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# Improving Higher Education (Institutions) with the Matrix of Managerial and Financial Objectives

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**Abstract**

The purpose of this work is to confirm theoretical findings in the field of management of higher education (institutions) and contribute with our own findings on the elements, mechanisms and instruments that affect the quality and effectiveness of managing and organizing higher education at the national and institutional level, and thus contribute to a more efficient and effective higher education. This work will also clarify interdisciplinary connections between various segments of the above mentioned management of higher education (institutions) field, which has not been explained yet.

In the introduction of the paper, the impact of higher education on economic development and on knowledge society is explained briefly. Further on, the background of the work is illustrated and the definition of the working problem is explained, which basically refers to the inefficiency of (mostly) publicly-funded higher education and lack of proper managerial solutions and skills at higher education institutions. Furthermore, the role of higher education and major trends in higher education are introduced and discussed. The main contribution of the paper is the matrix of higher education objectives which have to be realized in order to implement a successful higher education and institutions, mainly from managerial and financial perspectives.


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*Keywords:* Higher Education, Higher Education Institutions, Higher Education Policy, Funds, Management, Efficiency, Economics, Effectiveness, Employability, Innovativeness, Knowledge society

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## 1. Introduction

During the past few decades, European Higher Education (HE) has experienced radical changes in order to make the HE area more transparent and comparable, contribute to economic development, increased competitiveness and innovativeness and enable the transition to knowledge-based society. The key obstacles encountered on this path are limited public funds and scarce private financial resources. Thus, new and mixed financial resources and approaches to managing HE Institutions (HEIs), as well as appropriate HE policies and objectives are needed for HE objectives and mission to be attained more effectively, what demonstrates for instance Babnik et al (2014) among many others.

It is clear that current public spending does not meet the growing financial needs and requirements of constantly developing and expanding HE systems, especially during and after crises. Many of them have therefore experienced:

(an unwanted) transfer of costs of HE from the state to beneficiaries (in the form of charges and tuition fees) and, consequently, a certain level of privatisation of public HE and more favourable HE policies towards the private HE sector even in Europe.

Due to the increasing privatisation of public HE and a greater presence of private HE, a relatively greater share of private (and public) funding of public and private HE is needed as well as new and appropriate systems and mechanisms of:

- its distribution among HEIs and of "control" of their spending,
- as well as of HEIs management
- to achieve the efficiency and effectiveness of the HE system and to resolve one of the key problems of HE in general, not only in Slovenia.

Since there are important differences between public and private HE, their financing and management which affect not only the efficiency and effectiveness of HE, but also its quality, the purpose of our paper is to contribute to more efficient and effective HE (in Slovenia) in two respects:

- (public and private) funding of (public and private) HE and
- management of (public and private) HE (institutions).

In Slovenia, different mechanisms and instruments have been set up for monitoring and collecting data at various levels of HE. However, at the national and international level there is no in-depth and comprehensive analysis and assessment of this data from the point of view of the economy of using financial resources, the efficiency of HE activities and funding, and the results and effects of HE activities, i.e. its effectiveness. It is crucial that the analysis and assessment of this data is carried out in the light of the HE policy and objectives, public and private HE and its management.

The purpose of our work is to confirm theoretical findings in these fields and contribute our own findings about the elements, mechanisms and instruments that affect the quality and effectiveness of managing and organising HE at the national and institutional level, and thus contribute to a more efficient and effective HE. Our work will also clarify interdisciplinary connections between various segments of the above mentioned areas.

The work will indirectly ensure faster and greater transfer of knowledge from educational and research activities into commercial and non-commercial activities as stressed by Dermol et al (2013). Furthermore, we will ensure that the invested public and private funds into HE will be efficiently returned to the society in the form of more responsive and innovative labour market and, consequently, the economy, which will provide the conditions for the creation of increased economic growth. On the other hand, the work will increase the quality of HE, as well as increase the potential of human capital of the society. In the work, we therefore stress both direct effects on the economy as well as the effects aimed at the society.

## 2. Background and the problem of the work

Education and research face similar challenges and problems. Education, especially HE, is considered as a key factor of economic development. Similarly, investments in research and development are very important if Europe is

to become (or retain its position as) a leading power in the field of technological (and social) innovations. Of course, these targets should be appropriately pursued within an increasing global competition, financial crisis and recession, as well as in the light of rare academic potentials and talents and financial resources what is illustrated by many authors, such as Lesjak et al (2017), Trunk and Stubelj (2013), etc.. HEIs as well as governments and other actors should be aware of their key role in the "knowledge-based Europe" and should assume their responsibilities in ensuring the expected economic, social and cultural welfare.

A factor which has a direct influence on the HE is its funding, especially public funding, since in Europe state budgets represent the main source of HE funding. In 2006, public expenditure on HE in 33 European HE systems represented 1.13% of GDP, while private expenditure was about 0.2% (CHEPS, 2010). European investments in education, research and development, especially from private sector, do not place Europe close to the USA and Japan, but on the contrary, increase the gap between them. The EU investments in HE lag behind those of the USA and Japan, thus Europe in the so-called Lisbon strategy for growth and jobs set the goal to assign 2% of GDP for financing HE and 3% of GDP for financing research including both from public and private sources.

Problems regarding the financing of HE have got worse due to the latest economic recession and financial crisis which have resulted in the reduced funding by public authorities, reduced support by families and declining institutional support in some countries despite the efforts of the EUA president, president of the European Commission and many other world leaders to protect the sector from the shock of the crisis (Varghese, 2010). It is therefore reasonable to investigate why certain countries have decided to decrease HE funding, while others have increased it.

It is clear that current public spending does not meet the growing financial needs and requirements of constantly developing and expanding HE systems, especially during and after crises. Many of them have therefore experienced (an unwanted) transfer of costs of HE from the state to beneficiaries (in the form of charges and tuition fees) and, consequently, a certain level of privatisation of public HE and more favourable HE policies towards the private HE sector even in Europe.

There are usually two reasons for the transfer of part of the costs of HE from the state to beneficiaries, i.e. for the introduction of tuition fees:

- public funding of HE is simply not sufficient, or/and
- the inefficiency of (mostly) publicly funded HE systems where poorer decisions are made by prospect students regarding their selection of study programmes due to the fact that the explicit costs of their studies are much lower than the costs of students in the systems with a higher share of private participation. This ultimately results in higher future social costs, given the growing share of unemployed young graduates.

For most of the 19th and 20th centuries HE was mostly a public sector affair. A quarter of a century ago, most countries did not have private HE, while today very few such countries remain (Cuba, North Korea; Greece, for example, has proven that private HE is possible even without state recognition). The key reasons for greater presence of private HE include demography and the financial reason. The latter is very important since in comparison with primary and secondary education HE is very expensive and states are simply not able to finance its desired size and growth.

Due to the development of the HE system in recent years, an increasing number of people participating in it and consequently growing financial needs on the one hand, and limited public funding on the other, the efficiency of the use of HE funding has become very important. This issue was addressed in the study published by the European Commission's Directorate General for Economic and Financial Affairs on the efficiency and effectiveness of the use of public funding in tertiary education (St Aubyn 2009). The study analysed the relationship between productivity, employability and expenditure on education, since the efficient use of resources depends on the effectiveness of the relationship between these elements. While some countries are efficient according to all the criteria (the UK, the Netherlands), the countries characterised by lower efficiency in addition to the countries of Southern and Eastern Europe unexpectedly also include France and Germany. Public HE in the USA has also proved inefficient. Based on the human capital theory, measures of inputs into schooling are frequently thought of as convenient summaries of investment in human capital (Hanushek, 1996). However, they rest on a series of questionable assumptions where

one must believe that inputs are efficiently converted into outputs and that measured school inputs comprise the bulk of all inputs into human capital. The study by Hanushek and Kimko (2000), demonstrates that quality differences in schools have a dramatic impact on productivity and national growth rates. Barle Lakota et al (2016) demonstrates similar findings as well on an international arena.

A glance at the Slovenian HE area would confirm that the discussion about the expenses and insufficient financing of HE from public funds has accompanied the HE reform since its beginnings in 2004 when the Act Amending the HE Act (Official Gazette of the Republic of Slovenia, no. 63/04) was adopted.

We have recently got the answer from the OECD to the question of whether Slovenia allocates sufficient (public) funds to HE programmes. They highlighted the low efficiency of spending funds in primary education and the need to introduce tuition fees (in combination with student loans) in HE (OECD, 2011.)

Due to the increasing privatisation of public HE and a greater presence of private HE, a relatively greater share of private (and public) funding of public and private HE is needed as well as new and appropriate systems and mechanisms of:

- its distribution among HEIs and of "control" of their spending,
- as well as of HEIs management

to achieve the efficiency and effectiveness of the HE system and to resolve one of the key problems of HE in general, not only in Slovenia. On that note, it is necessary for Slovenia to introduce a measurement system for the effectiveness and efficiency of HE in general and separately for institutions.

## 3. The role of HE and its trends

HE is attributed an important role in attaining economic growth and the development of society. While the investments in primary and secondary education have a substantial influence on the ability of the state to introduce existing technologies, the investments in HE have an influence on the ability to create state-of-the-art innovation (Aghion, 2008).

In recent years, we have observed numerous reforms and changes in the European HE area. European HE systems are becoming increasingly market-oriented, deregulated, liberalised and privatised (OECD, 2008).

Dominant trends are: (OECD, 2008)

- HE reforms, initiated by the Sorbonne Declaration, Lisbon Strategy and Bologna Process.
- Strengthening of the role of HE in research and innovation.
- Strengthening of the link between HE and labour market.
- A wider access to HE, equal opportunities and inclusion of people (what was once a privilege is now a right).
- An increasing autonomy (and with it accountability) of HEIs.
- Privatisation, marketization and globalisation of HE.
- An increasing presence and share of private HE also in Europe, since public funding is not sufficient for relatively expensive HE (compared to pre-university education).
- (Relative) cuts in public funding.
- An increasing concern for the quality, transparency and social accountability of HE.

The privatization of public HE sector is increasingly present, with HEIs being encouraged (if not expected or even required) to reduce their dependence on public funding, become more business oriented and competitive, and demonstrate efficient and professional management. HEIs (and systems) should increasingly acquire funds on their own to (at least partly) finance their operation. It may also mean ensuring alternative resources through consulting, licensing, selling various types of intellectual property, the cooperation between universities and industry, renting university property, and many other sources of income. Privatisation may of course also include the introduction of or increase in tuition fees and other charges, so that part of the costs of education is borne by students. Furthermore, research by Jimenez and Tan (1978) and Patrinos (1990) shows that private institutions are more flexible to change labour market demands which results in a lower unemployment rate among graduates from private HEIs compared to those from public HEIs.

The shift from relatively low to mass enrolment in private HE is especially characteristic of developing countries and countries in transition. In many emerging economies the demand for enrolment in HE can be 20 to 50% higher than places available in public HEIs. Many governments have invested heavily in early childhood and secondary education which is one of the reasons why the demand for places in HE far outstrips the supply. Countries have different approaches to and criteria for establishing a public network of HE supply, including the definition of private HE and HEIs. In this respect, Slovenia is special since it defines as public HEIs only the HEIs established by the state, i.e. the National Assembly.

Table 1: Growth and typology of private HE

| | 0 - 10% | > 20 < 35% | > 35 < 60% | > 60% |
|---|---|---|---|---|
| Economically less advanced countries | Cuba, South Africa | Egypt, Kenya | India, Malaysia | Brazil, Indonesia |
| Economically advanced countries | Germany, New Zealand | Hungary, USA | / | Japan, Korea |

As demonstrated in Table 1, there are no clearly developed countries in the 35 to 60% private HE range as most of them are still under 10%. In contrast, few developing countries remain under 10% and many are over 60%. The only developed countries with a majority of private HE are Japan and the Republic of Korea. Asia and Latin America show the greatest growth of private HE, while Western Europe is the outlier with relatively small shares of private providers.

Trends and characteristics of HE funding are very important: (Eurydice, 2007; Kaiser,2002; Streh,2006; CEGES,2007; Lepor, 2007; EUA,2008):

- A share of GDP devoted to HE (and related social transfers), and the growth in expenditure on HE (at least until the 2009 economic crisis).
- Due to the limited public funding, the share of private funding is increasing.
- There is a general trend towards an increased autonomy in public funds spending and an increased accountability within HEIs.
- Increasing efforts for efficiency and effectiveness (also of public and private funds spending).
- Efforts to introduce and use the full-cost method in carrying out HE activities.
- Funding in terms of coordinating the available resources with national priorities, and guiding the development of HE and achieving national HE objectives through the systems and mechanisms of HE funding.
- A move towards a greater transparency and simplicity of funding, through the systems and mechanisms of funding – from the historical component and input, to the achievements or output of education.

These and other trends reflect the problems regarding HE funding at the EU level which have also been emphasized by the European University Association (EUA) in its report (EUA, 2008). According to the EUA, due to the increasing costs of HE activities, the primary question of universities in the 21st century concerns the risks related to the sustainability of their mission.

Private funding of HE is a relatively new phenomenon in many countries. In the countries for which data is available, private funding of HE as a percentage of total expenditure on HE has increased significantly. Between 1995 and 2003, the share of private funding in the total expenditure on HE on average increased by 5%. The countries with the greatest increase were Italy, the UK and Australia, where private funding increased by more than 9% from 17%, 20% and 35% respectively. Only four countries – the Czech Republic, Ireland, Norway and Spain – experienced a decrease in the share of private funding in this period (OECD 2006). On the other hand, in Slovenia, for example, we have also witnessed an increased public funding of private HE which in 2009 represented 4.13% of public expenditure on HE.

The role of public HE funding is clear and undisputed. Research findings and literature suggest that there is a case for (an increase in) private funding, as limited public funding may result in a rationing of the number of students or in levels of spending per student which may jeopardise the quality of teaching and the acquisition of skills by students. There is evidence of a decline in real terms spending per student in many EU countries. Barr

(2004) suggests that available margins tend to be used to support basic education as well as the needs of the elderly in terms of public pensions and healthcare.

Despite the anticipation that the economic recession and financial crisis will increase the problems of insufficient public funding of HE by further reducing public expenditure on HE (Varghese, 2010), it is interesting that the OECD in second research which was carried out over the summer of 2010 and in which 25 OECD member states participated at the time of economic recovery and fiscal consolidation, shows that education systems have not been dramatically affected by the overall budgetary costs, and governments seem to be rather successful in protecting education spending, some of them by increasing social measures to contain education costs. (Dirk 2010) Rather opposing are the results of the EUA's continuous monitoring of the effect of the economic crisis on funding and its trends which show that European HE systems have been affected very differently and at different stages of the crisis. HEIs in most countries report being faced with uncertainty and expect further – and possibly deeper – cuts to come in the year following 2010. (Estermann, 2011)

When we talk about the role of public and/or private funding in HE, we must emphasise the importance of externalities that are first identified at the individual level but later reflected also at the macro level. A greater share of public funding, creating higher equality in access to HE, generates positive externalities which are reflected in a higher average level of education and therefore higher productivity. (Cready and Francois, 1990, Wigger, 2001) On the other hand, a lower share of private funding results in low explicit costs of wrong decisions regarding the selection of study at the individual level leading to negative externalities at the macro level. The data shows that countries with a high proportion of public funding exhibit a higher level of unemployed youths. The data on youth unemployment in the past decade shows that in countries with a high share of public funding the unemployment rate of young people in the past decade rose to, for example, over 51% in Denmark and over 41% in Austria (OECD, 2011). In the Netherlands, where the share of public expenditure in tertiary education is comparable to that in Slovenia, the youth unemployment rate in the past ten years increased to over 54%. At least part of youth unemployment can be attributed to poor decisions at the individual level that lead to labour supply distortions and cause additional costs for society in terms of unemployment benefits and training through active labour market policies (negative externalities). From this perspective, the creation of a sound system of HE funding, which would pursue the principles of equal access in the short run and efficiency in the long run, is an extremely difficult task

There are various models of HEI management that vary according to social trends. Given the increasing EU incentives and the tendency for further development of HE policies, it can be concluded that in the future we will see an increasing emphasis on the knowledge triangle highlighting the applicability of knowledge, the ability to solve concrete problems, and innovation. (Law and Breznik, 2017; Natek & Zwilling, 2014) The focus will shift to the interdisciplinarity of study and research programmes, methods of education, including the recognition of the importance of lifelong learning in HE, and more intensive cooperation with economy. (Skrbinjek and Dermol, 2016) All of this will require a significant change in the role and importance of HE. Foreign HEIs already adapting to this trend should be followed by the adaptation of Slovenian HEIs, both in terms of their organisation and management/leadership and in terms of the design, implementation and evaluation of their programmes.

HE is a quasi-market which is increasingly determined by common actions (e.g. the Bologna process), transparency and trust. The key factor of trust in HE is the availability of information on HE supply, as well as transparent operation of HEIs in relation to the providers of their funding and wider society.

HEI management is one of the key factors affecting the efficiency, economy and effectiveness of HEIs and hence the effectiveness of entire HE. Various studies show that there are significant differences in the characteristics of HEI management in individual countries, with differences also stemming from the characteristics of HEIs themselves, such as their age, size, location, predominant field of study, etc. Given the complexity of HEIs and the complexity of the environment in which they operate, management cannot be left (just) to HE teachers anymore, since it requires specific knowledge and skills.

## 4. The purpose and the matrix of objectives

Since there are important differences between public and private HE, their financing and management which affect not only the efficiency and effectiveness of HE, but also its quality, the purpose of our work is to contribute to

more efficient and effective HE (in Slovenia) in two respects: management of (public and private) HE (institutions) and (public and private) funding of (public and private) HE.

To fulfil the purpose of our work, we have set three groups of objectives, i.e. those related to the:

- HE policy and HE in general,
- management of HE and HEIs, and
- funding of HE and HEIs.

Objectives with respect to HE in general is to answer the following questions:

1. do the (state's) HE policy and its objectives address private HE,
2. is private HE present and developed,
3. does the state's HE policy address efficiency and effectiveness of (public and private) HE,
4. is the system of indicators of efficiency and effectiveness of HE in the system, policy and in comparable countries,
5. is private HE more efficient (in terms of length of study, drop-out, completion rate, etc.) and the reasons for that,
6. is private HE more effective (in terms of graduates' employability and different quality measures),

Objectives with respect to the funding of HE is to answer the following questions:

7. what are the sources and extent of public and private HE funding,
8. to what extent are public and private HE directly publicly funded (HEIs) and indirectly publicly funded (student aid, e.g. grants, housing, meals and transport),
9. what sources (and mechanisms) of funding are more suited to the HE policy of the state and its objectives (related to public and private HE),
10. how do budgetary cuts affect funding sources of HEIs and students?

Objective with respect to the management of HE is to answer the following questions:

11. does (if yes, in which cases) the state's HE policy restrict efficient and effective management of HEIs,
12. to what extent are (public and private) HE institutions market oriented, i.e. they take into account and influence both the market of prospective students and the labour market for their graduates,
13. how do HEIs organise academic activities in terms of the economics of education,
14. what is the HRM policy (salaries, hire and fire) of HEIs,
15. what are the organisational characteristics of public and private HE (institutions),
16. how do HEIs achieve synergy in the triangle of research, education and innovation, i. e. cooperation with their environment, and to what extent and how can the organisation of HEIs promote a positive climate encouraging innovation among employees and students?
17. could the profiling of HEIs contribute to their efficiency and effectiveness and to the implementation of HE policy, and how could various strategies for the development of HEIs be successfully coordinated with state strategy for the development of the HE system?

Objectives, defined and divided in three groups, are shown in the form of tables, where we organised them also in terms of whether they refer to private HE and its presence, and the efficiency and effectiveness of (private and public) HE. As you can see, the objectives related to financing refer mainly to HE in general and indirectly to the efficiency and effectiveness of HE.

Table 2: "Matrix of objectives"

| | Presence of (private) HE | Efficiency of (private&public) HE | Effectiveness of (private&public) HE |
|---|---|---|---|

| | | | |
|---|---|---|---|
| General | 1, 2 | 3, 4, 5 | 3, 4, 6 |
| Funding of HE | 7, 8, 9, 10 | (7, 8, 9, 10) | (7, 8, 9, 10) |
| Management of HE and HEIs | 12, 14, 15 | 11, 13, 17 | 11, 16, 17 |

## 5. Instead of conclusion

The work deals with one of the key activities of HE – education as driving force for the development of employees and knowledge society – especially from the point of view of determining and monitoring the processes and effects (efficiency), meeting the needs of society for highly educated workforce and its employment (effectiveness), as well as in terms of financial funds used for these purposes (economy) and management. The work belongs to the field of social sciences and information science or, more precisely, administrative and organisational sciences.

In Slovenia, different mechanisms and instruments have been set up for monitoring and collecting data at various levels of HE. However, at the national and international level there is no in-depth and comprehensive analysis and assessment of this data from the point of view of the economy of using financial resources, the efficiency of HE activities and funding, and the results and effects of HE activities, i.e. its effectiveness. It is crucial that the analysis and assessment of this data is carried out in the light of the HE policy and objectives, public and private HE and its management.

Socio-economic changes in the past decade, the end of the transition in Slovenia and the commitment to the Lisbon strategy, Europe 2020, which requires that the economy increases its competitiveness for sustainable economic growth, major changes in HE activities for a more efficient and economical use of public resources, ensuring private financial resources and a better meeting of the needs of the labour market for top-quality and employable workforce. With intensive integration of both sectors, HE and economy, it is possible to reach these goals efficiently, which is of utmost importance in the time of economic crisis. Due to the economic crisis (resulting in fewer jobs and difficulties in finding (first) employment), it can be expected that the enrolment in education will increase and that there will be a greater competition for public resources between education and other social-political needs.

The work is important since it provides answers to the question how Slovenia should create an efficient and effective HE system with proper HE policy and objectives, HE funding and HE management. The work could help to obtain key data for strategic decision making in further development of HE at the national and institutional level.

The work is important for many stakeholders:

- for the state/government it will get mechanisms to monitor and evaluate the efficiency and effectiveness of HE and also contribute to the rational use of public resources and greater engagement of private funds,
- for HEIs it will represent an instrument for the managing of educational activities and their own development,
- for the employed in HE whom will enable an insight into their work from the point of view of economy, which usually remains unnoticed,
- for students and graduates-improvement of the quality of education, research and acquired competences, which are highly valued by the labour market and knowledge society,
- for employers: the improved efficiency of HE requires from HEIs greater responsiveness to environment which will have an impact on the quality of knowledge and the transfer of graduates' competences into the workplace,
- for society as a whole-regardless of the relatively high expenditure on primary education, the international study TIMSS has found our students below the average which indirectly affects our economic growth, also noted in the study by Hanushek and Kimko (2008).

The realisation of the matrix of objectives would ensure faster and greater transfer of knowledge from HE activities into commercial and non-commercial activities. In addition, we will ensure that the invested public and private finances into HE will be efficiently returned to the society in the form of responsive and innovative labour market and, consequently, the economy, which will contribute to higher economic growth.

The realisation of the matrix of objectives would increase the quality of HE activities and increase the potential of human capital of the society.

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