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Global Practices of Higher Education Financing: Approaches and Models

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Abstract

The primary purpose of this paper is to determine the model of higher education financing that is the most effective, flexible and easiest to adapt to the market demands. The most successful HEIs of the world have the best practices for attracting and managing additional funds to finance the educational and research activities of the HEIs. The objective of the article is to summarize the existing progressive practices of attracting and managing additional funds to finance HEIs' activities. The object of the study is the framework for the formation of endowment funds to support the activities of HEIs. Using comparative and system analysis methods, we looked at the most common models of funding for higher education and the mechanisms for attracting additional funds. It was discovered that most countries use three main models of financing higher education – bureaucratic, collegial and market models. Based on the experience of the OECD countries we determined that at the moment the share of private funds varies but tends to increase. The most successful HEIs use the market model to manage their finances and use additional sources of funds to supplement government support. The most wide-spread instruments of attraction additional funding are issuance of bonds, private equity and donations. The most effective ways to manage additional financing are asset management, securitization and endowment funds. Based on the best practices of the HEIs we proposed a general model of managing the endowment funds that uses such principles and provisions that can be applied in the activities of the HEIs, which will allow them to use fundamentally new source of financing.

Keywords: endowment fund, higher education, private financing

JEL Classification: H52, I22, I23

Introduction

Higher education is very important for the country's economy because it enhances the level of its development and human capital. In developed countries receiving higher education guarantees higher wages for employment so the people strive more frequently to get education to improve their material wealth and social standing. The increase of the number of those aspiring to get education caused that most governments are not able to or do not consider it wise to fully finance education system so additional financing sources became essential.

There are several main models of higher education financing and management used by leading developed countries. In most cases those models include a combination of public and private financing with the HEIs possessing varying degrees of autonomy while managing available resources. For faster and more effective development, the higher education institutions aspire to attract more private financing, at the same time it is an indicator of their success meaning that more prestigious and higher ranking HEIs have additional opportunities to receive more financing. In some instances, there are private HEIs that operate funded with private resources. The education at those HEIs is financed by the students or interested organizations.

According to the recent studies, there are three basic models of higher education financing including bureaucratic, collegial and market model. Until recently, in the OECD countries the public funding of the higher education prevailed but most of the HEIs used collegial or market model. As a result of the crisis, most of the states decrease their financing, the HEIs tend to adopt the market model to diversify the sources of the funds and to gain financial autonomy.

The key objective of our paper is to determine the most efficient model of the higher education financing. We hypothesize that among the existing models the most effective is the market model that includes the creation of an endowment fund to attract donation and manage them to receive additional profit. We consider that this model provides the necessary resources to finance strategic development of the HEI.

In the first part of the research, there is the literature review in which we examine the general approach to higher education financing, principal research positions on public and private financing and endowment funds as the source of additional funding. Further, we present different models, frameworks and instruments of higher education financing. Our research includes conclusions as well.

Literature Review

The issue of higher education financing and managing the HEIs' resources becomes more widespread in the recent studies. The reason for this is rather simple. Recently, there were numerous education reforms in the leading countries aimed at changing the sources of financing higher education development and the approaches to their management. As a result, new models of financing and managing higher education institutions were created. As such, the researchers tried to evaluate the efficiency of the existing models of managing and financing higher education. For example, Goksu & Goksu (2015) conducted a comparative analysis of the models of higher education financing in different countries to determine their relative efficiency. Sommer (2018) examined the higher education system of the USA to point out that it's one of the unique systems with highly developed private financing and not just at the cost of the tuition fees. On the other hand, Heller & Rogers (2006) performed a detailed analysis of the outcomes of the reform of the higher education system financing in the United States and its impact on financing higher education in Europe. Pranevičienė & Pūraitė (2010) tried to evaluate the efficiency of different models of financing higher education by exposing their advantages and drawbacks. Singh (2014) examined the models of financing higher education in different countries, and various approaches to changing financial structure of the universities to demonstrate the way the HEIs adapt to the reduction of public expenditures for higher education. Hahn (2015) used a comparative analysis of several methods of private financing of higher education to find their efficiency. Kärkkäinen (2006) conducted a detailed analysis of the expenditures for higher education in the OECD countries and concluded that the total amount of higher education financing tends to increase, the share of private financing tends to grow, but the amount of financing per student tends to decrease. Nagy, Kováts & Németh (2014) researched the best practices of higher education financing evidenced from the universities of the EU countries. They concluded that those universities are able to attract private financing in the form of the cooperation with industry representatives, donations and grants. Besides, if a university attracts additional private funds, it causes the amount of public financing to grow as well. Mauch & Sabloff (2018) conducted a detailed research of the reforms in higher education to show the evolution of the relationship between the HEIs and the state. Most recently, Willems & De Groof (2019) created a compendium of the studies of the world higher education systems, their issues, advantages, challenges and reforms.

On the other hand, in his research Barr (2004) examines prevalent problems with higher education financing. Using the model of higher education financing in the United Kingdom, he concluded that the main issues remain such as insufficient diversification of the sources of financing, decreasing expenditures per student, and inequality in the access to education.

The scholars also emphasize that as any other investment expenditures for education have certain risk. For example, Wigger & von Weizsäcker (2001) tried to evaluate risks inherent to the expenditure for higher education such as the risk of missed profit in the future after graduation. The authors propose to consider public financing as an insurance against this risk.

There are several research papers dedicated to financing higher education in the developing countries as well. In several cases, public financing is dominant, for instance, in his article, Ahmed (2015) examined the system of higher education financing in Nigeria and concluded that at the moment private financing is almost non-existent, and HEIs use funds received mostly inefficiently. Moreover, those studies demonstrated that the development trends for financing are the reverse to the ones shown by developed countries. For example, Joshi (2007) analyzed higher education financing in Philippines and concluded that higher education system in that country evolved mainly using private resources. Sabloff (2018) dedicated his research to the case studies of eight HEIs in the post-communist world to point out their common issues and the lack of support from the HEIs in developed countries. Kuliev (2017) researched an impact of the globalization on the models of the higher education financing.

Creation and successful operations of the endowment funds led to the discussion of the issue in the scientific literature. Evidenced from the endowment fund of the Yale University, Chambers & Dimson (2015) tried to create general rules for operating endowment funds. In particular, they noted that large universities managing significant financial resources are able to engage in active capital management, although small funds are better off to use the passive management strategy.

There are also a lot of research papers dedicated to the portfolio choices of endowment funds. For example, Dimmock (2008) analyzed multiple portfolios of endowment funds and based on them he tried to create the model of the optimal portfolio for such fund depending on the features of the higher education institution. In his extended research, Dimmock (2012) analyzed the impact of the background risk on the formation of the portfolio of endowment funds. Brown, Garlappi & Tiu (2010) tried to determine the way the allocation of resources impacts on the university's endowment funds' profitability. Merton (1998) researched optimal investment strategies for the formation of the portfolio of the University's endowment fund and concluded that it is imperative to use the principles of diversification and hedging. For their part, Hoxby (2013) tried to create a positive model of a university possessing an endowment fund. Redd, Wayt & McGain (2018) examined the framework for endowment funds to finance the

HEIs and addressed the problems with their regulation. Dahiya & Yermack (2018) studied a cluster of endowment funds to distinguish their investment returns and the usage of profits received.

Models of higher education financing: global practices

Taking into account that the HEIs exist in the economic environment of a given country, it's not possible to develop and use a common model for managing additional financing sources so each HEI must adapt the best practices to their features. Higher education is very important for the economic development of the country. A developed national system of higher education requires higher expenditures for research and development, it allows the economy in question to actively participate in the globalized knowledge economy. Expenditures for higher education are the total amount of resources allocated by public and private sectors for financing the organization of higher education system. Including private component in the financing creates an issue of the manager of the HEI in question. Should it be a government or individuals? The majority of the researchers are of the opinion that it has to be the task of the government to determine the priorities for the development of the higher education system regardless the usage of private sources of financing. On the other hand, the higher education institution should have a certain degree of autonomy in the allocation of the funds received from private sources. Goksu & Goksu (2015) examined practical implementation of those models, analyzed the role of different sources of higher education financing, and carried out a comparative analysis of financing systems in several countries. They came to the conclusion, that the countries use two general models: with the dominance of the public financing, and with the prevalence of the private financing. Besides, after the 1980s a lot of countries implemented reforms of the financing system and adopted the model of shared costs. There are four general methods of higher education financing in the developed and developing countries such as: (1) using public funds, (2) using tuition fees, (3) using private funds, (4) through the cooperation between the HEIs and enterprises, and corporations.

On the other hand, according to Heller & Rogers (2006) the recent reform in the USA included attracting private sources of financing higher education and facilitating accessibility to higher education for the citizens through increasing grants and loans for tuition fees. The authors concluded that such reform has positive as well as negative outcomes. Notably, one of the positive outcomes is an increase in the number of people getting higher education, but, as the access system to financing is based principally on academic merits of the applicants, the gap between the number of people from different social groups getting access to higher education continues to grow to the advantage of the population with higher income levels. The authors also emphasize that the reform in the USA caused similar changes in the European countries and at much higher rates at that.

Pranevičienė & Pūraitė (2010) made an assessment of the efficiency of financing an individual university under different models of financing. The authors proposed to distinguish bureaucratic, collegial and market models of financing, and concluded that the most effective is the usage of multiple financing sources because it makes it possible to react to the current needs of the education system in a timely manner in a highly globalized world.

Singh (2014) discovered that recently, there were drastic changes in the structure of higher education financing in favor of attracting private financing meaning financial markets, donations and household resources. It was caused by increasing demand on higher education. As a result, the total costs of the universities grew, and the tuition fees followed that pattern. The author noted that total public incomes reduction cause tightening control of the efficiency of public spending, at the same time, private financing is usually provided for individual projects.

Following that line of reasoning, there are three general models of higher education financing.

1. Bureaucratic financing model allows for financing higher education institutions solely using public funds. Under such model, the government is capable of controlling the HEI's activities completely through legal regulations, and using financial levers, meaning the government determines the organizational structure of higher education institutions, number of departments, staff, admission size. More than that, the government is able to stipulate priority fields of study and research. It means that the control over long-term material assets remains in the hands of the authorities.

The main advantage of such a model is the fact that the government is able to regulate the number of specialists of necessary fields on the market, which will avoid distortions in the labor market. Also, the government can directly control the quality of education received. On the other hand, this model has a number of drawbacks. First of all, under such framework, HEIs do not have institutional autonomy and academic freedom, that is, the system of higher education depends entirely on political decisions. Secondly, the amount of funding is determined based on historical data, that is, the possible changes in the situation within the HEI are not taken into account. Thirdly, the adoption of financial decisions involves a complex bureaucratic procedure, which makes it impossible to respond promptly to issues that arise in the day-to-day operation of the organization.

2. The collegial model assumes that the HEIs are funded primarily by the government but have the right to attract funding from private sources in various forms (tuition fees, grants through projects, research work on request of private investors, etc.). Also, under such a model, the HEI has a relative autonomy in determining the directions for using these funds. The advantage of such a model lies in the fact that the management of the HEI independently establishes the priority directions of the development of the institution and has financial autonomy from the authorities. The disadvantage of this model is that an institution needs a group of highly skilled management personnel to successfully and efficiently operate it. Another disadvantage is that the transparency of the mechanism for distributing funds within the HEI is lost, that is, there may be cases where priorities are determined based on their own interests, and not on market needs.

3. The market model of financing involves close cooperation among all participants of the higher education system, as well as the obligatory attraction of alternative sources of financing. This means that all decisions on the financing of the HEI, its strategic development, the proposed training programs should be made in close cooperation between the providers of academic services, the users of such services, the authorities representing the public interests, and the bodies governing the higher education institutions. Under such a model, the role of the government is limited to the establishment of common priorities and requirements for the quality of education, and the main impact on the functioning of the HEI will be made by the society and the business environment for which, in fact, these institutions train those specialists. Higher education institutions are forced to look for alternative sources of funding; instead, they must provide full information on the further use of attracted funds, offer high-quality services that satisfy donors, and ensure the most efficient use of the resources received. The main disadvantage of this model is its focus on current efficiency, that is, some of the strategically important fields of training can be left out of focus because they are not financially effective.

In recent years, the number of universities has increased in the countries of the world, which has improved the availability of higher education for all social groups of the population. Since the early 1990s, there has been a change in the overall concept of the economic policy of the states, which has led to increased participation of the private sector in the higher education financing. Moreover, there has been a significant increase in the number of private HEIs in almost all countries of the world. As a result, most countries in the world have switched to a collegial model of higher education funding, which involves four main groups: (1)

governments and taxpayers, (2) parents saving or borrowing funds for tuition fees, (3) students who save or borrow money to finance their education, (4) charitable organizations that provide funds to parents, students or HEIs.

Hahn (2015) underlined bond issuance, securitization, private investment, donations. The author noted that the future of higher education depended on private financing because it made it possible to react to market demands more flexibly.

According to Kärkkäinen (2006), the OECD countries use four main education funding frameworks in which the state and the private sector play different roles: (1) students do not pay tuition fees or they are very low due to state support; (2) tuition fees are high, but at the same time the state offers very attractive incentives that offset private spending; (3) tuition fees are high, but the system of incentives for students is almost absent; (4) tuition fees are low, and incentive system is undeveloped.

On the whole, according to the OECD countries, the total expenditures on education in 1998-2010 were consistently above 1.5% (see Figure 1).

As we can see from Figure 1, after 2000 there was a significant reduction in the expenditures for higher education. This was due to the general reduction of public spending as a result of the crisis. This crisis has led to a decrease in not only public but also private spending, as the demand for higher education has plummeted.

If one is to consider the allocation of higher education funding between public and private sources, then, on average, the OECD is dominated by public funding (see Figure 2), meaning that is was 68.4% in 2000 and 78.6% in 2010, while private funding accounted for 31.6% and 21.4% respectively.

Exceptions to the general rule were Australia, Canada, Japan and the United States, where private funding prevailed. The situation in the United Kingdom was interesting: in 2000, state funding prevailed (67.7%), while private funding (74.8%) was already prevalent in 2010, indicating a drastic reform of the higher education system in the country (OECD, 2018).

According to Joshi (2007), taking into consideration the general level of development of the country, the government could not afford to allocate large funds to higher education of its population, as a result, the majority of higher education institutions there are private (88%) without receiving state support. Those private HEIs provide education for 67% of the students in that country. The

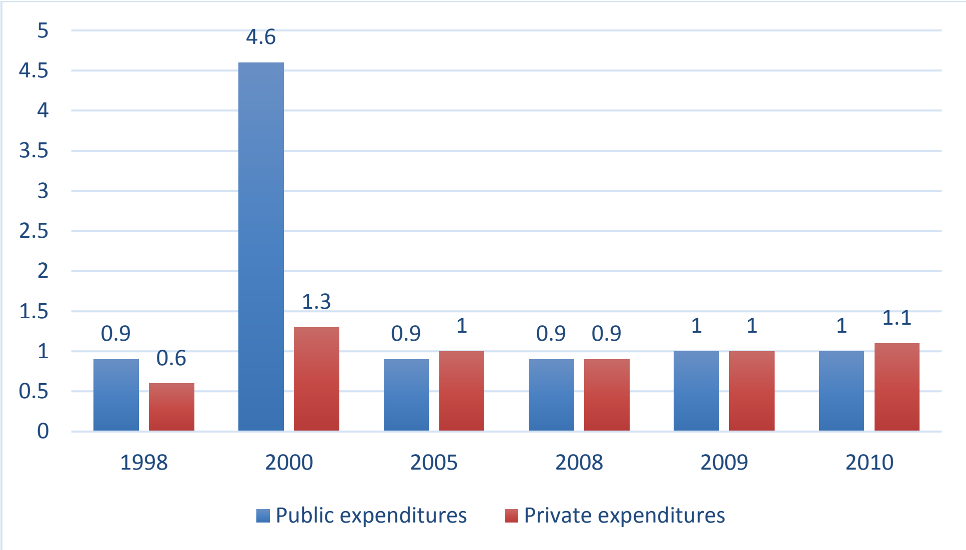

Figure 1. Public and private expenditures on higher education institutions, on average by OECD, percent of GDP

Source: OECD (2018)

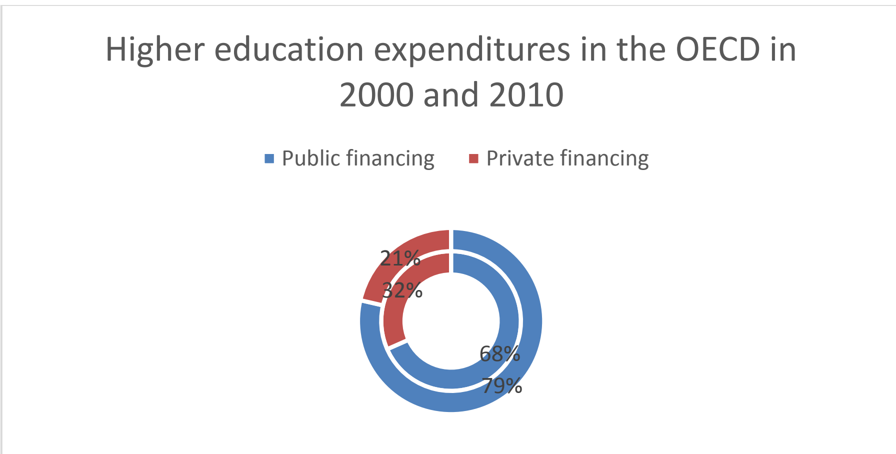

Figure 2. Allocation of funding sources for higher education on average in the OECD in 2000 and 2010

Source: OECD (2018)

advantage of such a system is being market oriented instead of government policyAccording to Joshi (2007), taking into consideration the general level of development of the country, the government could not afford to allocate large funds to higher education of its population, as a result, the majority of higher education institutions there are private (88%) without receiving state support. Those private HEIs provide education for 67% of the students in that country. The advantage of such a system is being market oriented instead of government policy dependent, meaning that the choice of educational programs is determined by labor market needs and demands. On the other hand, the author considers the dependency of the higher education institutions on students' tuition fees as the main drawback, that's why it is a typical example of private financing being insufficient for successful development of the higher education system. At the same time, diversification of the sources of financing is necessary for effective development.

Private financing of the higher education – endowment funds

Private funding is involved at all levels of the education system, but the higher education level receives the most resources from private sources. Private sources of financing include households, enterprises of various forms of ownership, alumni and charitable organizations. In most OECD countries, households are the main source of private expenditures on higher education. The exceptions are Canada, the United States and Australia, where private funding sources are predominantly donations and endowment funds. On the other hand, in different countries, the role of private funding varies considerably. For example, in the Nordic countries, Belgium and Iceland, the state allocates enough funds for the normal functioning of higher education institutions, therefore private funding is almost non-existent. Instead, in the United States, private funding has long played a leading role in providing HEIs with funds. In Denmark, Finland and Norway, private funding accounts for less than 5% of the total expenditures for higher education, while in Australia, Canada, Israel, Japan and the United States this figure is 40%, while in Chile, Korea and the UK it is even 70%. In some countries, the share of private spending continues to grow at a rapid pace: in 2005-2010, the share of private funds increased by more than 10% in Australia, Italy, Portugal and Slovakia, and by 50% in the UK. In developing countries, the share of private funding is also very high: as early as in 2001, the share of private financing in China was 45% and continues to grow, India generally tries to abandon public funding for higher education. Among the countries of Latin America, Argentina, Chile and Jamaica, more than 40% of the expenditures on higher education are financed from private sources. Instead, Venezuela and Bolivia are rather the exception to the general trend: these countries are trying to reduce the amount of private funding for higher education (OECD, 2018). Based on the higher education funding models discussed above, attracting private sources of funding is most effective using market model.

There are several reasons for this. First, in this case, private donors do not completely lose control of their investments, they can affect their target use, setting the conditions for the provision of funds. This stimulates their attraction, since in the collegial model, donors completely lose control of the further use of their funds, and the key factor in raising funds is the trust in the HEIs. Secondly, the market model takes into account the needs of the market as much as possible and creates competition between higher education institutions, which forces them to use money efficiently.

By means of attracting private funds, they can be divided into two large groups: (1) funds attracted at the initiative of private donors (for example, the tuition fee is set by the HEI; however, it is solely the student who decides whether to enter it, as well, donations are made at the initiative of the donor, who independently determines the amount and purpose for using funds); (2) funds attracted at the initiative of the higher education institution itself (for example, issuance of bonds, creation of endowment funds, etc.). As a consequence, the management of these groups of funds will vary significantly. With regard to the first group, when using these funds, the financial autonomy of the HEI is very relative. For example, tuition fees will be used primarily to organize an adequate level of educational process precisely for the field of training that a donor student studies, and only in the case of surplus they can be used for other purposes. Similarly, if funding is provided at the expense of companies that are interested in training certain specialists, then the funds will be directed towards this. Thus, only public funds, or private funds of the second group, can be used for the strategic development of the HEI.

As a rule, private funds of the second group come from financial markets or capital markets, and the HEI can either directly raise funds in capital markets (e.g., issue their own securities, securitization, etc.) or carry on additional business activities that generate profits, which can be further used for the development of HEI (for example, the creation of joint research enterprises, the organization of the activity of endowment funds).

One way in which the HEI can raise funds using private capital markets is to issue bonds. The HEI can place these bonds on stock exchanges, while they are required to repay the principal amount at a specified time and pay interest income. This interest rate depends on how investors assess the reliability of an individual HEI. As a rule, the success of this method of raising funds does not depend on the purposes for which these funds are needed. To do this, some universities are trying to get credit ratings from leading rating agencies. In 2007, Moody's created a university rating methodology and is already actively using it for universities in the United States, Canada and the United Kingdom.

Another way is securitization, namely securitization of student loans for tuition. This allowed to relocate the risk of their failure to return from universities to financial markets. This tool is actively used by the US and UK universities. Also, private equity is sometimes used, that is, the HEI is a close company whose shares are not traded in the stock market. They sell private equities to private investors who are entitled to a share of the profit of the HEI.

As already noted, HEIs can receive donations from private individuals (usually graduates of such HEIs) or charitable organizations. As a rule, a higher education institution, if not donor-driven, may use these funds at its own discretion. In order to provide strategic development and generate additional profits, the HEI may create special endowment funds, which are formed at the expense of such donations. This means that the HEI relinquishes its immediate benefit in order to obtain a steady profit in the future. The HEI establishes endowment funds to improve the reputation of the education institution, protect intellectual property freedom, and insure against financial shocks. Higher education institutions are very vulnerable to financial shocks. This can be explained by several reasons. First, their assets have very specific features, that is, they cannot be used as a collateral, if the HEI is trying to obtain a loan. Secondly, the HEI cannot issue additional equity shares if the institution seeks to attract additional funds. Thirdly, it is very difficult for the HEI to change the volume and structure of its costs, so cost management is not an effective tool for overcoming the crisis.

When creating the endowment funds, the HEI, as a rule, uses two basic legal forms: the fund is a structural subdivision of a higher education institution or it is a separate legal entity in the form of a charitable foundation. Very often, universities use a combination of these two forms: some of the assets are directly owned by the university, and the rest is in the possession of the endowment fund. In any case, the university appoints members of the board of directors of the fund, that is, it fully controls its activities, meaning, it defines the investment policy, the mechanism for the allocation of assets and continuously monitors its activities. Depending on the size of the HEI, the volume of the fund's assets and the existing experience, it can independently manage the fund's activities or involve external persons or organizations in managing the portfolio of assets. As a rule, if the volume of the fund's assets is small, the higher education institution prefers to engage third parties to manage its portfolio, regardless of the size of the institution itself, that is, the HEI independently manages the portfolio of assets only when the fund has already accumulated a large amount of funds.

The endowment fund is an investment fund that operates for the benefit of an educational institution. Funds may be available in cash or real estate. Revenues from the fund's activities are used to cover the operating expenses of a higher education institution, capital expenditures, special project financing, and reinvestment.

In the case of large funds, they may consist of a high number of individual funds operating on the basis of separate agreements with donors. There are several types of endowment funds. Donors can provide funds in the form of a permanent trust, and, as a rule, they set limits on spending the principal of the trust. They may also impose restrictions on the use of earned income (for example, scholarships or pedagogical staff support). A timed trust assumes that for a certain period of time the donor may impose restrictions on the use of funds. After this period, funds usage restrictions are removed. In addition, a higher education institution may invest other unrestricted funds in the endowment fund. Such funds are called quasi-endowment. As a rule, donors set certain limits on the use of funds.

In developed countries of the world, in some form or another, endowment funds have appeared for a very long time. For example, in the United States back in the mid-1600s philanthropists donated real estate in favor of an institution that is now the Harvard University. Traditionally, endowment funds in the US functioned on the basis of individual management of each donation, and only in the 1950s, as the approach to management, a portfolio approach was applied. Taking into account certain doubts from donors, in 1972, the U.S.A. adopted the Uniform Management of Institutional Funds Act (UMIFA), which laid down the main rules for the use and investment of funds of endowment funds. In 2006, the Uniform Prudent Management of Institutional Funds Act (UPMIFA) came into force to replace this law, which introduced new rules on asset management and cost and investment policies in the absence of donor constraints.

Let’s consider the typical organizational structure of the endowment fund (Table 1).

The main subjects determining the direction of allocation of the fund are the Strategical Leadership of the Fund (responsible for the assets of the fund) and the Tactical Leadership (dealing with the operational management of the fund's portfolio). The Strategical Leadership defines the main funding needs (for which funds are needed) and develops an investment policy that meets these needs. The authority of the Strategical Leadership is also to oversee the implementation of strategic decisions by the staff. In turn, the Tactical Leadership deals with the operational management of the assets of the fund in order to achieve maximum profitability within the specified parameters.

Table 1. Typical organizational structure of the endowment fund

Endowment funds				
Investment strategy				
Investment decisions		Investment management		
Active	Passive	Strategic Leadership	Tactical Leadership	External consulting
Formation of a unique portfolio	Follow the leader	- Investment policy development - HRM - Internal monitoring	- Investment policy implementation - Operation portfolio management	- External assessment - Risk management

Source: compiled by the authors

When designing a spending policy, two main elements are defined: spending rules (general procedure for determining the amount of payments) and the payout rate (the interest rates that will be applied in the spending rules). In practice, seven general spending rules are used (they include twenty subclasses). Among the general rules there are as follows.

1. Annual review of interest rates.
2. Increase in spending in the previous year by a certain percentage, that is, adjustments using a simple formula or rate of inflation.
3. Expenditures in the amount of interest on the moving average from the market value of assets.
4. Expenses in percentages of current income.
5. Expenses in the amount of interest on the assets used.
6. Hybrid rules, that is, the use of a formula that is a combination of several previous categories in one rule.
7. Other payment rules, that is, the use of a formula or approach that is not relevant to the preceding rules or for which there is no complete information.

The competence of the Strategical Leadership also includes the selection of types of assets that the fund may invest in, as well as the target specific weight of these types of assets in the investment portfolio. Therefore, the Strategical Leadership is responsible for the asset allocation strategy, which is the basis for determining the value of an investment portfolio.

In general, the management of investment portfolios of funds is rather specific. First, they should choose a portfolio that provides the lowest possible level of risk.

Secondly, to minimize risk, it is recommended to use portfolio diversification policy, in particular, the endowment portfolio management model used by a large number of funds is based on the principle that it is necessary to use a broad set of both traditional and non-traditional types of assets in the formation of a portfolio. Thirdly, these funds have a wide range of constraints, most of which are inherent in a certain HEI, although there is little regulation at the general level. This means that each fund has an individual investment policy, that is, their yield may vary significantly.

In turn, the Tactical Leadership is engaged in portfolio management within the framework of two main strategies: passive, that is, strict compliance with the parameters set by the Strategical Leadership and the formation of a typical portfolio existing in the market using permitted types of assets; and active that involves tactical allocation between types of assets when the Tactical Leadership deviates on its own initiative from the weighting ratios set by the Strategical Leadership, and the choice of financial instruments for the portfolio in such a way that a fully personalized portfolio is formed that is not similar to other portfolios in the market. Empirical studies confirm that portfolio yields generated within an active strategy are higher than the yield of a passive portfolio. In some cases, endowment funds can engage external independent consultants to assess portfolio performance and for overall assessment of the fund's investment policy.

Conclusion

Recently, there were numerous education reforms around the world. Due to the increasing demand of higher education, the states had to adapt their higher education systems to the new realities. As a rule, there are three basic models of higher education financing meaning bureaucratic, collegial and market models. A comparative analysis of the benefits and drawbacks of said models demonstrated that the most efficient and flexible is the market model as it allows the HEI to diversify its sources of funds, attract additional resources using financial markets and invite donors by guaranteeing continued control over their donations.

As a result, there have been drastic changes in the financing structure of higher education, in favor of attracting private funding through financial instruments, donations and households. This was due to financial crises, which resulted in a reduction in public funding, an increase in university expenditures, the inability to quickly change approved budget estimates for state funding and a more efficient spending of private capitals in comparison with public funds. To diversify the sources of the funds, higher education institutions in the countries with the developed higher education system use endowment funds to receive additional funding for the development of the institution.

By means of attracting private funds, they can be divided into two large groups: (1) funds attracted at the initiative of private donors; (2) funds attracted at the initiative of the higher education institution itself. As a consequence, the management of these groups of funds will vary significantly. With regard to the first group, when using these funds, the financial autonomy of the HEI is very relative. As a rule, private funds of the second group come from financial markets or capital markets, and the HEI can either directly raise funds in capital markets or carry on additional business activities that generate profits, which can be further used for the development of HEI.

There are several forms of additional financing and its management, but the main methods are as follows – financing R&D inside the HEIs, financing tuition fees by grants, scholarships and student loans, as well creation of endowment funds based at the education institution funded by donations from organizations and individuals. Profits received from endowment funds become the principal source of the educational institution development.

Nowadays such funds are actively used by world leading HEIs that occupy high positions in the world rankings. For those HEIs private financing has significant share in their total financing meaning that it is a permanent and significant source of funds.

Summarizing the experience of countries that actively use such funds, we note that such funding is not always used rationally or in favor of all stakeholders. That is why donors often impose restrictions on the use of their funds or the proceeds from these funds. In each individual country, its model of functioning of the funds is based on the mental and historical features of the development of higher education financing.

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