ABSTRACT

A Study on Securing Higher Education Finance and It's Efficient Use

Lee, Jungmi
Kim, Byoungjoo
Rah, Minjoo
Lee, Young
Yi, Pilnam
Kwon, Kiseok

The purpose of this study was to improve the stability of higher education finance and efficiency of its operation by establishing a plan to secure the required financial resource for higher education (HE) at the governmental level and institutional efficiency in operating the fund. To that end, four specific research questions were raised in this study:

1) What is the appropriate level of funding for HE? What should be the share by the government? What is the trajectory size of higher education finance in the future?

2) What are the current level of financial status broken down by type of colleges/universities and financial indices and characteristics of it?

3) Pertaining to the resultant findings on the second research questions of this study, what are the problems arising from the practice, outcomes, and needs? Is there any outstanding pattern?

4) What are the alternatives that would increase the secureness of higher education finance and the efficiency in using it?

Estimating the appropriate level of higher education finance

This study estimated the proper level of government's share in the total costs for HE, appropriate portion of college enrollees to each graduating high school class, factors associate with the decision of HE expense, and the agreeable level of investment for HE given the decreasing number of eligible student population for college education. Drawing on the data from OECD (Organization for Economic Co-operation and Development) countries, the share of government in HE expense vis- -vis GDP, the share of private sector (ratio of private sector share to GDP), per capita HE costs, and enrollment rate of graduating high school class were regressed on per capita GDP. The results of the analysis are as follows.

Descriptive analysis uncovered that a wide variation in the size of HE expense exists among OECD countries under different economic and political contexts, the total size of HE expenditure is on the rise in U.S.A., United Kingdom, and Japan, and, in many other countries, the burden for HE is being shifted from public sector to private.

A linear regression analysis showed that the total HE expenditure of a country increases as income arises. The share of government has increased gradually with the growth of income, whereas no clear pattern was identified in private sector. Per capita expenditure for HE was found to be increased with the increase of income, but with gradually decreasing manner.

With regard to the determinants of enrollment rate of graduating high school class, it was shown that the ratio increases as the level of income increases, with gradually lessened growth rate. In addition, for economically well off countries, the portion of population eligible to enroll higher education drops due to the aging process of those countries.

Comparing the actual expenditure of HE to expected, the total amount of expenditure for HE in South Korea was shown to be high among OECD countries. To be more specific, the share of expenditure by government was lower than the amount of expected, while the share by private sector was higher than that of expected. The expected value of 0.92 percent for the share by the government was the one similar to 1 percent, which has often been cited as an appropriate ratio of investment for HE to GDP.

The actual expenditure for HE in South Korea was shown to be 1.9 times higher than that of expected from regression model: Two of the major contributing factors were a higher college enrollment rate of 1.47 and lower level of aging (1.08). Average expenditure of HE per person was lower than expected from the model, which indicates that the index is required to be checked to improve the environment of HE finance.

Taking the trend of size of college entering students and the change of population composition into account, the amount of government share of HE expenditure would be 8.5 trillion won in 2012, 10.0 trillion in 2013, 11.8 trillion in 2014, and 13.5 trillion won in 2015, when the ratio of HE expenditure to GDP retains 1 percent starting from 0.6 percent in 2010 with annual increase of 0.1 percent each year from that time point on.

Analysis on the indices of securing HE finance and operating it

The study first categorized HE institutions based on the characteristics of finance to understand the practice of the current level of HE budget and its operation. Four year colleges/universities, for public institutions, were grouped into Seoul National University, major national universities or larger size institutions, medium and small size institutions, and colleges of education. Private institutions were categorized into larger size institutions in capital area, larger size institutions in other area, medium size institutions, and small size institutions. Followed by the segmentation of all HE institutions was to select indices representing the level of HE funding and its operation. Descriptive analysis (mean, standard deviation, maximum, and minimum) was performed based on the categorization and criterion selection followed by correlation analysis among indices of HE finance. The characteristics of securing HE finance and operating it are summarized in the next section based on descriptive analysis on selected indices and correlation analysis among the indices.

Concerning to the current status of HE finance for public institutions, 1) they are less relying on tuition revenue compared to private institutions and securing required financial resources in a stable way via the supports from the government, 2) the dollar amount of tuition of public institutions are lower than that of privates as well as tuition increase rate, 3) the amount of endowment is proportional to the size of an institution, and 4) there exist remarkable difference in the current status of HE finance among public institutions: In case of Seoul National University, it surpasses the average of each criterion except the rate of subsidy from government. Major national universities were found to be securing a stable HE finance compared to small size public universities by virtue of high portion of governmental subsidy and endowment asset. Universities of education were maintaining the average level of all criteria except subsidy from the government. Contrary to the former two groups of institutions, medium and small size institutions were suffering from low level of HE finance due to the less than average level of subsidy and endowment asset not to mention higher amount of tuition and tuition increase rate. Overall, the variation in each criterion is smaller to public institutions, which is not the case for private institutions.

The current status of HE finance for private institutions are summarized as follows: 1) They rely heavily on tuition revenue with meager income from transferred fund from foundation, endowment, for profit assets, and subsidy from the government, 2) The majority of private institutions (85–90%) marked inadequate level of financial resources concerning to the selected indices with exception of a few (10–15%), 3) small size private institutions showed lower level of tuition revenue rate, total tuition, and the rate of tuition increase compared to medium and larger size private institutions, whereas the rate of transferred fund from foundation, endowment asset, and for profit assets, and 4) The variation in all of the selected criterion was high; noteworthy is the variation between small private institutions with higher level of financial capacity and those with poor.

Looking at the characteristics in the operation of HE finance for public institutions, the amount of research expenditure per full-time faculty, the ratio of students awarded a scholarship, and per capita scholarship were higher than those of private peers. Secondly, a difference in the level of expenditure was identified among different group of public institutions: Major national universities and larger size public institutions showed a satisfactory level of expenditure for education and research, institutions focusing on the education of elementary school teachers showed lower than average of public institutions on all the operation indices, the Seoul National University disclosed a significantly higher level of expenditure than the average of other public institutions on all indices, and medium and small size institutions remained the average level on all indices other than per capita scholarship. Public institutions show smaller variations across all financial criteria when they are compared to private institutions.

For the characteristics of finance operation in private colleges, lower than the average of those of public institutions were on the criteria of average research expenditure per full-time faculty, ratio of students awarded a scholarship, and the amount of scholarship per student. However, their per student education expenditure was higher than that of public institutions. Secondly, private institutions in capital area are investing the secured financial resources for research and education activities while the private institutions in other area were spending a significant portion of the financial resources for scholarships for the purpose of student recruitment. Thirdly, a large variation in selected indices was uncovered among private institutions: To be more specific, colleges/universities within the category of small size private institutions showed a sizable difference in the average per capita expenditure for research, the ratio of students awarded a scholarship, average per student scholarship, and the average per student expenditure for education.

Followed are the research findings from correlation analysis: 1) HE institutions, even though the coefficient was not strong, tend to lower the level of tuition by expanding the share of public supports (government subsidy), 2) It was appeared that there is no significant relationship between tuition rate and each of the government subsidy, transferred fund from foundation, and endowment asset, which can be construed that trifling portion of other indices do not have significant influence on tuition level, 3) Institutions imposing higher tuition do not necessarily spend large amount of money for scholarships (quite a lot of institutions require higher tuition, but the benefit of scholarship is low), 4) a few institutions revealed a high level of tuition, but low per student expense for education, which means a parsimonious investment for education, and 5) It could be concluded that the return for the investment for students tends to be low given that a weak correlation between the level of tuition and performance of HE institutions and between per student education cost and the educational outcome of colleges/universities.

Case study on securing HE finance and its operation

The study analyzed the problems and needs that HE institutions are facing and derived characteristics by selecting a representative institutions for the understandings on the secureness of HE finance and its operation. Referring to the selected financial indices, 9 institutions were selected for the case study; institutions that have satisfactory values for finance indices, acquired a massive national project of greater than 100 billion won, and were found to be efficient in terms of financial effectiveness from Data Envelopment Analysis.

Three broader categories for the analysis were further detailed as follows: 1) financial summary (financial condition, mid and long term prospect, financial operation plan, and the characteristics of financial structure), 2) secureness of finance (short and long term plan for financial secureness, efforts and outcomes of securing HE finance, and issues and governmental suggestions on securing HE finance), and 3) operation of HE finance (mid and long term plan for operating HE finance, budgeting and allocation, system and organization, control and evaluation, and issues and governmental suggestions on operating HE finance). For further information, please refer to the table of V-58 and V-95.

The findings from the case study on public institutions revealed the following characteristics on securing and operating HE finance. In terms of securing efforts of HE finance, four national universities selected for the case study were suffering from pegging supports from governmental subsidy and the frozen tuition level, however, they were trying to resolve the problem by securing governmental supports, non-governmental supports, endowment, and for-profit business.

Under the condition of frozen operating costs from the government, national universities are focusing their efforts on acquiring grants from national program as well as expanding financial supports by strengthening the relationship with the local government. In addition, they are also exerting to increase revenues from the programs managed by the life-long learning education center, international education center, and on-the-job training institute, set and implement various plans to secure endowment income, expand the academe and industry collaboration account via encouraging patent registration, transferring new technology, activating school corporation, increasing interests income through merging research and grant accounts, and enlarging overhead costs. To diversify the route of revenue generating business, they are also leasing their property, charging fees for using facilities and parking services, operating convenience facilities, attracting private investment, and establishing holding companies.

In terms of operation of HE finance, public institutions have tightened the budget to increase the efficiency by cutting operating expense and supplementary allowance for staff council. To secure an efficient use of limited HE finance, institutions have introduced lump sum budget allocation at a college unit level to maximize outcomes of financial investment, and plan to establish or merge units involved in financial management.

Analysis on private colleges showed the following characteristics on securing and operating HE finance. Concerning to the secureness of HE finance, private institutions selected were suffering from restraining pressure for tuition from outside and decreased endowment asset. All the institutions highly relied on tuition revenue, had small share of transferring funds from foundation, and held staggering governmental subsidy and endowment. Regarding endowment, the size of it was insignificant and the variation in it was wide. Specifically, the sum of endowment tend to be higher for large size institutions, which means a sharp difference in actual dollar amount given the relatively higher total income of larger size institutions. Similar to the subsidy from the government, the transferred fund from foundation share meager portion of total revenue of private institutions and showed a wide variation. On average, school foundations are taking only 60% of legal expense and the rate of securing basic property for profits was even not at 50%. Worse are the ignorable results of transferring profits from the for-profit business to HE institutions.

In spite of the existing poor surroundings, private institutions are diverging from traditional revenue routes to diversify income sources. They have established short and long term plan for securing HE finance based on the strategic development plan. Specifically, they have expanded endowment revenue generating business, made a good use of alumni association, increased small account donation based on a cumulated know-how, exerted to receive supports from the government, and made the best out of unused facilities.

With respect to operation of HE finance, private institutions are making sure of efficient management of HE finance and reducing unnecessary expenditure by setting a reasonable budget plan and allocation and resolving the problem of wasting financial resources via strict control and evaluation of financial operation.

Alternatives for securing HE finance and its efficient management

Policy implications were gleaned based on the resultant research findings of this study from estimating appropriate level of HE finance, analyzing the status quo of current finance based on selected indices, and investigating individual institutions selected for the case study. Policy suggestions are composed of two folds: alternatives for securing and supporting HE finance at the governmental level and those for securing HE finance and its efficient operation.

Policy implications for the government includes, but not limited to, the followings. First, it is required to expand public supports for HE. To this end, the current investment rate of 0.6% vis-à-vis GDP needs to be increased to 0.92% in the mid-term and to 1.0% for long term and implement a governmental scholarship program to relieve tuition level.

Secondly, relevant institutions at both the central and local governmental levels are required to be revised in a way in which the support for HE could be strengthened. To achieve the goal, the following actions need to be taken for public institutions: 1) improving the regulations pertaining to the utilization of national property and income budget plan, 2) alleviating the restrictions on operation of endowment foundation, 3) establishing a stipulation regulating the supports for HE by local government, 4) rationalizing the allocation of indirect costs, 5) reshuffling the regulations on non-governmental account, 6) establishing a mid- and long term plan for supporting public HE institutions, and 7) improving the way of financial supports for HE and setting a rule for that.

The measures for private institutions would be: 1) expanding tax benefits, 2) regulating transparent operation of accumulation, 3) encouraging the implementation of legal share via endowment asset, 4) applying a return policy for an additional tax, 5) expanding financial support programs for private institutions, and 6) supporting promising small size private colleges. For both types of institutions, requirements are rationalizing the operation of national financial support programs, allowing sufficient amount of time before revising relevant regulation to financial management, improving the limit of tuition increase, and expanding the autonomy of operating governmental subsidy.

Thirdly, the implications for individual institutions are summarized as follows:

1) What matters are progressive intention of an institution and an internal system for which the university community are required to exert to secure HE finance and supports as well as structural reform, personnel management, performance evaluation, and strong leadership, 2) a short- and long term plan to secure HE finance should be established and implemented, 3) institutions need to diversify income revenues by exploring private and public financial resources, facilitating endowment, increasing the income from academe and industry collaboration, exerting to increase the transferred fund from foundation, raising increase from educational activities, and maximizing investment returns.

Fourthly, financial operation needs to be professionalized and efficient. To this end, it is required to decrease uncontrollable expenditures, to cut unnecessary expense, to improve the professionalism of budget unit, and to increase the autonomy of operating governmental subsidy.

Fifthly, expanded rationality in allocating and implementing the HE budget is required to enhance the adequacy of financial management system. Lastly, introducing external auditing system and establishing /implementing a structure of program budget would result in raised autonomy and accountability in finance operation.

Keywords: Securing higher education finance, Funding for higher education, university finance, typology of university, finance management