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Consequences of changes in public universities funding on applied financial management tools

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Abstract

The purpose of the paper is aimed at research on implementing a full cost method in public universities in the Czech Republic as a new tool of financial management applied as the consequences of changes in public funding of public universities. The first part sets out the reasons why it is important for universities to know the full cost and it further identifies the main barriers to the implementation of the full cost method. One part is focused on explaining the difference between total cost and eligible project expenditures. Another part is devoted to an explanation of the nature of the full cost method, the results of own research conducted on the implementation of the full cost method in the Czech Republic, mainly there is a recommended procedure and warning on the difficulties in implementing the full cost method and there is also explained why it is important to keep the link between sources, activities and costs. This paper includes as well the confrontation with the results of research performed by the European University Association in Europe. The final part presents results of investigation and outlines possible topics for further discussion or research.

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1. Introduction

The funding of public higher education institutions (hereinafter “universities”) has experienced major changes over the last three years. The most important changes occur in funding from the Ministry of Education, Youth and Sports of the Czech Republic (hereinafter “MEYS”), when the algorithms change every year, individual input variables and their amount are being reviewed, which in consequence significantly affects the amount of contributions and subsidies that a university receives in the relevant year. Universities are thus forced to respond flexibly and adapt to sudden fluctuations in their funding sources, resulting in the increased awareness of the growing need for the implementation and use of new methods of financial management.

Basic hypotheses can be defined by the following series of questions. Can universities know the full cost of their individual activities as well as it is common in companies and thus fulfill the basic condition to use more complex controlling tools for financial management? What are the real reasons for the implementation of new controlling

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tools at public universities? And what were the obstacles or what prevented universities from using controlling tools long before?

This paper aims to answer these questions gradually. At this point, however, it should be noted that some financial management tools are commonly used by universities and are part of their everyday life. These are tools for planning, setting the goals, comparing the plan with reality, evaluating deviations and determining remedies. Nevertheless, it can be said that universities are facing difficulties to determine the full cost of individual activities, which is not a problem for companies in the private sector. These calculation methods assigning the full cost to products, services and activities are described in detail in the literature devoted to common management accounting (e.g., Abernethy, Lillis, Brownell & Carter, 2001; Al Omiri & Drury, 2007; Brierley, Cowton & Drury, 2007; Cobb, Innes & Mitchell, 1993; Drury, 2001; Garrison, Noreen & Brewer, 2010; Kaplan, 1994; Lawson, Stratton, Desroches & Hatch, 2009; Rajnoha & Zámečník, 2004; Rajnoha & Dobrovič, 2011; Shim & Siegel, 2009; Weygandt, Kimmel & Donald, 2010; etc.). These classical approaches of the above authors are generally known and therefore will not be presented here (also due to limited range of paper).

Despite the abovementioned facts, the authors resulted from publications that partially concern the issue. The issue of allocating costs to activities in the public sector was worked out by, e.g., Slavici, Mnerie, Hermann & Crisan (2011) and Cretu, Gheonea, Talaghir, Manolache & Iconomescu (2010). The funding of universities is partly addressed in publications by Talpos, Jivan & Dogaru (2010); Tanberg (2010) and Layzell (1999).

The paper is thus concerned with the issue that is relatively new. The possibility of using the Full Cost method in the sector of public as well as private universities began to be discussed in the last five years only. On this account there do not exist, except materials of the European University Association, relevant literature sources on this subject (monographs, journals), but only guidelines and manuals located on different web portals.

2. Full Cost method

Generally speaking, the main principle of the implementation of the full cost method is creation of such a method based on which the total actual cost will be identified and assigned in the full amount to individual activities.

Among the key objectives of the implementation of the full cost method is to:

- a) Provide data of sufficient quality for strategic decision-making,
- b) Establish the basis for financial management,
- c) Carry out pricing procedure for implementing on demand outputs, because even universities may, in addition to their main activities, realize an additional activity, which, however, must not compromise the main activities.

Finally, universities are given a tool enabling them to use sources more efficiently. Based on our experience, it is clear that the main problem in determining the amount of costs does not lie in assigning direct costs, but in the definition and allocation of indirect costs. In order to achieve the most realistic allocation of indirect costs, it is possible to proceed in several ways. However, the costs of implementation and maintenance of this method should not exceed the available funds to cover these costs. The intention is thus to develop such a method to be used for all activities, but not causing the university an unbearable financial burden in the long run. Nevertheless, when implementing the method of allocating indirect costs, it is necessary to keep in mind a very important rule, i.e., that it is necessary to distinguish between total indirect costs actually related to the given activity and part of indirect costs – can be specified as eligible indirect costs, for example, paid by the provider. It is therefore very important to be able to determine the actual full amount of direct and indirect costs and not to be confused with the part paid from provider's project funding sources.

The aim of research on the implementation of the Full Cost method is to define a recommended procedure to facilitate the process of implementing the Full Cost method at universities. The conducted research shows that in determining the full cost of each activity, the major problem really lies in the definition and assignment of the so-called indirect costs, i.e., part of the costs resulting from multiple activities and it is unclear what proportion of the costs was raised by each activity. The intention is to develop such a method to be used for all activities, but not causing the university an unbearable financial burden in the long run.

2.1. Reasons for and barriers to the implementation of the Full Cost method at universities in the Czech Republic

Universities must be able to properly manage their funds. For managerial decision-making is necessary to capture all related costs and create a comprehensive information base, which is the basis for management and decision-making at public universities. This information base should include all areas of university activities. The use of the full cost method may enable universities to better face the economic factors to which are universities generally exposed. The basis of efficient, effective and economical utilization of funds is a detailed knowledge of costs, which is also essential in the strategic management of universities. The detailed knowledge of the cost of individual processes is certainly a competitive advantage and may be, i.e., the basis for streamlining the implemented processes. Another important benefit is the possibility to use the information on the costs in terms of planning and consistent use of funding sources. Furthermore, the detailed knowledge of costs and the possibility of their application in the cost of projects may ultimately lead to the greater involvement of project researchers in university economics. From the above it is clear that the implementation of the Full Cost method is an important step for a university and can be a source of competitive advantage in educational and research organizations. The implementation of this method, however, is accompanied by a number of obstacles and barriers, which are further described as follows.

In terms of financial management of universities, as already mentioned, in order to evaluate the effectiveness of individual performances and to adapt the right strategic decisions, it is necessary to identify the actual full costs of individual activities carried out. The environment of public universities is very complex, particularly with regard to the separation of costs pervading the field of education and science, research and innovations. Another so-called “complication” is to some extent multi-source funding, as funds often do not duplicate each activity. And these obstacles are among the most crucial to prevent the current implementation of the Full Cost method.

Nonetheless, beyond the issue of converging activities and funds it should also be emphasized that there are other barriers to the implementation of methods monitoring the full cost, which consist primarily of the lack of personnel and financial capital. Another barrier may be the lack of technical equipment necessary for the establishment and subsequent introduction of the Full Cost method into life (Palánová & Rathouský, 2008). Although there are many of the so-called barriers to implementing the Full Cost method, they will have to be gradually overcome.

3. Full Cost in the Czech Republic and Europe

In this chapter, there are discussed in further detail some of the results of our own research supplemented by analysis of the implementation of the Full Cost method in the Czech Republic and the subsequent confrontation with findings of the research concerning this issue in Europe by the European University Association.

3.1. Usage of the Full Cost method in the Czech Republic

First, it is important to perform an analysis of basic costs and multi-source funding of public universities, which, however, does not substitute for financial analysis that each university should had done before starting work on the Full Cost method. As our research will show, the multi-source funding is one of the biggest obstacles in implementing the Full Cost method in the Czech Republic.

The conducted research reveals that the main sources of income for public universities (hereinafter “PU”) are public funds, in this case MEYS funds, namely the education allowance. This allowance, however, can be used to provide education for students in accredited degree programs and the implementation of lifelong learning, the implementation of creative activities, but also to finance science, research and innovation (hereinafter “R&DI”). But an academic staff member within his/her work load carries out educational activities as well as participates in the implementation of R&DI, and without his/her detailed schedule it is very difficult to distinguish what part of the costs arisen by his/her activities are associated with educating and which are related to R&DI. The above again confirms that it is not enough to know the costs arisen within an organizational unit, but it is very important to know their sources and links to activities, so these sources and activities would be accounted correctly.

As an analysis of the total cost of PU shows, it is obvious that more than half the cost is spent on personnel costs of PU employees. An analysis of the structure of PU employees for 2008 also shows that 52 % represents academic staff, 5 % are researchers, 29 % are technical-economic staff and 14 % comprise the so-called other workers. It can be stated that the minimal costs attributable to personnel costs of technical-economic staff and other workers have the nature of indirect costs (Český statistický úřad, 2009).

In the Czech Republic, PU has been only working on creating a method ensuring the allocation of actual total costs to individual activities. Although specific procedures have not yet been published, it is possible to emerge from materials that individual universities have released on their websites. I.e., the procedure chosen by universities is almost always identical; to some extent this is due to the fact that universities implement these activities through the projects of the MEYS OP Education for Competitiveness. It includes primarily the steps such as indirect cost analysis, setting cost-allocation bases, developing the full cost method, preparation of internal rules and modification to information systems. These steps may be followed due to different reasons by sample verification and an audit, which is, among other things, required by providers so the expenses would be eligible within the given project (Štěřbová, 2011).

As Janíček (2009) states one of the most frequently proposed cost-allocation bases, to which universities turn to when calculating indirect costs, is the share of revenues, or more precisely, costs. This method is very simple and its implementation does not require significant founding sources.

However, proving a link between indirect costs and the amount revenues within given funds and activities is not always assured. Therefore, universities do not enforce this variant of cost-allocation bases very often and with growing counterargument the cost-allocation base is also gradually abandoned of at least part of the activities and there is a search for others that would better reflect the indirect cost causality. Nevertheless, there are also universities that have already from the beginning turned to significantly complex calculation models aimed to calculate each indirect cost according to different criteria. This creates a very complex database in need of constant update, which is very time consuming. Though when the model is too complex, without automated processes, there is a risk factor of human error that can cause large errors in the allocation of indirect costs (Bulín, 2010).

3.2. Use of the Full Cost method in Europe

Not only universities in the Czech Republic have been working on establishing the full cost method. Universities in Europe are solving a similar problem. In European countries, the introduction of the Full Cost method is given great initiative. This topic is addressed by the European University Association, which has issued several publications on the related topic.

As mentioned earlier, costs cannot be examined without any links to individual funds. The European University Association is aware of the significance of this criterion in cost calculation and conducted a survey, i.e., on the structure of funding sources at selected universities. The research of EUA shows that 73% of funds are public funding sources, i.e., the examined universities have only a relatively small amount of sources that can be applied to both deductible co-funding, which payment is required by the provider, and also to the portion of costs not paid by the provider because the university is unable to prove the causality between the costs and the project solved. In addition to these costs, the university must also finance the so-called ineligible expenditures, which are expenses that do have a clearly demonstrable link to the project, but under the terms of the provider can not be paid from public funding sources.

Due to changing funding rules, there is a noticeable growing trend of increasing co-funding in projects financed from public funding sources, which is confirmed by studies of the European University Association. The implementation of the full cost method is related to a large number of obstacles.

The research results clearly indicate that the biggest problem in implementing the full cost method was insufficient information provided to academic staff. The research also confirms that there are a great many obstacles with which universities must deal with. Especially helpful are the activities of the European University Association aimed at organizing a number of conferences addressing and communicating to other universities in Europe

experience from the implementation of the Full Cost method at universities where such methods have been already performed or are in the process of implementation (European University Association, 2010).

4. Discussion

Based on the conducted research, it is obvious that both universities located in the Czech Republic and abroad address the implementation of the full cost method. In order to implement this methodology, it is very important to investigate individual sources and activities associated with costs.

The following summary of research results can be a recommended procedure and warning on the difficulties in implementing the Full Cost method:

1. The implementation of the Full Cost method must be approved by the university management and recorded in writing. It is also necessary to keep informed on the whole process all interested researchers, including academics and researchers and involve them actively in various stages of the implementation process.

2. A team shall be appointed that will be responsible for the creation and implementation of the Full Cost method.

3. First, it is necessary to analyse costs, revenues and economic processes. The Czech universities will have the biggest problem with costs covered by contributions from A and K indices (i.e., the MEYS contribution allocated through normative method of financing).

4. Based on the analysis, groups of indirect costs must be clearly defined at different levels of the organizational unit.

5. Furthermore, based on an analysis of economic processes, a cost-allocation base has to be defined, which must reflect the link to distributed indirect costs; it is also necessary to optimize the amount of cost-allocation bases and their complexity, so the cost of method implementation and maintenance would not constitute an enormous burden.

6. Testing the algorithms of the method on a data sample, possible modification of algorithms. It is important to note that during the implementation of indirect cost allocation methodology is necessary to be aware of a very important rule, namely that it is necessary to distinguish the full indirect costs actually associated to particular activities and part of indirect costs - we can specify them as eligible indirect costs that the university is paid by the provider.

7. Issuance and approval of an internal regulation defining the rules and procedure, i.e., content of the Full Cost method.

Furthermore, the research shows that in order to implement this method, it is essential to examine individual funding sources and activities to which the costs are related.

The calculation and allocation of costs to each activity using the so-called cost drivers then only represents a mathematical task, which, providing that certain causalities and links (between the specific cost and activity) are respected, can never be neither bad nor good, it can only more or less reflect the actual situation. Therefore, it always depends on the chosen level of detail in costing and searching for links and causalities, which then determine the level of the relevant allocation method.

5. Conclusion

Mechanisms for funding public universities require comprehensive monitoring of costs. In the event that a university knows its real costs, it can realistically plan the necessary funding sources for its activities and assess whether the activities are carried out based on financial sustainability.

Many universities have already used the full cost method, even in its simpler form, therefore it is clear that these universities realize that they are moving in a highly competitive environment, they need to identify the actual full costs, both direct and indirect, for their strategic decisions and management and the financial sustainability factor thus becomes one of the important features of their existence. It is possible to say that strategic decisions, as already mentioned, require high quality and detailed information; therefore, the full cost method will have to be applied gradually to each university and it will no longer be possible to completely abandon it.

So, it will be important to research how universities will be successful in completing the implementation properly and how to follow this essential step by using other controlling tools, i.e., exploring possibilities on the use of controlling in its full strength.

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