

Analysis on the Effect of University Restructuring on University Finance Changes in Korean

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Abstract

The purpose of this study is to analyze the impact of the government's restructuring on university finance, which reduces the university admission quota through university financial support in Korea. To do this, we analyzed the accounts of the teachers' offices in 121 4-year private universities with high dependency on tuition fees. As the number of students who pay university tuition decreases and the university tuition fees were frozen, the operation income decreased. Meanwhile the transfer and donation income from government subsidies and corporate deposits increased, but the income from donations and payments from industry-academia-government cooperation in diversification of financial resources decreased. Also expenses were concentrated on costs related to university evaluation, such as professor and staff work expenses and research student expenses. The asset and debt income debt increased, but the asset and debt expenses decreased. Private universities responding to government's restructuring are replacing the reduced operation income with increased capital income and debt.

Keywords: *Government's restructuring, University admission quota, Operation income-expense, Income-expense of capital and debt*

1. Introduction

Korea Private Universities greatly expanded in quantity in 1996 with the introduction of the university establishment rules as a major task of the 5.31 education reform. Twenty years later, as the schooling population's declining trend became clear, the government-led restructuring of the university structure became socially justified. The issue of how to reduce the size of the admission quota that is directly linked to university income is key to successful university restructuring.

The characteristic of the university restructuring in Korea that has been promoted since 2014 is that it aims to reduce the admission quota for universities and is being promoted through competition between universities in order to secure government funding expenses for the university. This university restructuring through government-funded university financial support is being pursued in two ways: a penalty scheme and an incentive scheme. The penalty method is to select the relatively lower-level universities through the evaluation of the structural reform of the university, and then to deprive the university of various university financial support qualifications and to forcibly reduce the university entrance quota. The incentive

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method involves universities voluntarily reducing their admission quota to be selected as a university financial support project by including a decrease in admission quota in the evaluation indexes of various university financial support projects [2].

Korean private universities based on the principle of consumer burden are highly dependent on university tuition fees, and the government is constraining the tuition increase. Therefore, private universities are strongly aware that securing the financial resources for universities from the government can determine the continued existence of universities. In fact, efforts to change the university entrance plan and the university development plan have been made in order to secure government financial support projects.

The purpose of this study is to analyze the effects of reducing the university admission quota through the government-funded university financial support system on private university finance in Korea.

2. Related works

The number of universities, the number of students, and the number of teachers in Korea has surged in the last 25 years from 1990 to 2015. Table 1 shows the quantitative expansion of higher education in Korea. Compared with 1990 and 2015, the number of universities increased by 89.3%. In particular, the number of private universities established based on the principle of consumer burden increased by 85.5%, the number of students increased by 107.3%, and the number of teachers increased by 96.2%.

Table 1. Number of universities and enrolment growth rate

Division	The number of universities				The number of students			
	National	Public	Private	Total	National	Public	Private	Total
1990(a)	23	1	83	107	249,026	5,722	785,418	1,040,166
2015(b)	34	1	154	189	471,465	13,331	1,628,497	2,113,293
Growth rate(a/b)	47.8%	0%	85.5%	76.6%	89.3%	133%	107.3%	103.2%

Source: Korean Educational Statistics Service. <http://kess.kedi.re.kr>

* 4-year college only

[Table 2] shows that the number of students enrolled in universities have decreased in the recent five years from 2011 to 2015. In fact, the number of high school students decreased by -8.2%, junior high school students decreased by -18.1%, and elementary school students decreased by -14.0% over five years.

Table 2. 2011~2015 Decreased number of elementary, middle and high school students

Year	Elementary school students		Junior high school students		High school students	
	Number	Growth rate	Number	Growth rate	Number	Growth rate
2011	3,132,477	0.0%	1,910,572	0.0%	1,943,798	0.0%
2012	2,951,995	-5.8%	1,849,094	-3.2%	1,920,087	-1.2%
2013	2,784,000	-5.7%	1,804,189	-2.4%	1,893,303	-1.4%
2014	2,728,509	-2.0%	1,717,911	-4.8%	1,839,372	-2.8%
2015	2,714,610	-0.5%	1,585,951	-7.7%	1,788,266	-2.8%
5-year growth rate	-14.0%		-18.1%		-8.2%	

Source: Korean Educational Statistics Service. <http://kess.kedi.re.kr>

As it was estimated that the number of university applicants will decrease, the Ministry of Education announced ‘A basic plan for the evaluation of the restructuring of the university’ in

January 2014, responding to the decline in the school-age population, and with the goal of reforming the quality of university education. The government-led university restructuring plan was then promoted in earnest [3][4][5][7].

In Korea, ‘A basic plan for the evaluation of the restructuring of universities’ was carried out indirectly through the financial support project of the university, and it was promoted in two ways, namely penalty and incentive [2]. First, the penalty method of restructuring universities is based on evaluation of universities based on reform of the bureaucracy, improvement of the financial sector, improvement of the student support, and education systems. The more poorly evaluated universities are required to reduce the size of the admission quota according to the grade depending on the rating level. In addition, participation in various government funded projects is limited. These university students are also limited in terms of national scholarships and student loans.

On the other hand, the incentive way of restructuring of the university is a way to provide concentrated financial support after selecting relatively high universities by sector in the fields of university financial support projects such as research, education, industry-university cooperation, and specialization. This government incentive can give the university the advantage of improving the university's reputation as a benefit of financing the university. Since the government has included plans and achievements of universities, such as the reduction of the admission quota, the reform of the departments etc., in the selection index of the university financial support project, universities are forced to voluntarily plan and implement university restructuring in order to secure financial support from the government.

In order for universities to qualify for university funding and to secure scholarships for students, or to expand their finances and reputation through government funded projects, all universities are willing to participate in government-led restructuring to reduce the admission quota of universities. In fact, as the government funding for university financial support has expanded and university financial support projects within the government have become more diverse, the impact of government-led restructuring on university finances has become even greater.

[Table 3] shows the budget of the government’s university restructuring projects according to method, and demonstrates that the impact of the university restructuring on university finances is significant.

Table 3. Contents and Budget of Government’s Universities Restructuring Project in Korea (unit: million)

Universities restructuring method		Government’s University Restructuring Project	Budget of Project
Penalty	Reduction in grade by class (0~15%) Participation in government financial support projects is limited National scholarship support is limited Student loans are limited	University Restructuring Project National Scholarship Support Project	4,160,873
Incentive	Grant additional points to the university that submitted the plan for reduction of entrance quota when applying for government financial support projects	Advancement of University Education Project Program for Industrial Needs-Matched Education Project Initiative for College of Humanities' Research and Education Project University for Creative Korea	557,340

Source: Ministry of Education budget and fund management plan outline

3.1. Subjects

The target school will be a higher education institution based on article 2(1), (2), (3) of the 「Higher Education Act」(April 17, 2007 revision), and 4-year private universities with high dependency on tuition fees. There are 121 universities with consistent data among the universities that have entered accounting data for the last 7 years at the KEPP (Korea Foundation for the Promotion of Private Schools)

3.2. Methods

From 2009 to 2015, we analyzed the trend in university finances by using the financial accounting data of obtained from the KEPP and private university financial data obtained from Higher Education in Korea (the information service of higher education in Korea) In particular, to analyze the effects of the university restructuring on financial changes in private universities in Korea, We analyzed the detailed financial item data for 2014 and 2015 when the decrease in the admission for universities began. This study analyzed the number of students enrolled, operating income items, operating expense items, the asset and debt income items, and the asset and debt expense items. In this case, the operation income includes the tuition income, the transfer and donation income, the education incidental income, and the non-education income, and the operation expense items include the professor and staff work expenses, the management operating expenses, the research student expenses, and the non-education expenses. We also analyzed the asset and debt income and the asset and debt expense items separately from operating income and operating expense analysis. Correlation analysis and regression analysis were performed using SPSS analysis. The results of the SPSS analysis are shown in [Table 4].

Table 4. Results of correlation analysis between variables

Variables		2014			2015		
		Number of students	Operating income-operating expense	Asset & liability income-Asset & debt expense	Number of students	Operating income-operating expense	Asset & liability income-Asset & debt expense
Number of students	P	1	.495**	-.657***	1	.582***	-.875***
	N	121	121	121	121	121	121
Operating income-operating expenditure	P	.495***	1	-.696***	.582***	1	-.856***
	N	121	121	121	121	121	121
Asset & debt income-Asset & debt expenditure	P	.657***	-.696**	1	-.875***	-.856***	1
	N	121	121	121	121	121	121

***. The correlation is significant at 0.01 level (both sides)

The correlation between variables was statistically significant at the p = .000 level. In both 2014 and 2015, the number of students and the difference between operating income and operating expenses showed a static relationship. The number of students and the difference between the income of the assets and debt and the expenses of the assets and debt were

negative. The difference between operating income and operating expenses and the difference between asset and debt income and asset and debt expenses were negative.

4. Results

4.1. Trends in university finance changes (2009~2015)

[Figure 1] and [Figure 2] show the trends in operation income and expense for universities from 2009 to 2015. The financial unit is 1 billion won. The tuition income for private universities remains at the same level without any change as the government's restriction policy on tuition increase lasted for 7 years. The results illustrate the financial difficulties of private universities in view of the 3% GNP growth in Korea. The reason for this expenditure increase is the large expansion of the research student expenses to meet the evaluation index of the university financial support project after 2011.

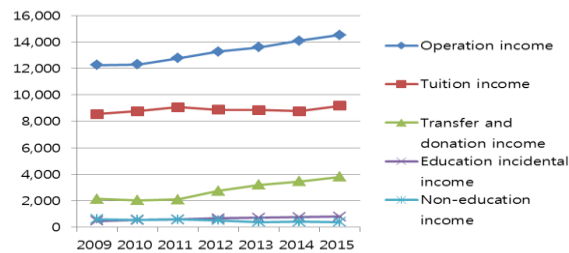


Figure 1. Operation income changes

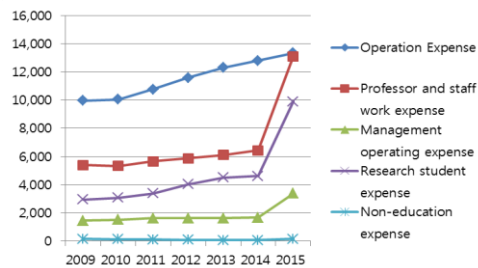


Figure 2. Operation expense changes

[Figure 3] shows that the asset and debt income continue to increase. Meanwhile, the asset and debt expenses continued to decline from 2009 to 2015. This shows a reduction of the difference between the asset and debt income and the asset and debt expense each year. The financial unit is 1 billion won.

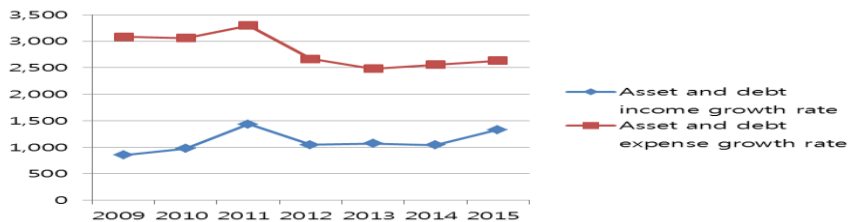


Figure 3. Asset and debt income and asset and debt expense changes

4.2. The effects of the university restructuring on the financial changes

[Table 5] shows the detailed changes in operating revenues and operating expenses since the university restructuring was promoted. The tuition income decreased by -1.0% due to a decrease in the number of enrolled students and the freezing of university tuition. In addition, the non-education income decreased by -23.0%. On the other hand the transfer and donation income and the education incidental income increased by 7.5% and 3.8%. The increase in the transfer and donation income is due to the increase in government subsidies and corporate deposits, despite the decrease in donation income and revenue-making business. The tendency to decrease donation income and industry-academia-government cooperation payments for private universities’ funding diversification has led to increased reliance on government finance by private universities.

Meanwhile, overall operating expenses have increased. In detail, the professor and staff work expenses increased by 2.6%, the research student expenses by 3.2%, the management operating expenses decreased by -1.0% and the non-education expenses decreased by -19.4%. These results are explained by the fact that expense is concentrated on costs related to university evaluation, such as professor and staff work expenses and research student expenses. Especially, the major reason for the increase of the professor and staff work expenses is that the university is recruiting professors to improve scores in the evaluation of university restructuring. In addition, the asset and debt income increased by 0.8%, while the asset and debt expenses decreased by -5.5%. These results show that private universities responding to the government’s restructuring are replacing the reduced operation income with increased asset and debt income.

Table 5. Changes in private university financial structure

Operation income growth rate				Operation expense growth rate			
Tuition income	Transfer and donation income	Education incidental income	Non-education income	Professor and staff work expense	Management operating expense	Research student expense	Non-education expense
-1.0%	7.5%	3.8%	-23.0%	2.6%	-1.0%	3.2%	-19.4%
Asset and debt income growth rate				Asset and debt expense growth rate			
0.8				-5.5			

[Table 6] shows the impact of the university restructuring on the differences between operating income and operating expense, and asset and debt income and expense. The university restructuring, which reduce the number of admission students in 2014, had the greatest negative impact on the difference between asset and debt income and asset and debt expense ($\beta=-.657$) and the subsequent static impact on the difference between the operation income and the operation expense ($\beta=.495$) In 2015, the negative impact of university restructuring on the difference between asset and debt income and asset and debt expense ($\beta=-.875$) and the static impact on the difference between the operation income and the operation expense ($\beta=.582$) increased.

These results show that private universities with a high dependence on university tuition have maintained university administration by supplementing the decreased tuition income with asset and debt income for two years.

Table 6. Impact of reduction of student numbers on private university finance

Year	Average number of students per university	Difference between Operation Income and Operation Expense			Difference between Asset & Debt Income and Asset & Debt Expense		
		β	R ²	F	β	R ²	F
2014	8,630	0.495	0.495	38.539***	-0.657	0.432	90.402***
2015	8,476	0.582	0.582	60.893***	-0.875	0.766	389.667***

5. Conclusions

This paper suggests that the way of government-led university restructuring through the financial support system and the university's response strategy to government mandated restructuring are affecting the financial situations of private universities in Korea. The implications of the analysis are as follows.

First, as the amount of donation income and industry-academia-government cooperation funds decreased and the government's subsidies increased, the financial structure of private universities became less dependent on tuition fees, while the reliance on government finance has increased.

Second, universities receiving penalties for university restructuring suffer from a double-faced problem, not only needing to reduce the size of enrollment, but also the difficulty of attracting students under the condition that their scholarship and student loans are not possible.

Third, the incentive way of university restructuring is limited to some universities. Universities that do not receive incentives are not finding alternatives to cover lower tuition income.

Fourth, the universities' strategy of maintaining their financial status by increasing asset and debt expense to reduce the tuition income has the effect of maintaining income in the short term, but they have a negative effect of weakening the stability of university finances.

In the future, it will be necessary to improve the quality of university education in the university structural reform policy.

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