events describing the conduct of the system, stability of economic losses of HIGH SCHOOL it is possible to express through the indicator of risk (1)

$$Y_1 = 1 - R, \quad (1)$$

where  $Y_1$  - parameter of stability of economic losses of HIGH SCHOOLS;  $R$  - risk, being work of probability or frequency of appearance of negative event for HIGH SCHOOL (not actings university entrants) and weight of negative event for HIGH SCHOOL (economic losses from not entering university entrants).

For HIGH SCHOOL the quantitative estimation of frequency of negative event is maybe loss of part of university entrants due to an unfavorable demographic situation, competition at the market of educational services, and also high cost of educational services.

As quantitative estimation of weight of event the parity of size of economic losses from the entrants who have not enter in HIGH

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SCHOOL and material possibilities of HIGH SCHOOL under condition of receipt of all university entrants on on requiring payment education.

Quantitative estimation of stability of Institute of higher depending on economic losses it is possible to express as (2)

$$Y_1 = \frac{n^2}{N^2}, \quad (2)$$

where  $Y_1$  - parameter of stability of economic losses of Institutes of higher;  $n$  - number of university entrants taking away statements on the requiring payment teaching in current year, people;  $N$  - number of university entrants handings in applications on the requiring payment teaching in a current year, people.

**Subsystem university Entrant ( $Y_2$ )** is a great number of university entrants influencing on stability of HIGH SCHOOL through the demographic situation of region. The decline of birth-rate in a region results in diminishing of number of university entrants, that in same queue results in the decline of number of students. For this subsystem the followings parameters, determining its stability, are: aspiring to the spiritual enriching of personality; interesting speciality; propensity of man to one or another sort of activity; a future career is a high pay-

of the state, and HIGH SCHOOL functions within the framework of this environment. The strongest influence on steady development of HIGH SCHOOL renders socio-economic environment. For this subsystem the followings parameters, determining its stability, are: increase of spiritual and intellectual level of citizens of Russia; level of culture of society; a variety of specialities in the HIGH SCHOOL; high level of Total Internal Product; high pay-envelope; safety of the state; developed economy; development of socio-economic environment.

Let express stability of socio-economic environment as (4)

$$Y_3 = \frac{A_{mek}}{A_{max}}, \quad (4)$$

where  $Y_3$  - stability of socio-economic environment;  $A_{mek}$  - current value of middle money profits on one man of population on the Samara area, thousand of rubles in a month;  $A_{max}$  - maximal value of middle money profits of population on Russia, thousand of rubles in a month.

For the estimation of stability of socio-economic environment will appeal to the dynamics of middle money profits of population on the Samara area by comparison to a subject with the maximal money profits of Russian Federation (table 1).

Table 1

**Dynamics of middle money profits population on the Samara area (thousand of ruble in a month)**

Subject of Russian Federation	2003 y.	2004 y.	2005 y.	2006 y.	2007 y.
Samara area	5,7	6,9	9,1	9,5	10,2
Maximal value on Russia	19,0	20,6	25,0	31,0	33,2

envelope; high position; hope on the future; risk of loss of work.

Stability of subsystem university Entrant will define as (3)

$$Y_2 = \frac{K_a - K_{np}}{K_a}, \quad (3)$$

where  $Y_2$  - stability of subsystem university Entrant;  $K_a$  - quantity of university entrants, thousand of people;  $K_{np}$  - quantity of the accepted students, thousand of people.

Thus, we will rotin that fact, on how many abbreviated amount of university entrants influences on stability of HIGH SCHOOL in a region.

**A subsystem is the Socio-economic environment ( $Y_3$ )** - there is socio-economic space

The conducted expert estimations rotined that general interests for three subsystems are such factors as: cost of education, spiritual and intellectual level of teaching staff of Institute of higher, variety of specialities in Institutes of higher, spiritual enriching of personality, achievement of high status in the career of specialist, high ettlings, level of culture of society of country, safety of the state, developed economy, development of socio-economic environment. Many of these factors are added an analysis. A difficult factor for an analysis is a cost of education, as it is difficult to collect complete statistical information on this factor. Cost of education it is a prerogative of every separately taken HIGH SCHOOL, having a right independently to set prices on teaching. It is hereupon

possible for us and expedient to conduct the estimation of stability of functioning of HIGH SCHOOL on other constituents.

Coming from that HIGH SCHOOL is part of socio-economic environment and from his scales the level of stability of socio-economic environment depends within the framework of region. What larger HIGH SCHOOL, the stronger his destruction will affect stability of the socio-economic system of region on the whole as compared to less large Institutes of higher. Crossing of mutual interests of these three subsystems and determines the area of stability of HIGH SCHOOL ( $Y$ ).

Coming from a fig. 1 it is possible to present stability of HIGH SCHOOL as multiplication (5)

$$Y = Y_1 \cdot Y_2 \cdot Y_3, \quad (5)$$

where  $Y$  - stability of HIGH SCHOOL;  $Y_1$  - parameter of stability of economic losses of HIGH SCHOOL;  $Y_2$  - stability of subsystem university Entrant;  $Y_3$  - stability of subsystem the Socio-economic environment.

Statistical information on which it is possible to draw a conclusion about the parameters of stability of three subsystems described higher presented in a table 2

stability of Institute of higher on the example of SSEU. Will take all of calculations in a table 3.

Thus we got quantitative information, characterizing stability of functioning of SSEU. Every HIGH SCHOOL can conduct such estimation. Similar information serves for a management stability of socio-economic environment of the region.

In the constituents of stability of HIGH SCHOOL enter stability of three subsystems described higher. For a management stability of HIGH SCHOOL, managements of it's vital functions, it is necessary to manage stability of these subsystems. It must be carried out both at regional level and at the level of the separate taken HIGH SCHOOL. Questions of adjusting of socio-economic environment stability are in capacity of regional power. As we see from a table 3 stability of socio-economic environment of region has a small tendency to the decline. It in earnest tells on stability of HIGH SCHOOL. However two other constituents of stability of Institute of higher have yet more tendency to diminishing. Stability of HIGH SCHOOL in relation to the amount of university entrants characterizes the risk of HIGH SCHOOL to lose

Table 2

**Dynamics of quantity of Institutes of higher, accepted students and university entrants on the Samara area, 2002-2007 years**

The indicator name	2002 y.	2003 y.	2004 y.	2005 y.	2006 y.	2007 y.
Number of HIGH SCHOOLS, units	27	27	30	30	29	29
Dynamics of quantity of population on Samara area in age from 18 - 19 years, thousand of people	278,1	270	260,1	250,1	245,0	243,0
Students are accepted in HIGH SCHOOLS, thousand of people	41,4	40,4	39,3	40,6	40,2	40,0

Table 3

**Parameters and coefficients of stability of SSEU after 2003-2007 years**

Years	Parameter - stability of economic losses of SSEU ( $Y_1$ )	Stability of subsystem is university Entrant ( $Y_2$ )	Stability of socio-economic environment ( $Y_3$ )	Coefficients of stability of SSEU ( $Y$ )
2003	0,89	0,85	0,32	0,242
2004	0,87	0,85	0,33	0,244
2005	0,55	0,84	0,36	0,166
2006	0,55	0,84	0,31	0,143
2007	0,52	0,84	0,31	0,135

Coming from the presented information in tables 1 and 2, will define the parameters of stability of three described subsystems.

Thus, putting the results of calculations of formulas (2), (3), (4) in a formula (5) will define

university entrants in connection with diminishing of quantity of population, in particular with strong senescence of population of Russia. A management demographic stability also is in a conduct regional power. But also a management

stability must be carried out at the level of Institutes of higher. More than all the cost of education influences on stability. Not unimportant in this connection it will be to mark such fact as educational credit. An educational credit is called to facilitate the receipt of requiring payment formation of those layers of population, which are unable at once one-time to pay teaching. However presently only 30-35% families potentially can take part in financing of education of the children. Financial possibilities of Russian households obviously unsuffice in an order to provide the high-quality training of personnels<sup>2</sup>. Consequently, so far the factor of price

remains solving, which compels university entrants to choose other HIGH SCHOOL, where the cost of education below. HIGH SCHOOL must manage this factor for bringing in to itself of university entrants in the conditions of the worsened demographic position.

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<sup>1</sup> *Grigoryants I.A.* The Ekonometricheskoe modelling in a management stability of development of Institute of higher / V.K. Chertykovtsev, I.A. Grigor'yants // Announcer of the Samara state economic university. Samara, 2008. Issue. №4(42). P. 130-133.

<sup>2</sup> Analysis and estimation of economic stability of Institutes of higher / Under release S.A. Belyakov. M., 2008.