

Influence of the imperatives of new industrialization on the academic staffing strategies of Belarusian universities

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Abstract— The article provides an analysis of staffing strategies in the context of the transformation of Belarusian universities. An attempt is made to assess the possibility of introducing effective academic contracts as the basis for the formation of personnel strategies. It has been substantiated that in the academic environment of Belarus, in general, the requirements of an effective contract are not fulfilled, although there are types of scientific and methodological activities that a contract involves. It is proved that the academic activity in Belarus is determined by the age of teachers and the presence of their academic degree. These factors are decisive in the models of labor behavior of university teachers. Involvement in the academic environment for teachers is related to their material interest. It is concluded that the Belarusian academic environment is making the first attempts to form new models of labor behavior, allowing the higher education system to be transformed to introduce effective academic contracts.

Keywords— *Personnel strategies, effective contract, university, degree, teacher, wage*

I. INTRODUCTION

The modern system of higher education in Belarus is going through a stage of transformation, which is associated with the advent of modern trends in industrialization. Among the main directions of such a transformation one should single out: an informal division of universities into metropolitan and regional ones; the reorganization of universities through the internal unification of departments; organization of tight state control over the allocation of resources. The first educational structures that bear all the risks of such a transformation are regional universities that do not have leading positions in the Belarusian educational space. The effectiveness of the functioning of regional universities is stimulated by the conditions of the participation of the Republic of Belarus in the Bologna process. An important task of regional universities, including the development of personnel strategy, which can determine the competitive position of the university in the educational space.

As a task of this study, an attempt was made to assess the formation of personnel strategies in the context of the transformation of Belarusian universities in the context of new industrialization, which ultimately will give an answer to the

question: “Is an effective academic contract possible within the framework of the functioning of Belarusian universities, based on the development strategies of universities?”

Institutional registration of labor relations in Belarusian universities is a contract. But the structure and content of the Belarusian academic contract seems to be suboptimal. This means that the amount of remuneration depends mainly on academic work, and the duration of contracts (in fact short-term) do not create positive incentives for teachers. Solving the problem requires either finding your own reward model (size, structure, duration), or partially borrowing the existing foreign institutions in combination with modernizing your own.

II. REFERENCE

In the post-Soviet academic space, alternative examples of labor incentives have recently appeared that can significantly increase the productivity of higher education workers: (collection of scientific articles “Contracts in the Academic World” [1;4]); works by M. V. Kurbatova, S. N. Levin, I. N. Nazarova, G. V. Andrushchak, M. M. Yudkevich, I. Prahova and others [1;2;4;6], which provide an institutional analysis of the content and practice of contracting with teachers. The main focus of modern foreign studies on the remuneration of university employees is the problem of the relationship between permanent employment contracts and temporary contracts, the impact of these contracts on labor productivity (J. Bess, W. Brown, R. McCormick, R. Meiners) [5;6]. Existing works either address wage issues outside the context of the development of higher education institutions (for example, using standard Mintzer-type equations) or are limited to analyzing theoretical models and descriptive statistics.

A number of other papers (Marsden D., Meyer I.H., Evans I.M.) [8;9] presented an analysis of the wage systems related to the productivity of academic workers and factors of its motivation. In the works of Altbach P.G., Reisberg L., Rumbley L.E. Clark B.R. [10-13] global trends in the development of higher education are considered in view of the expansion of opportunities for effective contracts in the academic environment.

III. RESEARCH METHODOLOGY

Within the framework of the theory of contracting, the theory of academic contracts, which substantiates the relationship of wages and labor productivity of university employees, is singled out separately. The structure of the theory of academic contracts consists of three areas:

- the amount of remuneration of university employees depends on adverse effects (improper selection, reduction of competition and erosion of academic standards, the effect of perception associated with a decrease in the importance of work at the university and interest in it);

- the duration of contracts (termless and term) depends on the state of the educational services market and on the performance of teachers, which allows university management to increase the urgency of contracts. The theory also indicates that the urgency of the contract does not take into account consequences, among which - increased anxiety of workers, the instability of their situation and unwillingness to defend their point of view, decrease in productivity due to the search for another workplace with a large volume of guarantees. But long and indefinite contracts carry the risk of reducing the motivation and productivity of workers;

- taking into account in the remuneration structure of the national-cultural characteristics of a particular country and its labor legislation. In this regard, the system of remuneration of teachers, prevailing in most foreign universities, suggesting a high proportion of permanent remuneration, cannot be directly used in Belarus due to the existence of other requirements for concluding an employment contract and other academic practices.

The academic contract as a tool for managing human resources of higher education is associated with the concept of cognitive development, which attempts to justify the effectiveness of interaction between universities and teachers. In this case, an academic contract means "specific legal or other agreements that define the conditions of academic employment" [4, p. 11].

The main problem that the theory of academic contracts solves is the problem of choosing between a permanent and temporary contract with a university teacher. How the term of the contract will affect the effective functioning of the university, the effectiveness of all types of teaching staff, the involvement of teachers in the strategic development of the university, etc.

The improvement of the theory of academic contracts was obtained in the scientific concept of an effective contract of a university with a teacher [5]. The focus of the concept of an effective contract is not the terms of the labor contract, but the relative salaries of teachers. The essence of an effective contract is that the academic environment needs an optimal employee, who is a research teacher, who has internal motivation to get scientific results and provides higher rates of university activities. It is this orientation of the teacher that allows universities to select workers from the labor market with high scientific and creative potential, which provides universities with an increase in their competitiveness. A separate type of teacher's preferences are academic freedoms - the opportunities offered by teachers to take important decisions concerning teaching and research [5]. Ultimately, this kind of freedom determines the effectiveness of research

activities, scientific expertise, grading students, participation in the management of the university, and, ultimately - the basis of the university's reputation and personal ratings of teachers.

The Belarusian institutional environment is specific to the introduction of effective academic contracts, since modern Belarusian universities are such a social institution that tries to optimize the costs of higher education by reducing all material costs and lobbying budget funds for educational activities. All this leads to an increase in bureaucratic pressure on universities and teachers and the strengthening state intervention in their functioning. In the Belarusian educational environment, it is difficult to determine what are the criteria for the effective functioning of universities. It is possible to ascertain only the fact that the Ministry of Education of Belarus is building a system of indicators that are supposed to lead to the development of the higher education system.

In order to study the formation of the institutional environment and determine the strategies for remuneration of teachers in the academic community of Belarus, a database on the teaching staff of Belarusian universities was formed. This database was created for the first time. The database was formed on the basis of an expert survey, the instrument of which was a questionnaire (the idea and author of the questionnaire is a doctor of economics, prof. Stuken T.Y. Russia, Omsk State University named after F.I. Dostoevsky), which allows to assess the personnel strategies and academic rewards in Belarus.

The research sample is represented by an expert opinion of more than 23% of the teaching staff of Belarusian universities. Practically all universities of the regions of Belarus are covered (the exception was the Grodno region). This distribution takes into account the sexual characteristics of the respondents who participated in the survey: men (26%), woman (74%). The average age of teachers was 40-45 years. The sample covered the most teachers who worked at the university for an average of 15 years (about 40%) and more than 25 years (20%). Such representativeness of the sample according to work experience allows the received answers to be made more representative, due to the fact that teachers with such experience more adequately assess their position at the university and are able to give answers in relative comparison.

In general, all teachers who took part in the survey have the full amount of workload (1 rate) and more than 50% of respondents work above the standard rate of 1 rate. The profile of teaching includes: a humanitarian profile - 48.2% of teachers, a profile of public disciplines - 16, 9%, a technical profile - 13.3%. The remaining respondents are represented by profiles of natural sciences, health care, education, art and culture, and agriculture.

IV. THE RESULTS OF THE EVALUATION OF PERSONNEL STRATEGIES OF BELARUSIAN UNIVERSITIES.

Evaluation of a university's activity strategy can be either a comprehensive integrated process or an assessment of individual elements to achieve goals. Investigating the effectiveness of the implementation of the strategy, it is necessary to consider how it meets the requirements of the external environment and its dynamics. Evaluation of the

effectiveness of the strategy can be based on the consideration of certain performance criteria, and can be based on an analysis of factors affecting the effectiveness of the development of the university. As a basic factor affecting the development of the university, are the behavior strategies of teachers. In this regard, it is advisable to determine the model of behavior of teachers in Belarusian universities and correlate them with the development strategy of the university. It seems that the construction of logit- (probit-) models characterizing the dependence of the labor behavior of workers on the factors shaping such behavior will make it possible to determine the strategic mood of teachers.

As characteristics of the work behavior of teachers, focused on strategic development, highlighted: performance, loyalty, involvement, motivation. These characteristics of teachers are used to ensure academic freedoms in an academic contract. The factors (independent variables) that shape the behavior of teachers include: employee characteristics (binary variables of gender, age, qualifications, work experience, labor productivity).

Performance evaluation. The dependent activity performance variables identified all the activities that teachers perform (Figure 1). A logit model was constructed with a set of independent variables (gender, age, work experience, academic degree). Moreover, the model used the statistical indicator OR (odds ratio), which allowed to describe in numerical terms, how much development options are associated with the presence (or absence) of a particular factor.

So, the model allowed to estimate the following parameters:

- publication of an article in the journal from the list of the Higher Attestation Commission of the Republic of Belarus and the lists equated to it depends on the age of teachers (-0.76). The older the teachers, the less inclined they are to prepare articles for such publications. But the presence of a scientific degree is positively related to the number of articles and its presence increases the likelihood of such publications by 4.3 times;

- publication of a textbook, educational or study guide, on the contrary, determines the age of the teacher (0.99), the older he is, the more likely it is that this type of activity is active for him;

- the publication of monographs determines the presence of a degree in teachers, the likelihood of this kind of activity is 17 times higher for teachers with a degree;

- such kinds of activity of the faculty as publications of articles in publications indexed in the Web of Science and Scopus are not connected with one of the evaluated factors. We assume that this is due to the fact that this type of activity is not a priority for the strategy of universities in Belarus. However, participation in indexed publications in the global system of higher education is the main criterion for participation in academic contracts.

In order to determine the overall performance of the work (the total number of all types of activity) and its dependence on factors, the multiple linear regression equation was constructed ($R^2 = 0.17$, $F = 17.52$, $p = 0.000071$), which revealed only the dependence of the results the work of teachers of their degree. The same is confirmed by the

difference (statistically significant ($F = 17.53$ $p = 0.000071$)) in the frequency distribution of activities among teachers with a scientific degree and without a degree (Figure 1).

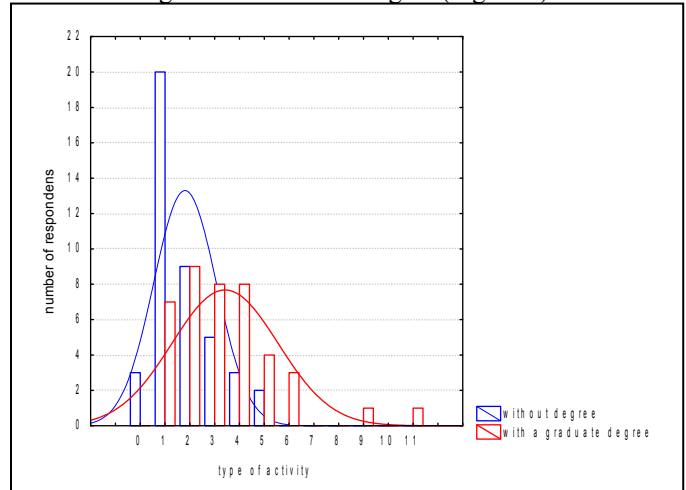


Fig. 1 The distribution of the number of types of work in groups of teachers with a scientific degree and without a degree.

1. Publication of an article in publications indexed in the Web of Science. 2. Publication of the article in publications indexed in Scopus. 3. Publication of an article in the journal from the list of VAK and lists equivalent to it. 4. The publication of the monograph. 5. Education of a textbook, educational or educational-methodical manual. 6. Execution of a scientific project as a leader or performer. 7. Participation in international projects. 8. Development and implementation of additional educational programs. 9. Participation in joint projects with employers. 10. Participation in the development of network educational programs. 11. Participation in the working groups to solve other problems of the development of the university.

Thus, a degree in universities of Belarus is the main resultant factor determining the model of labor behavior of university teachers.

Loyalty score. By loyalty we understand the commitment to the corporate rules of the university, its principles and traditions. Loyalty implies that the teacher likes the university, and he is ready to work here for a long time, while remaining a dedicated employee, but without extra effort. The following were used as loyalty criteria: a) the opinions of teachers regarding their attitude to the situation when teachers holding the same positions have a different amount of academic work at the rate; b) the desire of teachers to move to another university.

The result of this assessment is as follows:

1. respondents' opinions about their attitude to the situation when teachers who hold the same positions and have a different amount of academic work at the rate did not reveal certain dependencies characterizing their loyalty;

2. evaluation of the desire of teachers to move to other universities has shown that this desire appears in cases where there are no adequate conditions for scientific activity. The lack of loyalty is due to the fact that all types of scientific work of teachers are positively linked (0.54) with working conditions for scientific activities at the university (there are no conditions, no loyalty).

Assessment of engagement.

The involvement of teachers is an emotional and intellectual state that motivates them not only to do their work effectively, but to have a desire for self-development. Involvement of a widely understood social process, which

involves the adaptation of teachers to the conditions of the academic environment, addiction to academic freedoms, and opportunism to restrict them. Involvement allows universities to diagnose the attitude of teachers to their work. The greater the involvement of teachers, the higher the university rankings. The indirect involvement of teachers can be manifested through their loyalty, through satisfaction not only with the work at the university, but rather with satisfaction with the teaching profession.

Several variables were used as dependent ones in logit models:

- Answers to the questions: “When are you ready to write one additional scientific article per year in peer-reviewed journals?” and “When are you ready to do work that is not covered by your employment contract?”

The regression coefficients turned out to be significant in such a response as “if I receive additional remuneration for this work”. This dependence was positive on the age (0.90) of teachers and on the availability of a degree (1.00). Moreover, an increase in the amount of remuneration for performing additional work by teachers with a degree almost 3 times increases the likelihood that they will do this work. Thus, for teachers with a scientific degree, the involvement is higher, although it is connected only with a material incentive;

- the answer to the question: “Rate on a five-point scale what attracts you to the teaching profession?” (1 - absolutely not important, 5 - very important).

The method of constructing multiple linear regression was used (step-by-step elimination of variables). Significant were the regression coefficients in such response options as:

- the amount of salary (positively depends on the length of service at the university - the longer the length of service, the higher the salary);

- the ability to plan their own working time (academic freedom) independently: it depends negatively (- 0.17) on all types of teachers' work (the greater the amount of work, the less the ability to independently plan time); depends negatively (-0.44) on the age of teachers (the younger the teacher, the more difficult it is to plan their working time); depends positively (0.56) on the experience of a teacher at the university;

- the opportunity to engage in scientific activities (academic freedom): depends positively (0.20) on the totality of types of scientific activity at the university and negatively depends (-0.43) on age (the older the teachers are, the less desire there is to engage in scientific activities);

- the possibility of professional growth: it positively depends (0.56) on the length of service at the university, the more length of service, the greater the prospects for career advancement;

- the social status of the teacher: depends positively on the availability of a scientific degree (0.76) - the higher the academic degree, the higher the social status;

- long-term leave: it depends positively (0.56) on the gender of the teachers (equally important for both men and women to have a long-term labor leave);

- stability of employment, formal employment and compliance with labor legislation: it depends positively (0.26)

on the age of teachers, the older the employee, the more stable employment is required.

Thus, we have a certain picture of the involvement of university teachers in Belarus:

1. Involvement in academic work in Belarus is primarily related to the material interest of teachers.

2. The involvement associated with the acquisition of academic freedoms, which involves working at the university, is of interest to teachers with great experience.

3. For all teachers is important work that is associated with scientific activities. It is this kind of work that determines their involvement.

4. In Belarusian universities, the involvement of teachers is associated with institutional preferences that the academic environment implies: work experience at the university allows you to build a professional career (and regardless of the degree); social status is acquired in society by the presence of a scientific degree; Work at the university provides the longest vacation and job security.

Teacher Motivation Assessment

Professional motivation of teachers can be represented as a set of motivational properties and states of the individual in the process, which develops scientific and cognitive abilities and abilities for pedagogical activity. Such development is encouraging and regulating the activity of the professional activities of a higher school teacher. The task of teaching is not only the transfer of professional knowledge, but also the dissemination of scientific and practical information that would contribute to the socio-economic development of society. Such a task is the basis for the formation of motivation for the development of competencies of an academic teacher.

As dependent variables in the regression model, several variables were used:

- respondents' answers to the question: “Please indicate what types of payments and how often do you receive?”. The method of constructing multiple linear regression was used (step-by-step elimination of variables). The model turned out to be reliable only with the answer option “payments according to the results of scientific work”. A positive dependence (1.01) of payments based on the results of scientific work only with teachers who have a scientific degree is revealed. In other words, the payment of scientific activity is an additional income for teachers with a degree;

- respondents' answers to the question: “Rate on a five-point scale, how much should the following factors be taken into account when determining the teacher’s salary? (1 - not at all, 5 - definitely necessary)”. The significance of the list of factors was determined. Dependence was revealed in the following variants of answers:

- the presence of a degree is the most significant factor (0.58) in determining wages, the higher the degree, the higher the wage. The same dependence with the presence of academic rank;

- participation in joint projects with employers positively depends (0.39) on the age of teachers. The higher the age, the more experienced the scientist, the greater his participation in practice-oriented projects;

- participation in vocational guidance and outside academic work negatively depends (- 0.64) on the availability

of a scientific degree. It is logical that a scientist with a high scientific degree will not be engaged in organizational work related to vocational guidance and educational work with students;

factor accounting for the structure of the academic load (the ratio of different types of academic work) is negatively associated (-0.58) with the presence of a degree from a teacher. For a scholar with a degree, the academic load is strictly regulated and is not flexible as for a teacher without a degree;

- respondents' answers to the question: "What determines the number of working hours for a rate at the department where you work?" The result was a negative (-1.7) dependence only in the case of a response option "on the number of hours set by the university's regulatory documents" the experience of the teacher. The less work experience, the more hours a teacher works.

Evaluation of university development strategies, taking into account the influence of the academic wage system

To solve this problem, the characteristics of the remuneration system, represented by binary variables, were used to assess the relationship with the development strategy (system transparency, incentive frequency, the ratio of the constant and variable parts, etc.). Were built regression models that allow to identify the dependence of the labor behavior of workers (performance, loyalty, involvement, motivation (dependent variables)), from a number of factors (independent variables) associated with wages. As independent variables, the answers to the following questions were used: "Which of the listed priorities are characteristic of your university strategy? Do you think your activity influences the achievement of a university of strategically important indicators? How do you think your salary depends on your participation in the achievement of strategically important indicators of the development of your university? Please indicate what types of payments and how often do you receive? How clear is the system of incentives for you, existing in the university? If all your salary is taken as 100%, then what part is the salary (constant part of salary)?"

Several multiple linear regression models were constructed using the step-by-step method of eliminating variables. As a result, this made it possible to assess the link between the wage system and the strategy for the development of universities in Belarus. This assessment was associated with an understanding of how and under what conditions teachers will think about moving to another university. As a result: firstly, such a decision will be made if there is no comprehensive payment at the place of work based on the results of activities (coefficient-0.76 / OR 0.04). Having a comprehensive payout based on performance results reduces the likelihood that the respondent will look for a better job; secondly, teachers will think about moving to work.

V. CONCLUSION

Evaluation and analysis of academic personnel strategies in universities of Belarus in order to answer the question: "Is an effective academic contract possible within the framework of the functioning of Belarusian universities, based on the development strategies of universities?" Does not allow for a definite answer. The reasons for this are as follows:

Firstly, in the academic environment of Belarus as a whole, the requirements of an effective contract related to the necessity of publishing articles in publications indexed in the Web of Science and Scopus are not fulfilled. This type of academic activity is not a priority for the strategy of universities in Belarus;

secondly, the academic activity in Belarus is largely determined by the age of teachers and the presence of their academic degree. These factors are decisive in the models of labor behavior of university teachers;

thirdly, university professors understand the effectiveness of academic contracts solely through the preservation of academic freedoms, the growth of labor remuneration for each type of academic activity, and the social status of a teacher. Involvement in the academic environment for teachers is related to their material interest.

Thus, the Belarusian academic environment makes the first attempts to form new models of labor behavior, allowing the higher education system to be transformed into institutional directions of introducing effective academic contracts.

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