Comparative Analysis of Financial Management in The Higher Education System: The Experience of Developing Countries

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Abstract: **In the paper has been analyzed modern theories of financial management of higher education institutions and their specific aspects. Scientific conclusions about the experiences of China and Malaysia in the financial management of the higher education system were formed. Based on the research, scientific proposals and recommendations aimed at improving the financial management of the higher education system were developed.**

Keywords: Higher education institution, financial management, financing, financial independence, education fee, higher education market

1. INTRODUCTION

In developing countries, the use of financial instruments in the management of higher education institutions is an important factor of the state budget, and aspirations to increase the share of private sources are developing. This, in turn, is becoming more evident with the emergence of trends in the decentralization of fiscal policy and the cost of higher education. The introduction of fee-contract contribution of students has revealed an approach to reduce the need for state budget funds in the higher education system.

In general, it would be safe to say that the goals of regulating the financial activities of the higher education system include the following aspects:

- increase the level of inclusion in higher education;
- ensuring that access to higher education is open to all;
- stabilization of quality in higher education;
- ensuring international competitiveness of the higher education institution (recognition by international rating agencies).

In our opinion, during the study of the mentioned aspects, it plays an important role in the formation of the principles of financial management in the higher education system. Therefore, improving financial management methods in higher education has become a necessary element regardless of time and space.

2. ANALYSIS OF THE LITERATURE: CRITERIA OF INTERNATIONAL ORGANIZATIONS

The level of higher education enrollment in East and South Asian countries increased from 3.9 million in 1970 to 46.7 million in 2007. it should be noted that it has grown to a person. In particular, the global coverage increased by 31 percent during this period[1]. It can be noted that this number means a significant change for developing Asian countries.

Higher education coverage of youth aged 24-34 in OECD countries increased from 27% in 2000 to 48% in 2021, which is explained by the qualitative change in the world labor market. As a result of the pandemic, the percentage of people with secondary education is higher than those with higher education. Also, while 71 percent of highly educated people aged 55-74 were able to use technologies for online work, only 1/3 of people with secondary education in this age group were able to use online work technologies[2]. From these trends, it can be seen that having a higher education serves to ensure the competitiveness of people not only in the labor market, but also in other situations.

The World Bank provides a number of principles for the effective operation of management in developing countries. According to him, it is noted that the independence and openness of financial management is important. We can see their content below[3]:

Academic independence. Ensuring the independence of universities through the free choice of the professors of the higher educational institution, such as the methods of conducting scientific research and educational activities.

Distributed management or collaborative management. Through the application of this principle, it means that the structural units of the university, especially at the faculty level, create opportunities for the development of institutional policy.

Clarity of rights and obligations . This is explained by ensuring that the rights of the higher education institution and the state authority in developing the higher education policy are clearly defined and their obligations in its implementation are not confused.

Natural selection . Along with all links of management in a higher education institution, it implies cases such as individualization of processes such as admission of students, independent adoption of selection decisions.

Financial stability. Financial uncertainties, budget instability and political favoritism seriously affect the quality of governance. Therefore, it is desirable that the providers of financial resources (state, sponsor, etc.) do not influence the management activities of the university.

Accountability or openness . An institution of higher education must be accountable for the disclosure and reporting of information to all its financial providers . This includes processes related to student payment contract funds, sponsors, and the state budget.

Continuous testing of standards . The management body of higher education monitors the factors that ensure the quality of education and implements monitoring that requires a rational approach.

Close collaboration. It is explained by the need to ensure constant healthy negotiations in the selection and work with the key management personnel of higher education institutions.

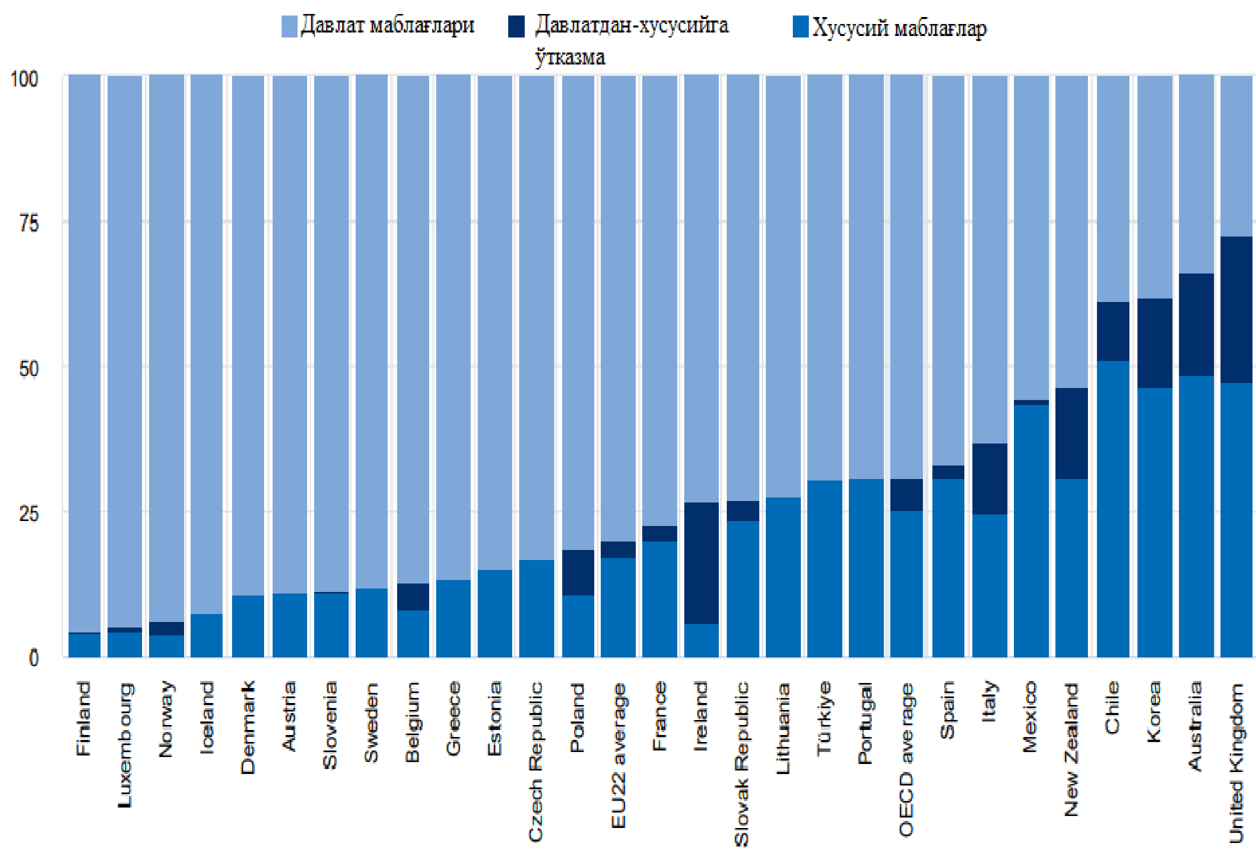

Figure 1: The share of sources of higher education system costs of world countries [4]

The share of sources of higher education system costs of world countries [4]. In our opinion, the idea of independence is central to the development of effective management policy in the higher education system of developing countries. This requires all elements of management to harmonize the rationality of independent decision-making. (see Figure 1)

The role of the state budget in the higher education systems of the countries where the socially oriented model of the market economy of IHRT (OECD) is in effect is becoming dominant. However, a number of countries are improving their legal framework by attracting private funds and regulating transactions related to them. This strengthens the role of private sources in higher education compared to other levels of education, and this creates the basis for the formation of 31 percent of private sources in higher education and 10 percent in public education.

3.ANALYSIS AND RESULTS

3.1. The Chinese Experience

Among the developing countries, it should be noted that the unique characteristics of China's experience stand out. As a result of comprehensive reforms implemented in higher education institutions of this country, a number of universities are taking a strong place in the top 100 lists of international rankings.

Table 1: The position of Chinese higher education institutions in the international TOP-100

Rating agency / Years	Number of higher education institutions		
	Academic Ranking	THE ranking	QS ranking
2012	0	2	3
2022	9	6	6

Source: Compiled by researcher based on internet data

If we pay attention, the role of Chinese higher education institutions in the international arena is increasing. In the last decade, it can be seen that the place among the top 100 universities has increased by 2-3 times. This is directly related to the development of academic and financial independence trends in higher education institutions.

Table 2: Financing of higher education institutions in China, 1997-2015 [5] , in percent

Years	OT costs in total education costs	OT State Expenditure in Public Education Expenditure	OT State Expenditure in Total Higher Education Expenditure	Student fees in total higher education costs
1997	17	20	63	17
1998	21	20	49	15
1999	24	22	46	18
2001	28	23	46	26
2003	31	23	42	31
2005	32	22	42	32
2007	31	20	44	34
2009	29	19	49	33
2010	29	20	53	31
2011	29	22	58	27
2012	28	22	63	24
2013	27	20	60	25
2014	26	20	61	23
2015	26	20	62	22

The role of the state budget in China's public higher education institutions is significant and is implemented with funds from the republican and regional budgets. Higher education institutions receive budget funds depending on the level of consolidation. In this case, the main activity is financed directly from the state budget (depending on the annexation). Budget funds received by certain groups of students as financial support are received by the university on the basis of a payment contract, funds are also received by the university through the state fund for financing scientific research . It can be noted that funds from the state budget come to higher education institutions through three channels.

With the adoption of the Law on Higher Education in 1998, payment-contract mechanisms were implemented in higher education institutions. This created an opportunity to share the costs of higher education. Many public institutions of higher education began to charge a certain part of their costs from students as tuition fees.

In turn, the need for state budget funds decreased. The share of the state budget in total higher education expenditures was 63 percent in 1997, and by 2005 it was 42 percent. Also, the share of funds coming from the payment-contract account was 17 and 32 percent in 1997 and 2005, respectively (see Table 2).

In 2005, following the issuance of accreditation documents to 225 private higher education institutions by the Chinese government, a decrease in the share of state budget funds in the total structure of higher education expenses occurred. With the increase in the number of private higher education institutions, an increase in coverage has also been achieved.

In 2007, the National Financial Support System was created to provide financial support to students from the state budget. 2 trillion in China's financial aid system in the last decade. provided more than RMB 289 billion to students. Guo Peng, director of the finance department of the Chinese Ministry of Education, said that the annual growth of the amount of financial aid has also doubled. Including 132 billion in 2012. 266 billion yuan in 2021. reached yuan. This served to ensure fairness in increasing the openness and higher coverage of higher education[6].

In P. Young's research, development trends in the cross-section of types of financial support are analyzed[7] (see Table 3). According to him, if the number of recipients of government grants has doubled, it can be seen that confidence in education loans has also increased.

Table 3: Financial aid trend in Chinese higher education system

Years	Number of scholarship recipients, per 10,000 people	Number of scholarship recipients, per 10,000 people	Number of education loan borrowers, per 10,000 people
2012	765.9	486.1	263.5
2013	772.1	708.5	264.9
2014	842.6	953.9	277.8
2015	820.7	1073.3	332.6
2016	875.0	938.7	378.2

In the formation of financial management in higher education institutions in China, the mechanism of financial support for students has a special importance. Several types of financial support for students have been introduced in order to further increase the possibility of higher education coverage. Funds from the state budget are provided to students based on independent decisions of universities. In doing so, universities provide financial aid based on their databases and student performance. It should be noted that financial aid from the state is based on two indicators, the first is for students with financial need, and the second is based on academic performance.

Table 4: Types of student financial aid in China [8]

Type of support	General description	Financial description
A system of government based on financial need		
Need-based grants	For all students with financial difficulties	1000-3000 yuan per year Total students 20 percent
Accommodation and food subsidy	Subsidy for accommodation and food	Changeable
A results-based system of government		
Merit-based scholarships	Students with top results can apply from the 2nd year	8000 yuan per year 0.3 percent of students in China
Need-based merit scholarships	From the 2nd year onwards, students with good results who are facing financial difficulties can apply	5,000 yuan per year 3 percent of students in China
Special major scholarships	For students of fields important for the country (agriculture, forestry, pedagogy)	Changeable
University support system		
Waiver of Fees	Contract reduction	Changeable
Study and work	Study and work agreement	Changeable
Special needs subsidy	Subsidies for needy students	Based on need
University scholarship	Performance Based Scholarship	Changeable
Need-based university aid	Subsidies for low-income students	Changeable
Help from different sections of society		

Grants and scholarships	Financial support from local authorities, corporations and charities	variable
Credits		
National school-based loans	It is given from the bank in agreement with the university. Must be returned within 6 years of graduation	A maximum of 6,000 yuan per year The government subsidizes the interest during the student period
Home-based loans	National development is granted on request from students through the bank's regional offices. Must be returned within 6 years of graduation	

In our opinion, the institution of financial support system for students introduced in higher education system in China creates conditions for selection. This reflects the students' confidence in higher education and the ability to spend more time studying. Also, the operation of this system serves to increase the level of inclusion in higher education. As a result, the principle of equal rights in education emerges. This will shape the trends towards the development of educational openness.

Trends in student financial aid are explored by China P. Loyalka, Y. Song, and J. Weiyi. They note that need-based public scholarships are reaching low-income students, while performance-based public scholarships are reaching low-income but high-ability students. It is noted that other types of financial aid are provided to students with high socio-economic status. Overall, it is notable that more than 60 percent of students are using at least one form of financial aid. In China, the introduction of financial support for students has helped students devote more time to study and reduce the financial burden on families[9].

3.2. The Malaysian Experience

It is no exaggeration to say that Malaysia is another of the leading Asian economies. Since gaining independence in 1957, it has been able to become a country with an economy with a large share of services from agriculture, which has a large share in the economy. According to the World Bank, since 2010, it has been one of the few countries with an open economy. In particular, the fact that foreign trade is 130 percent of GDP and 40 percent of available jobs are export-oriented positions [10].

By 2024, it planned to enter the ranks of high-income countries from the ranks of countries with an upper average income. As of July 2020, the country is living below the absolute poverty line. Therefore, the government is expected to achieve the above strategic goals by increasing the income of 40 percent of the low-income population[11].

After Malaysia's independence, the higher education system went through a series of reforms. At the initial stages of development of higher education, attention was paid to aspects such as training of personnel for agriculture, acquisition of basic qualifications. Although the University of Malaya was established in October 1949, it began to develop in the post-independence period.

This university is currently the leading higher education institution of this country. If it is listed in 70 places in QS World Rankings 2023, it should be noted that it is in the first 400 lists in Academic Ranking of World Universities 2022 and World University Rankings 2023. This university began to appear in the international ranking of QS World rankings since 2012, and it has been recorded in other rankings since 2018.

Since the second half of the last century, when Malaysian higher education universities began to train specialists for the industrialized economy, significant changes began to take place in the higher education system. Enrollment with higher education has also started to increase. In particular, there were 11,364 students in 1970, 38,125 students in 1980, and 69,700 students in 1985[12]. A significant change during this period continued with the establishment of many higher education institutions and the introduction of democratic principles into the system.

M.Z. Norliza (Norliza Mohd Zain) and others jointly research the development stages of the Malaysian higher education system[13]. Systemic reforms of the higher education system have been implemented since 2007. Management, leadership, academic activity, study and learning, research and development were defined as the main factors of the development program adopted for 2007-2010. In the 2011-2015 program, human capital development, strengthening initiative and innovation, strengthening the higher education ecosystem, using the positive aspects of globalization, and transforming the leadership of leading higher education universities were envisaged.

In the research of M.Z.Norliza (Norliza Mohd Zain) and others, aspects for 2015-2025 are also analyzed[14]. It is noted that the program planned for these years is based on five main factors: openness to all, quality, equity, solidarity and efficiency, combined with the principles that reflect it. The mentioned principles are distinguished by the following features:

- Openness to all – increasing the role of private universities in increasing the coverage level of higher education from 48% to 70%;
- Quality - to increase the employment rate of graduates to more than 80 percent by 2025;
- Equality – ensuring the development of skills for every Malaysian regardless of social background;
- Unity – ensuring equal access to education for all Malaysians regardless of ethnicity;
- Efficiency - ranking in the top 25 countries of the world's leading higher education institutions. This includes focusing on research, inclusion and employment.

The existence of inconsistency in the higher education system created an objective need for the development of a special higher education system . Although the Education Act of 1961 allowed the establishment of private education, the dominance of public educational institutions remained. As a result, only 10-11 percent of the population aged 19-25 had quotas in public higher education institutions. Despite the large number of young Malaysians who are already highly skilled and educated, coverage by public institutions remains low. This has led to an increase in the tendency of many young people to go to foreign universities. In turn, this trend affected the increase in the costs of families and the state. For example, in 1995, the expenses of 39.5% of young people who went to study abroad were covered by the state fund[15].

The popularization of higher education in Malaysia is explained by factors such as openness to all, ensuring equality, forming new sources of financing, increasing the quality and vital necessity of higher education, and increasing the efficiency of providing higher education services[16].

In our opinion, the instability of the supply and demand balance in the higher education market has created the need for the development of private higher education institutions. We believe that this has created an opportunity to reduce the financial burden on the state budget, reduce the educational costs of families, reduce foreign exchange flows and make specialist training cheaper. As a result, in 1996, the Law on Private Higher Education Institutions was adopted.

Under Malaysian law, private higher education institutions have a relatively high degree of independence. This serves to provide an advantage over public institutions in terms of the timing of academic and financial decisions. In our opinion, it is important to optimize the criteria of academic and financial requirements in order to create a healthy competitive environment between public and private institutions in the country's higher education market.

By 2011, the number of people studying in higher education is 1.2 million. 58% of them were studying in state, 35% in private and 7% in foreign universities [17]. The role of private higher education in inclusion has become increasingly important. This led to circumstances related to the regulation of its activities.

Privatization of higher education in Asia-Pacific countries began to spread based on the ideas of neo-liberalism[18]. The aim was to increase the economic efficiency of the privatization of state educational institutions and decentralize the state administration, reduce taxes and combine the social role of education with a "commercial" feature [19].

Many private and corporatized public universities have reflected many elements of independence in their activities. In particular, indicators related to the formation of the institution's (management) structure, decision-making regarding academic activities, financial independence, hiring and firing of professors, as well as admission quotas have begun to be determined in a decentralized manner[20].

As a result of the implementation of the tasks defined in the 11th Malaysia Development Plan 20016-2020 (The Eleventh Malaysia Plan, 11MP) adopted in 2015, the annual allocation of funds to public universities has been significantly reduced. In particular, it was 17 and 20 percent in 2016-2017, respectively[21].

4.SUMMARY & CONCLUSIONS

In order to further improve financial management in higher education institutions in our country and increase the scale of coverage, it is appropriate to pay attention to the following based on the experience of China.

It is appropriate to divide financial funds from the state budget to the students of higher education institutions into the following groups: firstly, taking into account their social background, secondly, based on the academic results achieved in the entrance exams, and thirdly, based on the GPA results from the 2nd year, but limited within the allocated budget funds .

Introducing some criteria in the allocation of financial benefits provided by higher education institutions on the basis of their own funds: firstly, directing up to 5% of all fee-contractual income of the institution to give benefits, secondly, creating a package of special benefits for students with disabilities, thirdly, payment to master's level students with the condition that they work in the educational institution- giving discounts from the contract amount.

We think that it is important to implement the following approach when providing financial assistance to students of higher education institutions by subjects of various sectors of the economy: first, to introduce a mechanism of regulation and encouragement through the fiscal policy of the state when the funds are provided gratuitously, and secondly, the condition of production in the economic entity that paid the student payment-contract amount not using fiscal instruments when available.

Development of an approach to the provision of educational loans provided by commercial banks from the point of view of the sources of formation of these funds being the state budget or other commercial funds. Taking into account that when the source of funds is budget funds, the percentage of the loan is not higher than the refinancing rate and its repayment does not begin before the graduation period. When the source of funds has a commercial nature, it is desirable not to make it completely commercial and to focus on preserving its social nature.

In our opinion, the formation of a system of financial support for students based on the experience of China in our country will create an opportunity to increase the level of coverage with higher education and diversify the sources of financing education fees.

The following experiences of emerging trends in the Malaysian higher education market can be highlighted:

First, coverage by private higher education in areas such as economics and business, informatics and information technologies, and engineering is gaining a significant share. This meant that other specializations requiring higher qualifications were not offered or provided by the private sector. Private universities do not offer applicants education courses that require a lot of investment because they have commercial goals in mind.

Therefore, to introduce the mechanism of allocating state subsidies to certain areas of high social importance, but low profitability. For example, the purchase of laboratory equipment and reagents required for the natural sciences is costly. This can reduce financial attractiveness. This shows the expediency of allocating preferential state grants to students of courses of social importance and low financial profitability.

Second, private higher education institutions pursue commercial goals. This leads to the desire to reduce the average cost per student. This trend can be seen in the example of Malaysia. Therefore, to develop the criteria related to the organization of an academic group and ensure that it is mandatory for all higher education institutions of all forms of ownership. As a result, it will be possible to avoid artificially increasing the number of students in academic groups. For example, it becomes impossible to conduct quality training sessions on learning foreign languages when there are more than 25 students in one academic group. On the contrary, increasing the number of students is a primary financial interest in private institutions. This shows the need to strengthen the role of the state in ensuring the quality of education and healthy competition.

Thirdly, the large ratio of students to professors prepares the ground for lower salaries in higher education institutions. This becomes a primary factor in the overall approach of the private sector. From this point of view, it is appropriate to implement the "contingent corridor" indicator by setting the upper and lower limits of this ratio in ensuring the quality of education. In regulating the ratio between students and academic content, it will be necessary to introduce the mechanism of the minimum and maximum ratio, that is, the "contingent corridor", which takes into account the characteristics of the educational field.

Fourth, in the Malaysian experience, a significant difference can be observed between private and public institutions in the formation of faculty members. It can be seen that the percentage of professors and teachers of private higher education institutions is high among pensioners, external candidates and those without academic degrees. In this case, the trends of not realizing the results of scientific research and the incomplete functioning of the master-student system have appeared. It is known from world experience that the competitiveness of higher education institutions is distinguished by the implementation of scientific research results into practice. From this point of view, it is appropriate to include criteria regarding age and academic level in the formation of professors and teachers, and to determine that their share will be strictly taken into account when issuing an accreditation certificate to an educational institution.

Fifthly, when working out the salary of professors and teachers, taking into account their professional qualifications, pedagogical skills and academic level, it will be necessary to introduce differentiated, but minimum amounts into practice. In order to take into account the results of the scientific research of the professor-teacher, it is important to ensure that the requirements for the scientific activity of the institution are present in the accreditation process.

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