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EFFICIENCY IN HIGHER EDUCATION

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Abstract: *The National Education Law establishes the principles of equity and efficiency in higher education. The concept of efficiency has different meanings according to the types of funding and the time horizons: short or long term management approaches. Understanding the black box of efficiency may offer solutions for an effective activity. The paper presents the parallel presentation of efficiency in a production firm and in a university, for better understanding the specificities of efficiency in higher education.*

Key words: *low efficiency, high efficiency, technical efficiency, scale efficiency, allocative efficiency, X-efficiency.*

1. Introduction

For the first time in Romania, the National Education Law establishes the necessity for an efficient activity in the Romanian universities. This purpose of efficiency in education is placed in a larger context, that of the efficiency of spending public funds [2]. The rational usage of resources imposes the question "What are the obtained results and with what costs?" also for the public sector. The comparison of the effects, the obtained results, with the efforts, the expenditure made for obtaining these results, emphasizes the existence or the lack of efficiency for an activity.

For the firms, the calculation of the efficiency by comparing the obtained incomes with the expenditure made, has a fundamental importance, because the activity progress is conditioned by the level of efficiency. An inefficient activity imposes measures for restructuring, whereas their absence means bankruptcy.

In the public sector, it is difficult to measure efficiency, because the provided services are usually not meant for the market. The required funds for these services are composed of mandatory taxes on the incomes and expenditure of population households and firms, and from own funds. Education, like the other components of public sector, has some characteristics which make it difficult to measure the efficiency degree. In the educational process, the purpose of obtaining profit does not exist, "the product" is not for sale, there are no prices, the inputs and outputs are multiple, and the effects are recorded on the long term and, most times, they are not expressed in value.

The National Education Law refers to efficiency as a fundamental principle in education [11], article 3 d). It introduces the principle of managerial and financial efficiency in higher education [11], article 118 f), par. 1. The principle of public liability [11], article 124 d), par. 1, also involves ensuring the efficient management, effective use of resources and spending of public funds. The National Education Law achieves two sensitive

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points: intensifying the state control over state universities and applying an increasing pressure from the state with a view to improving the performances of Romanian universities.

This study starts with the need to define indicators of efficiency in Romanian higher education and aims to analyze different forms of efficiency that can be the basis for building the system of indicators. Currently, universities are like "black boxes"; the obtained results with the same allocated resources are very different from one university to another. The system of efficiency indicators must open the "black box". Efficiency cannot be regarded only as a ratio between inputs and outputs, but it should allow the analysis of the internal processes that occur within each university, highlighting weaknesses and strengths.

2. Low Efficiency and High Efficiency

Due to difficulties in expressing the value of the results, the efficiency used to be (and in many cases continue to be) valued based on the comparison of funding sources and costs incurred. If secure funding sources cover the costs, it is estimated that the activity is effective. This efficiency calculation, called "low efficiency" reflects the concern management of the institution to meet institutional contract. In general, managerial work is considered "good" if, falling within the limits of institutional contract, the sources of financing costs consisting of budgetary allocations and equity are ensured.

Low efficiency reflects not only a limited vision of the institution's activity, but the possibility that this could be appreciated as effective, even if it is a large waste of resources. Costs may be as large as the proceeds obtained from the funding sources.

A miscalculation of the funding need could mean higher costs.

If it is considered that education must be better funded and increasing allocations are established for education from the state budget, costs can increase within the limit of these sums; the activity is wrongly considered to be effective. Spending to the same extent as the funding sources, without any question about the size of the costs and without taking into account all the ways for reducing costs, does not reflect an efficient activity. From this point of view, the calculation of efficiency should emphasize all the ways of rational use of resources.

Any activity in which resources are wasted is inefficient. The waste of resources, especially human resources and material resources is the most striking feature of many public institutions, including many educational institutions.

In Figure 1, the scheme of the educational system is presented, where low and high efficiency is obtained.

On the other hand, the low efficiency leaves the funding sources provider to decide which activity is effective or not. Reducing the sources of financing can conduct to any activity being inefficient, even if the costs of unfolding the activities are minimal.

Despite any measure of increasing efficiency, if the amounts given for funding are placed under a certain level, this will cause the extinction of efficiency. The efficient use of resources, with the lowest possible costs, does not ensure an efficient work in this case. Efficiency does not depend anymore on one’s own effort, but on the decision of the financier.

Low efficiency can be used to determine who receives funding to reduce the cost to the minimum, even if this limit is not known. This usually leads to impaired quality of services, a lower competitive ability of the institution. The National

Education Law changes the perspective over the efficiency indicators. By taking into account the results of education and research and comparing their costs effectiveness, the efficiency is addressed at a higher level, representing "high efficiency".

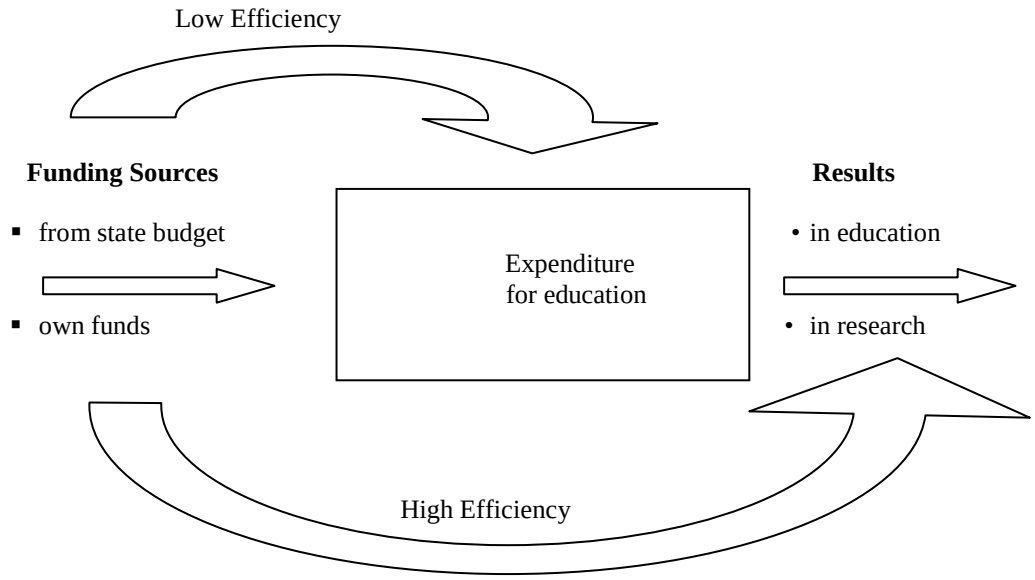

Fig. 1. *The educational system*

High efficiency enables the institution to refer to the external environment and to compare with it. In the context of globalization, only high efficiency counts, because the frame where it operates is the global market. If the costs can be easily calculated, outcome indicators are qualitative in nature and they cannot be expressed in value.

The National Education Law states that, within 12 months from the date of the law enforcement, a system of statistical indicators of reference for higher education will be developed ([11] Article 220). Although this system of statistical indicators has not yet been built, it highlights the need for its existence. Efficiency indicators will be used as a support for value judgments about the performance of higher education institutions.

Indicators of efficiency must take into account the competitive conditions existing or expected to be achieved on the educational market.

The education market, especially the higher education market, has seen the same trends that other products or services markets have seen: globalization, concentration of economic power, specialization etc. On the education market, the same elements can be found that govern the functioning of products and services markets: the manifestation of power monopolies, the presence of oligopolistic structures and use of dominant positions in influencing the market. Meanwhile, the emergence and development of private universities has led to increased competition on the educational market.

The relationship between market structure and performance was analyzed in a scheme, called SCP - Structure Conduct Performance. The SCP model interprets the performance as a result of the external market structure. The SCP paradigm assumes that the degree of concentration is higher, so the degree of cooperation between the components is higher. This allows the coordination of actions so that the gains should be higher. In the Romanian university system, some forms of concentration have already been initiated, for example the establishment of some consortia, and this process will continue.

3. The Black Box of Efficiency

In economics, the efficiency can be measured as technical efficiency, scale efficiency, allocative efficiency and X-efficiency. The consideration of these forms of efficiency in the national education system, the elements that influence the utmost performance in this area, will be highlighted.

Technical efficiency is an economic concept referring to the technical level of production, in the way in which input factors are used. The use of this concept in assessing the performance of education may seem inappropriate, considering the specific field. Education aims to give students a "good" training, enabling them to get a job after graduation. How could the concept of technical efficiency work in this area?

The use of economic indicators in education is possible and useful in several ways [6]. First, improving both types of activities is an objective of public authorities. In both cases, it is necessary to measure the performances, to improve them. Secondly, there is a similarity between the two activities, if the education is seen as a provider of services, with inputs and outputs. Thus, technical efficiency in education means to minimize the short-term cost of education. In dynamics, this process involves minimization of long-term cost.

From a technical standpoint, the activity is effective when the cost is minimal. The focus on the cost and not on the comparison between cost and income is justified by the fact that, at the time of production or service supplying, the income to be received is unknown.

However, the university collects no revenue from the "sale" of education product – the graduate. Eventually, the university can get income from research activities.

But at the time of supplying the service, all attention should be focused on cost.

Thus, the achievement of the technical efficiency involves the identification of all the ways to reduce costs and the implementation of the measures that require technological or organizational changes to minimize them. The technical efficiency takes into account the costs involved in this activity, focusing on optimizing the educational and research process itself.

Scale efficiency flows from the increase in volume, from the scale of production. If the production scale is large, the costs are distributed on a larger number of products and the cost per unit is reducing.

This way of increasing the efficiency generates measures to increase the number of students in study groups, reducing the number of specialties, developing courses and seminars with a larger number of students etc.

Effectiveness, i.e. the degree of fulfilling the objective, which is the "good" preparation of students, may be affected by increasing the scale of the educational process. The use of this method is limited by the size of the higher education labour market, by the material possibilities, namely the existence of large classrooms

for courses or the existence of modern distance communication (video conferencing). However, many universities have taken steps to increase the production scale. By increasing the number of students in the study groups, the elective or optional disciplines were often given up, restricting the options available to students.

Allocative efficiency occurs when the production results are consistent with consumers' preferences. No matter how small the production costs would be for a good or service, if that good or service is not demanded on the market, the activity is classified as inefficient.

Allocative efficiency takes into account the consumers' preferences, the market requirements, individual or social needs that are manifested on the market. Allocative efficiency answers questions like: what goods are produced? What destinations have the available resources? Do the produced goods meet the society's real needs? How can these needs be identified? In economics, the answer to all these questions is given by the market: if the buyers are willing to pay the price of a good, a price that covers the costs and provides a normal profit to the manufacturer, then allocative efficiency is ensured.

Allocative efficiency in the universities raises fundamental questions: what specializations or study programs will be promoted? What is the content of curricula? Are the resources used to make the training that corresponds to social needs? Is their training up to the requirements of "consumers" and are they willing to pay the "price" of the "product"?

X-efficiency is a concept, originally developed by Leibenstein [4] in 1966. X-efficiency is the efficiency arising from organization and motivation. The efficient use of resources and opportunities depend on internal factors, such as the circumstances of a particular resource allocation, growing the domestic effort to stimulate employees to involve in effective exercise.

The letter "X" refers to the unknown subjective factors, which determine efficiency. When such efficiency is not recorded, the organization should not change the volume of inputs. It needs to change the management style, organizational structure or the incentive structure [3].

For example, football players can play well in a team and they can get good results.

The same players can play badly and there will be no result if they change the team, given the same allocated resources.

X-efficiency refers to those factors that determine the increase of the efforts for each team member or that improve management. Economic research should target the individual rather than the firm. The effort of each team member is not the same. The effort is a reflection of his spirit or his personal motivations. The individual behaviour does not change immediately, when the working environment conditions are changed.

4. Equity and Efficiency

The first principle enunciated in the National Education Law is not the principle of efficiency, but that of equity. The efficiency principle must not conflict with the principle of equity.

The principle of equity is becoming more present in the specialty literature.

The Analytical Report for the European Commission prepared by the European Expert Network on Economics of Education highlights the need to improve efficiency and equity. Efficiency is defined as the ratio between the obtained results and the used resources; equity is defined as accessibility in the higher education system and offers equal opportunities to all students. Diversity and equity are key

elements of some education systems, such as the American one, while the European system suffers in terms of efficiency, but offers students a wide accessibility to all programs of study.

The European Council of 11 May 2010 noted that "*Education and training systems in Europe need to ensure both equity and excellence. Improving educational achievements and providing skills for everyone are crucial not only for economic growth and competitiveness, but also for reducing poverty and encouraging social inclusion. European cooperation can help identify the ways to promote social inclusion and equity, without compromising excellence.*"

Increasing accessibility to higher education is a problem of political intervention, to be directed to: stimulating demand for higher education, developing the educational offer, enhancing individuals' motivation to pursue higher education, creating high complexity jobs for graduates getting the appropriate qualifications, wage increases for master and doctoral graduates, alleviating the financial barriers faced by young people from different social mediums, increased accessibility to higher education, improving the level of graduation, career development.

A ranking of countries in terms of accessibility is presented in the paper "*Education at a glance 2009. OECD Indicators*" [10]. The information upon which this classification was made refers to the cost of education, cost of living, scholarships, loans, taxes. Countries with the best conditions of access are Sweden and Finland. Sweden, for example, combines the low cost of education with generous grants and favourable credit conditions.

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