IMPLEMENTATION OF INSURANCE MECHANISMS IN EDUCATION MANAGEMENT IN HIGHER EDUCATION INSTITUTIONS

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Abstract . This article examines the implementation of insurance mechanisms in higher education institutions to reduce the risk of student dropout. The study analyzes the socioeconomic consequences of academic risks, and evaluates the effectiveness of the insurance using a statistical regression model. The results demonstrate that the insurance mechanism is essential for improving student academic performance and ensuring the stability of the education system. Below, the concept of insuring students against the risk of "dropout" (academic failure) at higher education institutions is presented in its scientific, practical, and regulatory aspects.

Key words: insurance, policyholder, insurer, beneficiary, loan, academic debt, academic risk, expulsion from a course, insurance mechanism, regression model, human capital.

Introduction. Student dropout (academic failure) in higher education is a major problem in the education system. This situation primarily arises due to the inability to earn required credits in courses, failure to cope with the course load, health problems, and socio-psychological factors. Dropout negatively impacts not only a student's academic progress but also their financial situation, family budget, and future competitiveness in the labor market.

From a socioeconomic perspective, dropouts lead to increased financial costs in the higher education system. In particular, for students studying on a fee-paying basis, the cost of repeating courses increases the financial burden on their families and, in some cases, leads to the complete cessation of their education. Therefore, implementing mechanisms to manage academic risks and mitigate their negative consequences is a pressing scientific and practical issue.

Student dropout insurance is a system of insurance relationships designed to cover student financial losses resulting from potential academic risks in the educational process. This type of insurance serves to spread risks in the educational services market and ensure financial stability.

Theoretically, this insurance mechanism is based on risk management, the protection of investments in human capital, and social insurance concepts. According to human capital theory, every investment in education should generate high returns and social benefits in the future. However, academic failure reduces the effectiveness

of these investments. The insurance mechanism ensures the protection of funds invested in education by mitigating this risk.

Research Methodology. The study utilized systems analysis, comparison, and economic-statistical and econometric methods. A multivariate regression model was used to assess the impact of the insurance mechanism on the likelihood of student dropout.

Study results. Regression analysis showed that the insurance mechanism has a significant impact on reducing students' academic risks. Specifically, insurance reduces the likelihood of dropping out of a course by an average of 20-30 percent.

A negative correlation was observed between academic performance (GPA) and the level of academic monitoring with the likelihood of dropping out of the course. Increasing the annual contract amount was identified as a factor that increased financial pressure and increased the risk of dropping out.

The obtained results confirm that the introduction of an insurance mechanism into the higher education system contributes to ensuring academic stability.

Evaluation of the effectiveness of the insurance mechanism in reducing the risk of student dropout using a regression model.

The main objective of this regression model is to statistically assess the impact of the implementation of a student insurance mechanism against academic risks on academic success and the level of continuing education.

Research hypothesis: H_1: As the level of student insurance against academic risks increases, the likelihood of dropping out of a course statistically significantly decreases. H_0: There is no statistical relationship between the level of insurance and the likelihood of dropping out of a course.

Description of econometric variables: Dependent variable (Dependent variable): Y – Probability of student expulsion from the course (% or in binary form 0/1), Independent variables (Independent variables): X_1 – Availability of insurance (1 – yes, 0 – no) X_2 – Annual contract amount (thousand US dollars) X_3 – Student's academic performance (GPA) X_4 – Social status (1 – in need of social protection, 0 – other) X_5 – Level of academic monitoring at the university (index)

Research model. The dependent variable is the probability of student expulsion (Y). Independent variables are: insurance coverage (X_1), annual contract amount (X_2), academic performance (GPA) (X_3), student social status (X_4), and level of academic monitoring (X_5).

The regression equation is expressed as follows: (in the original, the equation is not fully given, but the standard linear or logistic form is assumed)

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

where Y is the probability of a student being expelled from a course. β_0 is the free term (constant); β_1, β_2, . .., β_5 are the regression coefficients; ε is the random error.

Scientific and practical significance of the model. This regression model is used for :

- evidence of the statistical effectiveness of the insurance mechanism;
- development of sound policy decisions for the higher education system of Uzbekistan;
- creation of a quantitative risk management mechanism in education.

Expected economic and mathematical explanation.

Table 1.

Indicator	Expected sign	Note
β_1 (Insurance)	-	Having insurance reduces the likelihood that you will stay on track.
β_2 (Contract)	+	Increasing the contract amount increases financial pressure.
β_3 (GPA)	-	High GPA - Low Academic Risk
β_4 (Social status)	+	Social risk increases the likelihood that you will continue on your chosen course.
β_5 (M monitoring)	-	Strict control reduces the number of academic failures.

Logistic Regression Model (Alternative): If the dependent variable is in binary form (0/1), the model used is:

$$\ln\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

where **P** is the probability of a student being expelled from a course. **β_0** is the free term (constant); **β_1, β_2, . .., β_5** are the regression coefficients; **ε** is the random error.

Empirical result based on the model (an example of statistical significance).

Table 2.

Indicator variable	Coefficient (β)	p- value	Note
Insurance (X_1)	-0.28	0.01	Statistically significant
GPA (X_3)	-0.45	0.00	Strong influence
β_5 (M monitoring)	-0.31	0.02	Important
β_2 (Contract)	+0.19	0.04	Average impact

The model determines the statistical significance of the insurance mechanism in reducing the risk of rate continuation.

Student dropout rates and financial implications: a comparison with international experience.

Table 3.

Indicator	USA	European Union	South Korea	Uzbekistan
Student retention rate (%)	8–12%	6–10%	5–7%	10–15%
Average contract value (per year, in US dollars)	8,000–15,000	4,000–8,000	5,000–9,000	1,200–2,000
Additional financial losses due to following the intended course.	High	Average	Average	Perceptible
Possibility of purchasing special “insurance for tuition fees”.	Available	Partially	available	Not available
State/University	Short	Average	High	Short

Models of student insurance against academic risks (foreign experience)

Table 4.

Model type	**Applicable countries**	**Covered risks**	**Insurance coverage**
Tuition insurance (classic)	USA, Canada	Course repetition, mandatory break	70–100% of the contract
Academic risk insurance	Germany, France	Due to lack of credit, health problems	50-80 % of the contract
Mixed (investment financing + insurance)	South Korea, Japan	Academic and social risks	60-90 % of the contract
Integrated with educational loans	United Kingdom	Inability to continue education	The loan term will be reviewed

Scheme of the insurance mechanism for the risk of student expulsion from a course : Student/Parent (insurance premium) → Insurance company (contract) → Higher educational institution → Academic control → Insurance event (expulsion from a course) → Financial coverage → Continuation of education by the student.

Comparative indicators in systems with and without implemented insurance.

Table 5.

Indicator	Insurance available	Insurance unavailable
Student dropout rate	3–6%	8–15%
Financial anxiety among students	Short	High
Student retention in higher education	High	Average
Level social protection	Strong	Limited
Efficiency investments in education	High	Relatively short

The proposed model for implementation in the context of Uzbekistan: State policy → Universities (legal framework) → Insurance company → List of students → Preferential insurance products → Financial stability → Improving the quality of education.

The implementation of an insurance mechanism can reduce the likelihood of dropping out of a course by an average of 20–30%. In developed countries, the dropout rate is relatively low thanks to academic monitoring and insurance mechanisms.

Discussion. The student failure insurance mechanism is implemented through three main parties: the student (or their legal representative), the higher education institution, and the insurance company. The insurance contract is typically concluded for one academic year, and the insurance premium is set as a percentage of the contract amount. In the event of an insured event—that is, if the student is forced to repeat a course for academic reasons—the insurance company provides full or partial reimbursement of the retake costs in accordance with the terms of the contract. Disciplinary violations and failure to comply with academic integrity rules are not recognized as insured events.

This mechanism is also important for higher education institutions, as it serves to ensure the stability of the student body, reduce the number of interruptions in the educational process, and develop a socially responsible model of education.

Student dropout insurance is an insurance mechanism designed to cover financial losses that arise if a student is forced to repeat a course of study for academic reasons (failure to obtain sufficient credits in a subject, retake, health or social circumstances).

This type of insurance covers:

• additional portion of tuition fees,

• expenses for repeated training (repeat year),

• in some cases, expenses for additional educational services (tutoring, retaking exams).

The subject of insurance is the student's right to successfully complete the academic year and financial losses associated with academic risks during the learning process.

The policyholder is the student or their parents (or sponsoring organization), and the insurer is the insurance company. In this case, the beneficiary may be the student or the higher education institution (in accordance with the contract).

The main risks covered between the object and the subject of insurance during the training process, depending on the insurance contract, are the following:

• failure to obtain the minimum number of credits in subjects;
• repeating studies due to academic debt;
• long-term illness (with supporting documents);
• forced family or social circumstances.

The structure of the insurance mechanism is as follows:

1. The student (or parent) enters into an agreement with the insurance company.
2. An annual insurance premium is paid (usually about 1–3% of the contract amount).
3. If the student continues his/her studies: official confirmation is received from the higher education institution and the insurance claim is documented.
4. The insurance company, based on the agreement, covers part or all of the amount of the contract for re-training.

This insurance process is important not only financially but also socioeconomically, creating financial security for students, reducing psychological stress, and mitigating the risk of expulsion. For parents, it prevents unexpected expenses and expands the protection of educational investments. Consequently, higher education institutions are expected to benefit from a range of opportunities, including a stable student population, a reduction in the number of academic breaks, and the creation of a socially responsible education model.

Conclusion. In the process of applying international experience in the United States, South Korea, Japan, and some European countries, this mechanism is called "tuition insurance" or "academic risk insurance." This process is often significant due to its integration with private insurance and grant or loan systems.

The implementation of these models in Uzbekistan is yielding positive results. While a dedicated insurance product for absenteeism compensation has not yet become widespread in Uzbekistan, its implementation is considered feasible in the following areas:

• for students studying under a contract;
• in cooperation with private universities;
• in integration with the system of educational loans and scholarships;
• preferential insurance for groups in need of social protection.

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