

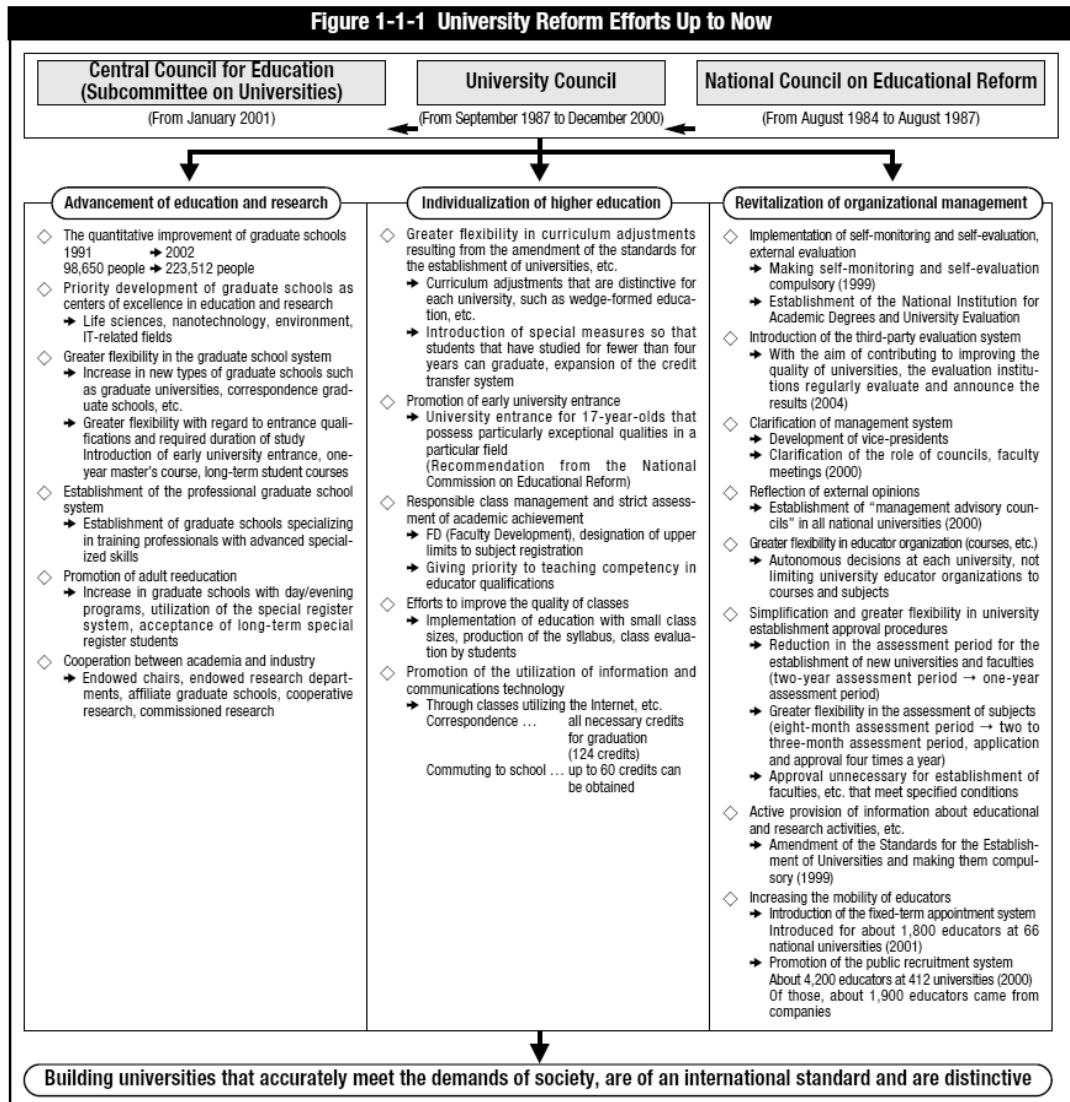
Public Funding Schemes for the Higher Education Sector in Japan: -Their Objectives and Characteristics-

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Introduction

University reforms in Japan have been accelerated since the early 1990s due to a series of policy proposals issued by the University Council, which was formulated in 1987 by the decision of the Central Council for Education. The measures of Japanese university reforms are summarized in Figure 1.

Figure 1. Summary of Japanese University Reforms



Source: MEXT (2004)

These reforms shown in Figure 1 are characterized as “deregulations and marketization measures” or “the transfer from ex-ante regulations to ex-post evaluations”. In parallel with these reforms, public funding schemes for universities were changed under the policy direction of the Ministry of Education, Culture, Sports and Technology (MEXT) and the fiscal policy of the Ministry of Finance (MOF). In this paper, I introduce the structure and reforms of the governmental funding schemes for the higher education sector, with a historical background presented in Chapter 2. I

then analyze the major public funding schemes from the viewpoint of reconciliation between their objectives and characteristics in Chapter 3. Finally, in Chapter 4, I state the challenges Japanese universities are currently facing and the future role of public funding for coping with these challenges.

Japanese 4-year Universities and their Income Sources

Japanese universities can be categorized into three sectors based on their founders who are restricted by Chapter 2 of the Japanese School Education Act: Nation, Local Authorities and School Juridical Persons.

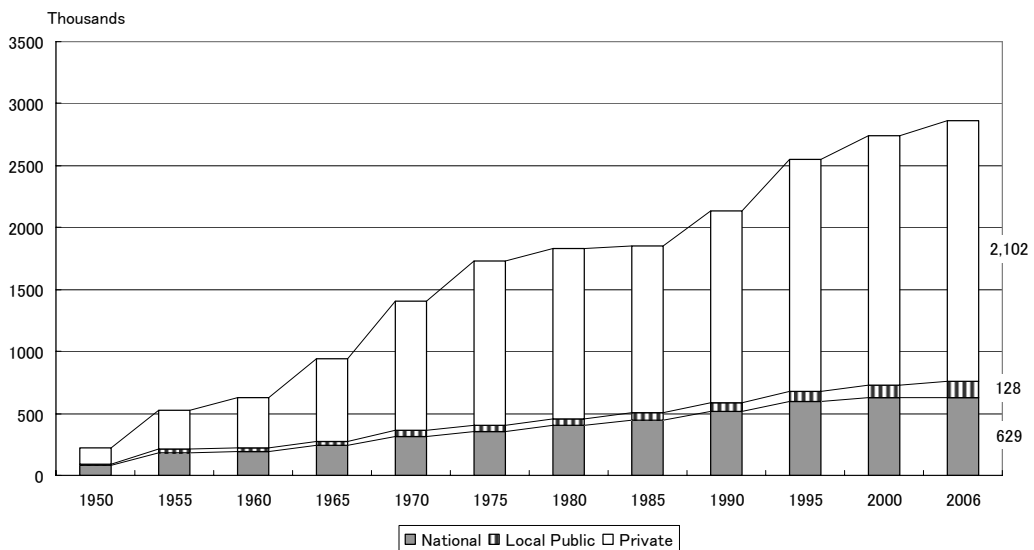
The first of these sectors is the National University Corporations (NUCs), founded by the central government. The histories of the NUCs are various; for example, 7 are former imperial universities (e.g. The University of Tokyo), 11 are ex-national universities founded before the 2nd World War (WWII) (e.g. Hiroshima University), other universities based on various types of higher education institutions founded in the ante-WWII regime and universities newly founded after WWII. The modern national universities were established mainly by re-organizing the ante-WWII institutions under the National Schools Establishment Act of 1949. They had been funded by the central government's schools special account until, in 1947, the Act of this retro-special account was abolished. Between 1947 and 1963, the national universities' operations were funded directly by the central government's general account. In 1964, the new National Schools Special Account Act came into effect, under which the national universities' personnel expenses, other operational expenses and capital expenses were budgeted from the new special account. Regarding the budgeting for the other operational expenses, this special account adopted a kind of formula-based allocation. These expenses were determined by a certain unit price per student and per teacher multiplied by the numbers of students and teachers. This formula funding continued for the remaining 36 years of the 20th century. Just prior to the incorporation of national universities, this unit-price system was abolished in the accelerated university reforms, and a bulk funding system, the Fundamental Educational and Research Fund, was introduced in 2000; however, this fund was a line-itemed budget of the special account and individual universities were strictly limited in their discretionary use of the fund. Finally, in 2004, all the national universities were incorporated at once, and a new funding scheme was introduced (see Section 2.1.). As of 2006, the number of national universities stood at 87 with a student population of 628,945.

The second sector is the Local Public Universities (LPUs), established by prefectural and municipal governments. In their early days before and during WWII, LPUs were established for enhancing women's higher education and for coping with the shortage of medical doctors in rural areas. Immediately after WWII, the General Head Quarters of the US army (GHQ) proposed to transfer the jurisdiction over all national universities from the central government to the local authorities, except in the case of several large national universities. However, the Ministry of Education strongly opposed this proposal, believing that the local authorities had insufficient management capacity and financial basis for maintaining the national universities. The proposal was therefore abandoned. Since the early 1990s, the number of LPUs has dramatically increased, from 41 in 1992 to 76 in 2006. One of the reasons for such a large increase is that local authorities' public investment, applied to stimulate the regional economy in the recession of the 1990s, can be appropriated to the building of new LPUs. Another reason might be that the proportion of elderly residents has continued to increase along with the demand for medical staff; 18 LPUs specialized in the training of nurses have been newly established since 1995. The number of LPUs students stood at 127,860 in 2006, indicating that the many LPUs are smaller than the national universities. The main financial sources of LPUs are local tax, local allocation tax and tuition fees. Among them, the local allocation tax has a special feature in Japan (see Section 2.2.).

The last sector is the Private Universities (PUs), founded by non-profit School Juridical Persons authorized by the central government and which have played a key role in rapidly expanding higher education in Japan after WWII. Morozumi (2005) divided the history of progress of the Japanese PUs into three periods. The first is the "Market-Driven Expansion" period of 1960-75. In this period, the Japanese national economy showed tremendous expansion (the growth rate of the real GDP was about 10% per year in the 1960s), and household income continued to increase, propelling the demand for higher education. However, the government had insufficient financial resources to respond to this rapidly growing demand by increasing the number of enrollment or institutions in the public sector; therefore, the Ministry of Education mitigated their regulation of increasing enrollment in existing institutions and newly establishing institutions in the private sector. During this period, the student number at PUs more than tripled from about 400,000 to over 1.3 million. The second period is the "Regulated Market" period of 1975-90. In this period, two major problems occurred in the PUs sector: their high dependence on debt finance, and their mass-production styled low quality educational environment. For coping with these problems, the

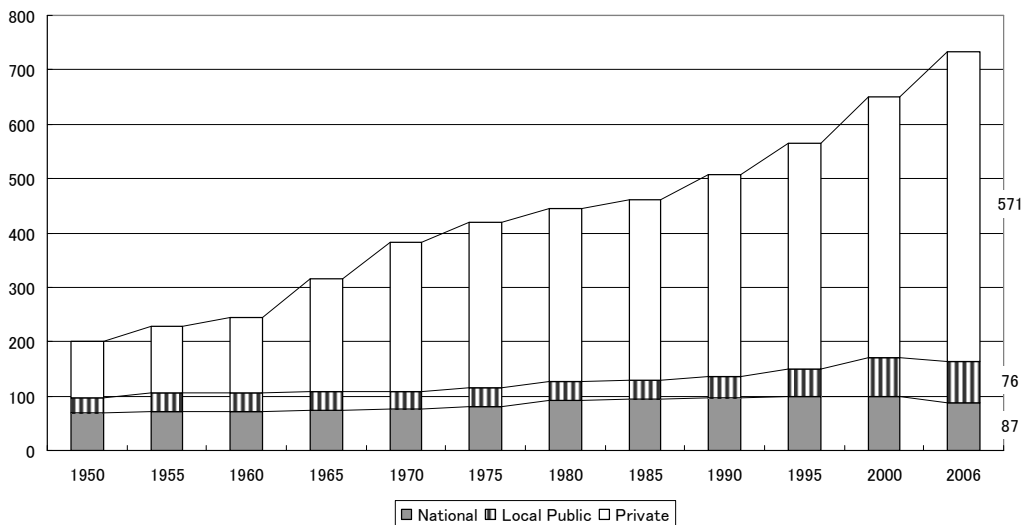
Ministry of Education introduced the important policy instruments of the Subsidies for Current Expenses (see Section 2.3.), and a restriction on the establishment of new institutions. Under these instruments, the annual averaged tuition fees for PUs increased more than three-fold from 182,677 yen (€1,107) to 615,486 yen (€3,730) in nominal term. Additionally, PUs were enabled to reserve a certain portion of their income as a basic fund for future investment in parallel with the introduction of the new subsidies system. As a result, the financial condition of PUs was improved during this time. The third period, starting in the 1990s and continuing to the present time, is that of “Deregulation and Changing Market”. In this period, the concepts of “Marketization” and “Free Competition” have been leading the university reforms, and a number of deregulations were realized. The most symbolic event in the initial phase of this period was radical revision of the Universities Establishment Standards, which allowed universities more flexible design of their educational curriculum. This revision accelerated PUs’ efforts to differentiate themselves in the higher education market under the situation of a declining population of 18-year-olds. While competition became much severer, their revenue sources have become more dependent on the tuition fees, occupying 57% of their total revenue in 2005. And, as of 2006, there are 571 PUs, with 2,102,402 students, giving them more than a 70% market share of Japanese higher education.

Figure 2. Historical Transition of Student Numbers by Sectors



Sources: MoE (1956, 1957-2001), MEXT (2002-2007)

Figure 3. Historical Transition of School Numbers by Sectors



Sources: MoE (1956, 1957-2001), MEXT (2002-2007)

In the following sections (2.1.-2.3.), I will describe in detail the main income resources for each sector.

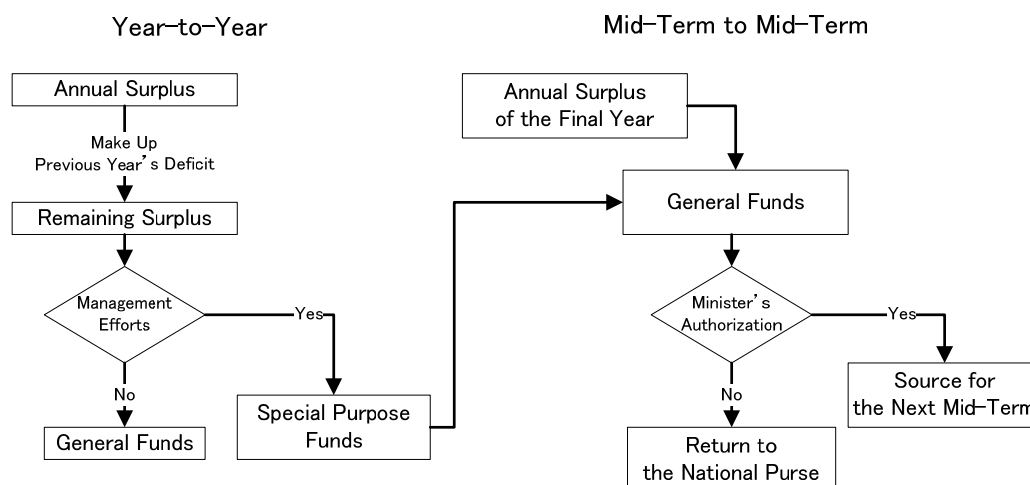
2.1. National University Corporations (NUCs)

All Japanese national universities were incorporated at once on April 1, 2004. Under the new National University Corporation Act, they became more independent bodies than before. The major characteristics of this reform can be summarized as follows:

- a) Their internal governance structure was changed to the new system in which the authority of their presidents is expanded and external experts concerning management must take part in their Administrative Council's decision-making.
- b) Medium-term (6-year) management by objectives was introduced in the NUCs. They must formulate their medium-term plans with specific achievable goals, and report progress toward these goals every year.
- c) The main financial source covering personnel and other operational costs became the block grant, allowing them to exercise much more discretion in using the public fund than they could previously under the line-item budget of the National Schools Special Account.

- d) They can bring forward their annual surplus to the next year within the medium term (6 years); additionally, they can bring forward a certain portion of the accumulated surplus, which is authorized by the Minister of Education, from the current to the next medium term. This system is described in Figure 4.

Figure 4. The Carry-forward of Surplus



Source: Sato (2005, 47-52)

Funding for Current Expenditures

The financial sources of NUCs for current expenditure are very simple. They are composed of operational grants (OGs) from the central government, the tuition fees from households/students and a small number of miscellaneous sources (the NUCs with medical schools gain revenue from their hospitals). Table 1 shows the budget for current expenditure of NUCs in 2006.

Table 1. Budget for Current Expenditure of the National University Corporations in 2006

Revenue		bil¥	mil€	
Operational Grants		1,221.5	7,403.0	55.4%
Own Revenue	Tuition and Other Fees	356.6	2,161.2	16.2%
	Revenue from Hospitals	614.5	3,724.2	27.9%
	Miscellaneous Revenue	13.0	78.8	0.6%
Total		2,205.6	13,367.3	100.0%
Expenditure		bil¥	mil€	
Education and Research Costs		1,325.4	8,032.7	60.1%
Specific Education and Research Costs		80.0	484.8	3.6%
Expenditure of Retirement and Others		143.1	867.3	6.5%
Expenditure of Hospitals		657.1	3,982.4	29.8%
Total		2,205.6	13,367.3	100.0%

Source: MEXT website

The OGs are made up of the three portions of the Standard Operational Grant (St-G), the Special Operational Grant (Sp-G) and the Operational Grant for Hospitals (Hp-G). The amount of the OG provided to each university is calculated based on the difference between its revenue and expenditure (Table 2); however, this kind of formula-based funding was carried out only in the initial year 2004, and thereafter the amount of OGs has been decided by the incremental approach.

Table 2. Calculations of the Operational Grants

Revenue	Expense
$\text{St-G} = (\text{C}+\text{D}+\text{E}+\text{F})-(\text{A}+\text{B})$ <hr style="border-top: 1px dashed black;"/> A: Tuition based on the fixed enrollment capacity B: Admission fee based on the fixed new entrants capacity	C: Administrative costs including the personnel costs of top-management and administrative staff D: Education and research costs including the personnel costs of faculty staff under the establishment standards E: Education and research costs for the affiliated primary and secondary education schools under the juridical standards F: Fundamental demands for the maintenance of the facilities
$\text{Sp-G} = (\text{I}+\text{J}+\text{K}+\text{L}+\text{M}+\text{N})-(\text{G}+\text{H})$ <hr style="border-top: 1px dashed black;"/> G: Entrance examination fee + Tuition from the enrollment over the fixed capacity + Admission fee from the new entrants over the fixed capacity H: Miscellaneous incomes	I: Item D actually necessary over the establishment standards J: Item E actually necessary over the juridical standards K: Education and research costs for the affiliated hospital including the personnel costs of faculty staff L: Research costs for the affiliated laboratories and other facilities including the personnel costs of faculty staff M: Special education and research funds which are authorized through a contestable procedure N: Costs for extraordinary factors including the retirement fees
$\text{Hp-G} = (\text{P}+\text{Q}+\text{R})-\text{O}$ <hr style="border-top: 1px dashed black;"/> O: Affiliated hospital's revenues	P: Affiliated hospital's operations and medical treatment costs including the necessary personnel costs Q: Affiliated hospital's debt servicing R: Affiliated hospital's costs for extraordinary factors

Source: Sato (2005, 22-26)

The OGs are annually increased or decreased according to two factors: several coefficients and Special Education and Research Funds.

Table 3. Coefficients Used in the Calculation of the Operating Grants

<p>Efficiency Coefficient (α): -1%/year for the education and research costs except the portion stipulated by the juridical standards.</p> <p>Education and Research Policy Coefficient (β): 0% for a while. This coefficient reflects the price index, socio-economic environment and indispensable demands in a certain situation.</p> <p>Education and Research Organization Coefficient (γ): This coefficient is applied to the establishment of new organizations.</p> <p>Facilities Space Adjustment (ϵ): This coefficient is applied to change of the NUCs' facilities space.</p> <p>Management Improvement Coefficient (λ): 2%/year applied as the virtual increase of the affiliated hospitals' revenue.</p>
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Source: Sato (2005, 27-28)

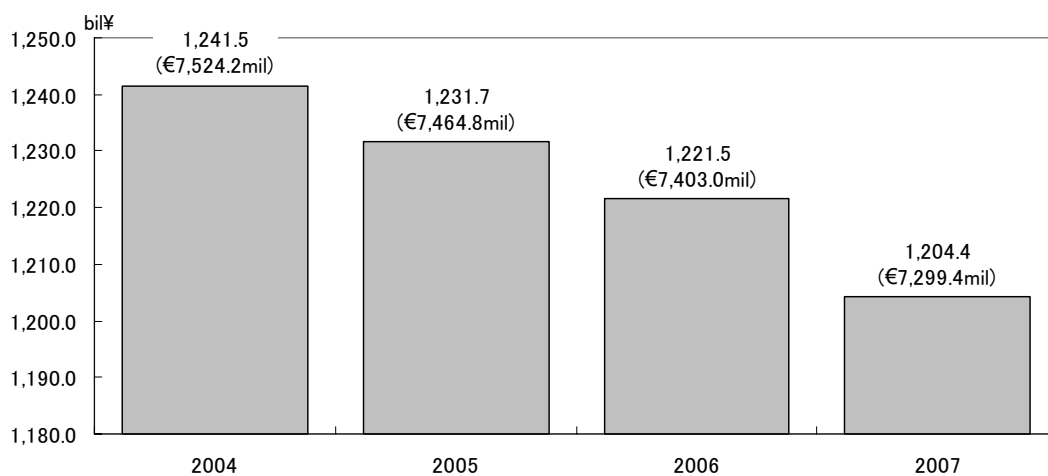
There are five coefficients used in the calculation procedure of the OGs described in Table 3, with the NUCs' attention centered on the Efficiency Coefficient (α) and Management Improvement Coefficient (λ). Before the incorporation of the national universities, the framework of the Independent Administrative Institutions (IAIs), which is the incorporation of the service-providing function separated from the policy-making function, was introduced in reforming the Ministries of the central government in 2001; from 2003 the same framework has also been applied to reforms of the quangos. In these administrative reforms, the newly established IAIs are forced to operate more efficiently than before; for example, the IAIs separated from the Ministries have been forced to reduce their operational costs by 1% per year, and the IAIs transformed from the quangos adopted an approximate 3% reduction rule. The government decided to apply the same efficiency rule to the NUCs; however, the fundamental education and research costs based on the juridical standards (D and E in Table 2) became excluded from the targets of this rule after discussion between MEXT and the MOF. Regarding the Management Improvement Coefficient, which virtually increases the affiliated hospital's revenue (O in Table 2) by 2% per year in the Hp-G calculation procedure, the government intended to promote the affiliated hospitals' efforts to increase their revenues under this rule. However, this coefficient does not affect the amount of Hp-G while there is no debt servicing expenditure (Q in Table 2)

following the construction of new medical facilities; furthermore, the costs concerning the education and research functions in the affiliated hospitals (K in Table 2) are separated from the effects by this coefficient.

The Special Education and Research Funds are provided for supporting the activities of the NUCs in the following five areas: Education Reforms, Research Promotions, Formulation of Research Centers, Cooperation with Local Authorities and Others, and Special Support for Specific Purposes. In the 2006 budget, these funds occupied 80.1 billion yen (€485.5 million) of the total OG. Every year, the NUCs apply for these funds from MEXT, and their applications are examined transparently and fairly by several commissions involving outside experts. Therefore, this portion of OG is decided through a competitive process.

After incorporation, the total amount of OG has steadily decreased, as shown in Figure 5. This trend is mainly affected by the Efficiency Coefficient.

Figure 5. Total Amount of the Operational Grants in the 2004-2007 Budgets



Source: MEXT website

Regarding the NUCs' tuition fees, the government stipulates the standard amounts as shown in Table 4. Each NUC can set its own amount at no more than 120% of the standard amount. While the NUCs have certain discretion to set their tuition, in 2007 only 6 of the 87 NUCs set their tuition lower than the standard and only 2 graduate schools set tuition higher than the standard. The standard tuition for NUCs was raised by 2.9% in 2005. The 6 NUCs mentioned above froze their tuition level at the previous standard amount. Regarding the admission fee and the entrance examination fee, none

of the NUCs set their amounts different from the standards.

Table 4. Standard Tuition Fees for the National University Corporations in 2007

Tuition: 535,800 yen (€3,247.3)
Admission Fee: 282,000 yen (€1,709.1)
Entrance Examination Fee: Undergraduate 17,000 yen (€103.0), Postgraduate 30,000 yen (€181.8), Compulsory Examination 18,000 yen (€109.1)

Source: MEXT website

Funding for Capital Expenditures

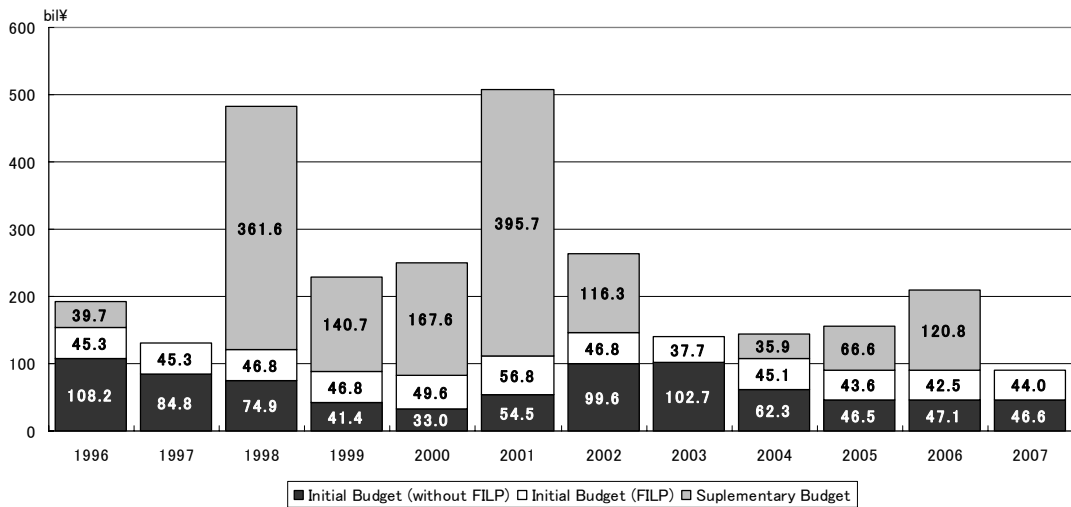
The financial sources of NUCs for capital expenditure are also very simple. Approximately 90% is composed of grants from the central government (Capital Development Funds) and loans from the Center for National University Finance and Management (CNUFM). Table 5 shows the budget for capital expenditure of NUCs in 2006.

Table 5. Budget for Capital Expenditure of the National University Corporations in 2006

		bil¥	mil€	
Educational Facilities	Transferred Funds (CNUFM)	5.6	33.9	4.4%
	Long-Term Loans (CNUFM) *Hospital	42.5	257.6	33.6%
	Capital Development Funds	41.5	251.5	32.8%
	Sub-Total	89.6	543.0	70.8%
Hospitals' Special Equipment and Others	Capital Development Funds *Purchase of Real Estate	2.9	17.6	2.3%
	Capital Development Funds *Large Equipment, etc.	7.4	44.8	5.8%
	Long-Term Loans (CNUFM) *Hospital	23.6	143.0	18.7%
	Transferred Funds (CNUFM) *Purchase of Real Estate	3.0	18.2	2.4%
	Sub-Total	36.9	223.6	29.2%
Total		126.5	766.7	100.0%

Source: MEXT website

Figure 6. Historical Trends of Government Capital Funding to the National Universities

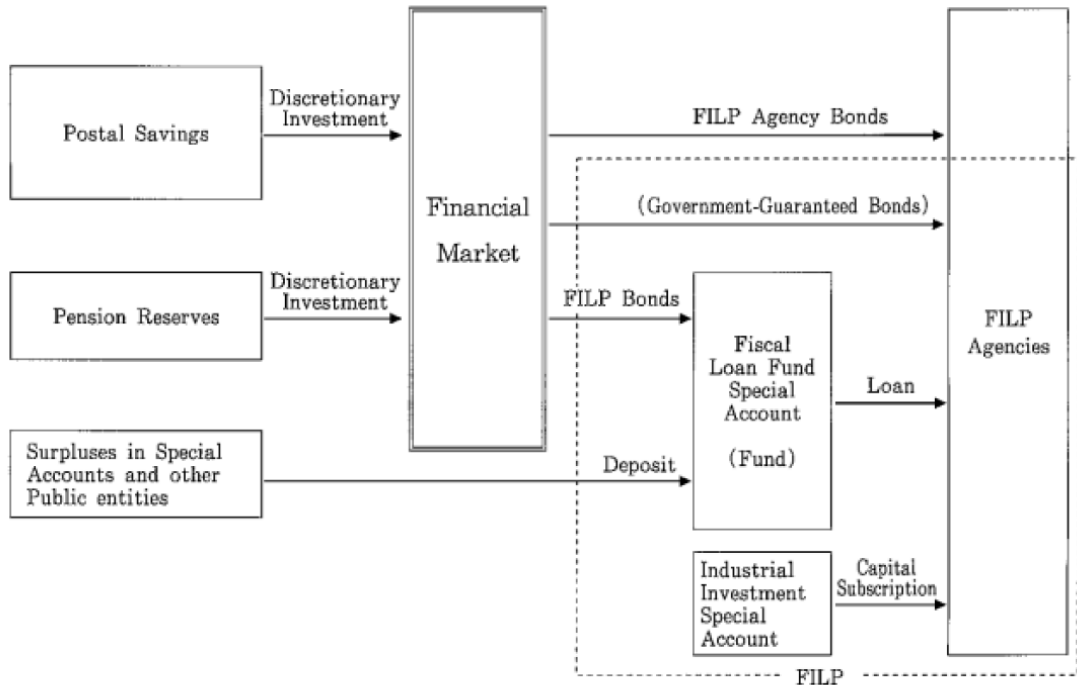


Source: MEXT Budget Request Document for 2007

Capital Development Funds (CDFs) are the main source for the NUCs' capital expenditure. The government prioritizes and distributes the CDFs among the NUCs who request the amount necessary as a part of their annual budgets to the government; however, the amount of CDFs granted has been very unstable, and the initial budget amount has been gradually declining over recent years (Figure 6). According to the results of a survey in 2006 (CNUFM 2007b, 346-352), 89.3% of NUCs responded that they have problems regarding decrepit facilities, and it is the unstableness of capital funding volume that is one of the main reasons for such problems.

The CNUFM also plays a major role in providing capital funding to the national universities, being budgeted from the Fiscal Investment and Loan Program (FILP). FILP used to be called "the Second National Budget"ⁱ and was budgeted from the compulsory deposit of the Postal Savings and the Pension Reserves; however, its system was fundamentally revised in 2001 into the scheme to raise the necessary amount by FILP bonds and FILP agency bonds from the financial market (Figure 7). The CNUFM offers long-term loan programs to NUCs that plan capital investment in constructing their own hospitals or moving their campus. The CNUFM also re-distributes the funds gained by selling the NUCs' unused lands to the NUCs that need financial resources for capital investment.

Figure 7. Post Reformed FILP Scheme



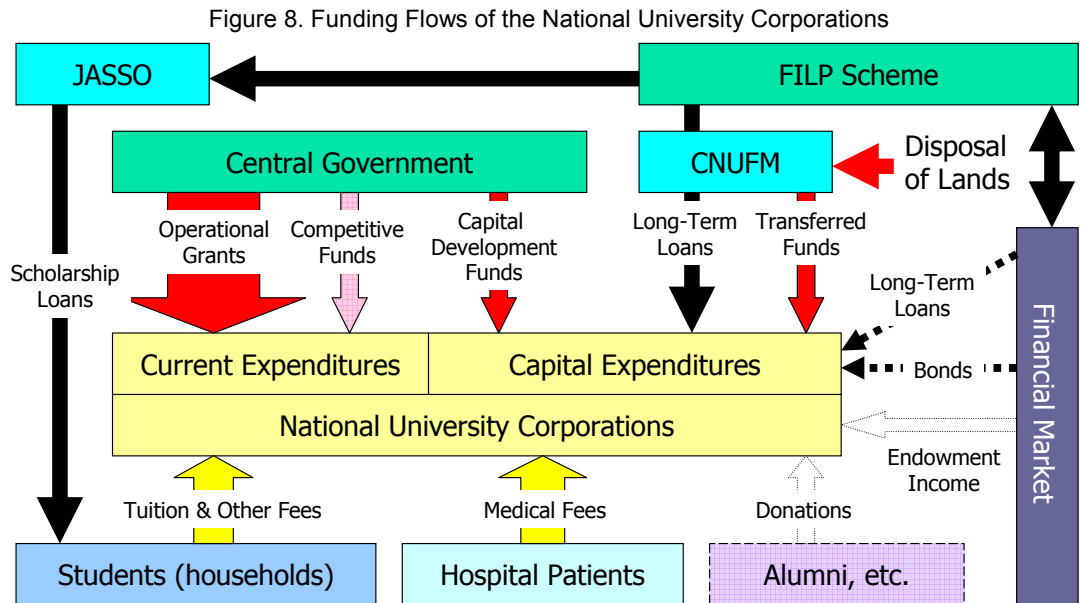
Note: The FILP includes loans to local governments from Postal Savings and Postal Life Insurance Reserves other than the flows of funds mentioned above.

Source: MOF website

As additional financial sources for the NUCs' capital investment, loans from private banks and university bonds are newly permitted under the National University Corporation Act. In the executive ordinance of this act, the following objectives are mentioned as examples: hospitals, transfer of campus, dormitories, facilities operated in collaboration with outsiders, veterinary hospitals and so forth. However, these schemes have not spread widely among the NUCs so far; only three universitiesⁱⁱ have been permitted by MEXT to use the loan programs of private banks, and no universityⁱⁱⁱ has issued bonds as of the end of September 2007.

Funding Flows of the NUCs

As a summary of this section, the flows of funds related to the NUCs are given in Figure 8.



Source: Mizuta (2007a)

2.2. Local Public Universities (LPUs)

From the financial management perspective, there are three forms of LPUs in Japan. The first is a division of its founder (a prefectural or municipal government). The LPUs of this form are treated just as a line-item in their founder's general account budget; therefore, it is difficult to understand their financial status independently. The second is a special account of its founder. This kind of LPUs manages their incomes and expenses independently; thus, their financial status is more transparent and manageable than the first form. However, they are still divisions of their founder, which means they do not have enough discretionary power over their own management. The last form of LPU is a Local Public University Corporation (LPUC). Prefectural and municipal governments were enabled to incorporate their founded universities under the Regional Independent Administrative Institutions Act of 2004. By the end of 2006, 22 corporations (involving 23 universities) had been established. The institutional design of the LPUCs is based on that of the NUCs and has the same following characteristics:

- a) Top-down management structure involving outside experts
- b) Medium-term (6-year) management by objectives
- c) Main source for operating expenditures is the block grant

Funding for Current Expenditures

The LPUs' major sources for current expenditures are the appropriation of OGs from their founders (hereafter, referred to as "General Funds (GFs)") and the tuitions fees from students/households (Table 6).

Table 6. Current Budget for the Local Public Universities in 2005

Revenue	bil¥	mil€	
General Funds from Founders	164.6	997.6	67.2%
<i>(Estimated LAT included in the above)</i>	<i>60.2</i>	<i>364.8</i>	<i>24.6%</i>
Tuition and Other Fees	77.1	467.3	31.5%
Miscellaneous Revenue	3.4	20.6	1.4%
Total	245.1	1,485.5	100.0%

*LAT: Local Allocation Tax

Expenditure	bil¥	mil€	
Personnel Costs	161.7	980.0	66.3%
Research Costs	23.8	144.2	9.8%
Students Costs	11.9	72.1	4.9%
Administration Costs	46.6	282.4	19.1%
Total	244.0	1,478.8	100.0%

Source: JAPU (2006)

The GFs are sourced mainly from their founders' local tax revenues; additionally, the Local Allocation Tax (LAT) is distributed to the founders from the central government (see Annex A). The Japan Association of Public Universities (JAPU) estimated that the LAT appropriated to the LPUs in 2005 was 60.2 billion yen (€364.8 million), which covered about one fourth of the budget revenue. This means that the financial dependence of the LPUs on the central government can not be ignored.

Regarding the tuition fees of the LPUs, there is no statutory regulation for setting each university's amount; however, most of LPUs set tuition the same as the NUCs' standard amount (only 10 of the 76 LPUs set tuition different from the NUCs' standard). Since the LPUs are operating based on local tax revenues, they usually set higher admission fees for new entrants from outside of their founders' governing regions than for those from inside (the amounts of admission fees vary among the LPUs). In terms of entrance examination fees, almost all LPUs set the amount the same as the NUCs (only 2 of the 76 LPUs set the fee higher than the NUCs). Table 7 shows the historical trend of the average tuition fees of the LPUs.

Table 7. Average Tuition Fees of the Local Public Universities

	2002	2003	2004	2005	2006
Tuition	¥496,800 (€3,010.9)	¥517,920 (€3,138.9)	¥522,118 (€3,164.4)	¥530,586 (€3,215.7)	¥535,118 (€3,243.1)
Admission Fee	¥394,097 (€2,388.5)	¥397,327 (€2,408.0)	¥397,271 (€2,407.7)	¥401,380 (€2,432.6)	¥400,000 (€2,424.2)
Entrance Exam. Fee	¥17,203 (€104.3)	¥17,200 (€104.2)	¥17,197 (€104.2)	¥17,028 (€103.2)	¥17,027 (€103.2)

Source: MEXT website

Funding for Non-Current Expenditures

Regarding the funding of the LPUs for capital investment, GF and tuition fees covered 60% of the total in 2005 (Table 8). Additionally, the Local Authorities Bonds (LA-Bonds) have an important role in funding capital projects. The founders can issue their LA-Bonds for purchasing land or constructing/renovating their facilities; however, it is necessary for the founders to have preliminary consultations with the Ministry of Internal Affairs and Communications before issuing LA-Bonds. For some special LA-Bonds, LAT is provided to the founders to cover a certain portion of their repayment of LA-Bonds.

Table 8. Non-Current Budget for the Local Public Universities in 2005

Revenue	bil¥	mil€	
General Funds from Founders	9.9	60.0	37.4%
Tuition and Other Fees	6.0	36.4	22.6%
Local Authorities Bonds	9.5	57.6	35.8%
Miscellaneous Revenue	1.1	6.7	4.2%
Total	26.5	160.6	100.0%

Expenditure	bil¥	mil€	
Construction Costs	9.6	58.2	35.4%
Rehabilitation Costs	1.5	9.1	5.5%
Equipments Costs	2.4	14.5	8.9%
Repayment of Bonds	5.0	30.3	18.5%
Other Costs	8.6	52.1	31.7%
Total	27.1	164.2	100.0%

Source: JAPU (2006)

For reference, the budget of the LPUs' affiliated hospitals in 2005 is provided in Table 9.

Table 9. Affiliated Hospitals' Budget for the Local Public Universities in 2005

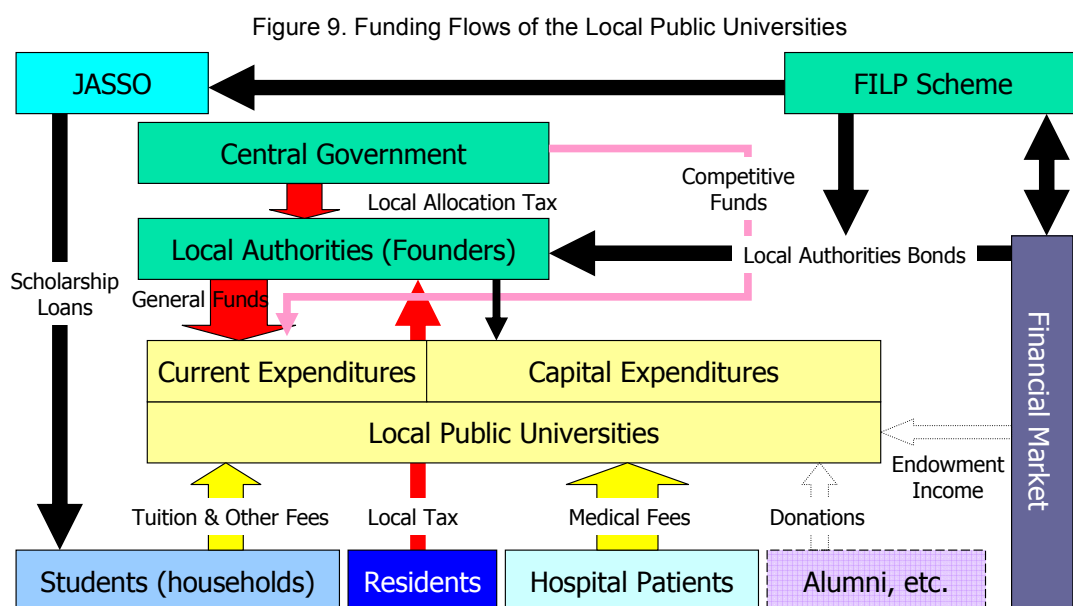
Revenue	bil¥	mil€	
Medical Fees	157.5	954.5	78.0%
Compensation from Founder	25.2	152.7	12.5%
Miscellaneous Revenue	19.2	116.4	9.5%
Total	201.9	1,223.6	100.0%

Expenditure	bil¥	mil€	
Current Costs	188.8	1,144.2	93.5%
<i>Personnel Costs included in the above</i>	<i>75.7</i>	<i>458.8</i>	<i>37.5%</i>
Non-Current Costs	13.1	79.4	6.5%
Total	201.9	1,223.6	100.0%

Source: JAPU (2006)

Funding Flows of the LPUs

As a summary of this section, the flows of funds related to the LPUs are shown in Figure 9.



Source: Mizuta (2007a)

2.3. Private Universities (PUs)

The central government adopts several policy instruments and a specific financial system for ensuring the financial health of the PUs. Firstly, the Investigating Committee for Operation of School Juridical Persons oversees the activities of the PUs.

Secondly, the PUs applying to receive Subsidies for Current Expenses for Private Universities (SCE-PUs) from the central government are required to submit their annual budget documents to MEXT. These subsidies are the most influential policy instrument and are granted to the PUs mainly through the Promotion and Mutual Aid Corporation for Private Schools of Japan (PMAC-PSJ). Since the introduction of this subsidies system in 1970, a total of 8.52 trillion yen (€51.6 billion) had been granted to the PUs by 2006. The subsidies consist of Ordinary Subsidies (about 70%) and Special Subsidies (about 30%). The former is calculated based on the numbers of faculty members and students as described in Table 10. As the table shows, several coefficients motivate the PUs to improve their educational environment (e.g. Students/Teacher ratio) and to prevent too heavy a financial burden on their students (e.g. Students Fees/Fundamental Costs ratio). The latter is a top-up of the former and reflects the actual PUs' education and research activities matching MEXT's targeted policy directions (e.g. the Promotion of Life-Long Education, The Response to Regional Educational Demands, The Promotion of Differentiation among the PUs, The Promotion of Receipt of Foreign Students, and the handicapped and so forth).

Table 10. Calculation of the Ordinary Subsidies

Ordinary Subsidy = F x (30/100 x a + 20/100 x b + 50/100 x c)												
F: Standard amount mainly based on the unit prices multiplied by the numbers of faculty members and students.												
a: Adjustment coefficient related to the percentage of the actually enrolled students relative to the fixed students capacity.												
b: Adjustment coefficient related to the number of students per faculty member.												
c: Adjustment coefficient related to the total of facilities costs and the education & research costs paid using the student fees.												
<Coefficient Table>												
	130%	120%	110%	100%	90%	80%	70%	60%	50%	40%	30%	20%
a	100	101-102 99-98	103-104 97-95	105-108 94-89	109-112 88-84	113-117 83-79	118-122 78-74	123-127 73-60	128-132 59-	133-138	139-146	147-
b	-15	16-18	19-21	22-24	25-28	29-32	33-36	37-40	41-44	45-48	49-	
c	-69	68-62	61-56	55-51	50-47	46-43	42-40	39-37	36-34	33-32	31-30	29-

Source: OECD (2006, 82-83, 217)

MEXT has a further subsidy program called “Special Assistance for Promoting the Advancement of the Education & Research of the Private Universities”, with the intention of developing world-class private universities. This program is composed of the following four areas: the Development of High-End Technology Research Centers, the Promotion of Scientific Frontiers, the Development of Open Research Centers and the Promotion of Socially Cooperative Research.

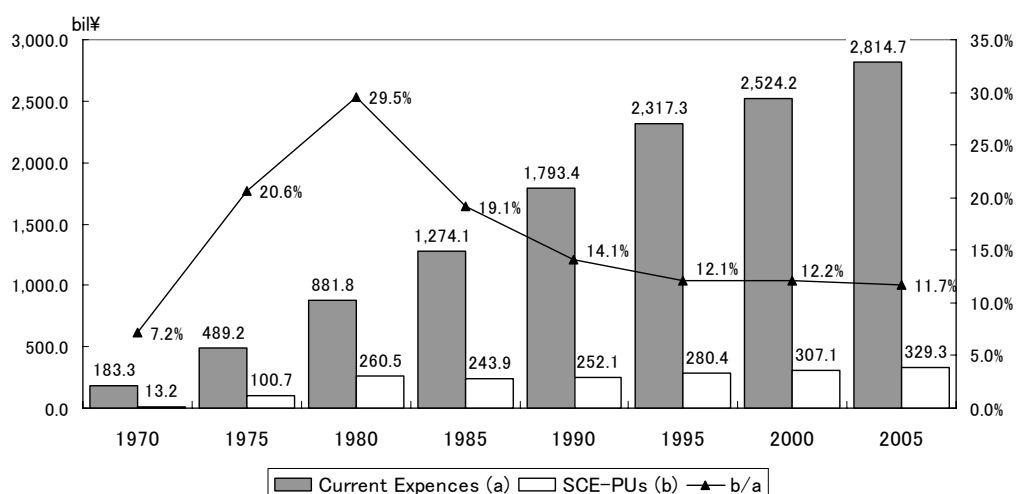
The 2006 budget of the governmental subsidies programs mentioned above is summarized in Table 11.

Table 11. Budget of the Subsidies Programs for the Private Universities in 2006

	mil¥	mil€
Ordinary Subsidies	220,379	1,335.6
<i>Full-Time Academic Staff Salary</i>	<i>133,822</i>	<i>811.0</i>
<i>Full-Time Administrative Staff Salary</i>	<i>43,185</i>	<i>261.7</i>
<i>Acadec Staff-Related Costs</i>	<i>19,298</i>	<i>117.0</i>
<i>Students-Related Costs</i>	<i>10,309</i>	<i>62.5</i>
<i>Accreditation Costs</i>	<i>138</i>	<i>0.8</i>
<i>Part-Time Academic Staff Salary</i>	<i>4,493</i>	<i>27.2</i>
<i>Staff Welfare</i>	<i>9,129</i>	<i>55.3</i>
<i>Scholarship Program</i>	<i>5</i>	<i>0.0</i>
Special Subsidies	37,160	225.2
Sub-Total	257,539	1,560.8
Special Assistance for Promoting the Advancement of the Education & Research of the Private Universities	73,711	446.7
Total	331,250	2,007.6

Source: PMAC-PSJ website

Figure 10. Current Expenses and Subsidies of the Private Universities

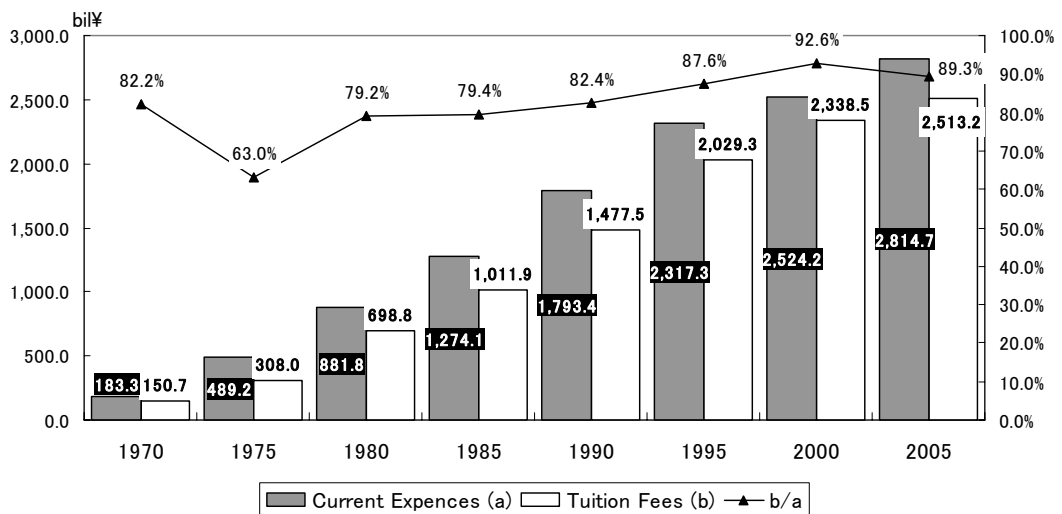


Source: APUJ (2007, 26)

These subsidies play an undeniably important role as an instrument of the government's higher education policy; however, their influence on the management of PUs has been declining since the early 1980s. Figure 10 shows the constant increase in the PUs' current expenses, the stable amounts of SCE-PUs and the declining SCE-PUs/Current Expenses ratio. Additionally, the amount of the SCE-PUs is decreased by 1% in 2007 compared with the previous year due to the government's efficiency rule for the higher education sector; this marks the first decrease in the SCE-PUs since 1984.

While the PUs' dependence on government subsidies has been reduced, they have been gradually relying more on the tuition fees for revenue (Figure 11). There is no statutory regulations regarding the PUs' tuition fees, and the PUs' average tuition fees for 2006 are shown in Table 12.

Figure 11. Current Expenses and Tuition Fees of the Private Universities



Source: MoE(1971,48, 1976,16, 1981,16, 1986,15, 1991,29),
PMAC-PSJ (2000,188, 2001,193, 2006,185), APUJ (2007, 26)

Table 12. Average Tuition Fees of the Private Universities in 2006

	Tuition	Admission Fee	Facilities Fee	Total
Social Sciences & Humanity	¥722,069 (€4,376.2)	¥262,352 (€1,590.0)	¥162,112 (€982.5)	¥1,146,533 (€6,948.7)
Natural Sciences	¥1,012,251 (€6,134.9)	¥275,924 (€1,672.3)	¥209,921 (€1,272.2)	¥1,498,096 (€9,079.4)
Medicine & Dentistry	¥3,019,852 (€18,302.1)	¥941,792 (€5,707.8)	¥1,142,091 (€6,921.8)	¥5,103,734 (€30,931.7)
Others	¥919,253 (€5,571.2)	¥293,508 (€1,778.8)	¥247,290 (€1,498.7)	¥1,460,050 (€8,848.8)
Average	¥836,297 (€5,068.5)	¥277,262 (€1,680.4)	¥194,761 (€1,180.4)	¥1,308,320 (€7,929.2)

Source: APUJ (2007, 241)

A special accounting treatment is allowed for the PUs to transfer a certain portion of their annual revenue to four kinds of Basic Fund in their net asset as reserves for their future investment.

For reference, the annual income statement of all the PUs in 2005 is given in Table 13.

Table 13. Income Statement of all the Private Universities in 2005

Revenue	bil¥	mil€	
Tuition and Other Fees	2,513.2	15,231.5	79.7%
Donations	92.1	558.2	2.9%
Subsidies from Governments	339.3	2,056.4	10.8%
Endowment Income	56.2	340.6	1.8%
Sale of School Properties	13.1	79.4	0.4%
Operating Income*	63.4	384.2	2.0%
Miscellaneous Revenue	77.4	469.1	2.5%
Total	3,154.7	19,119.4	100.0%

* The main portion of this item is university hospitals' revenue.

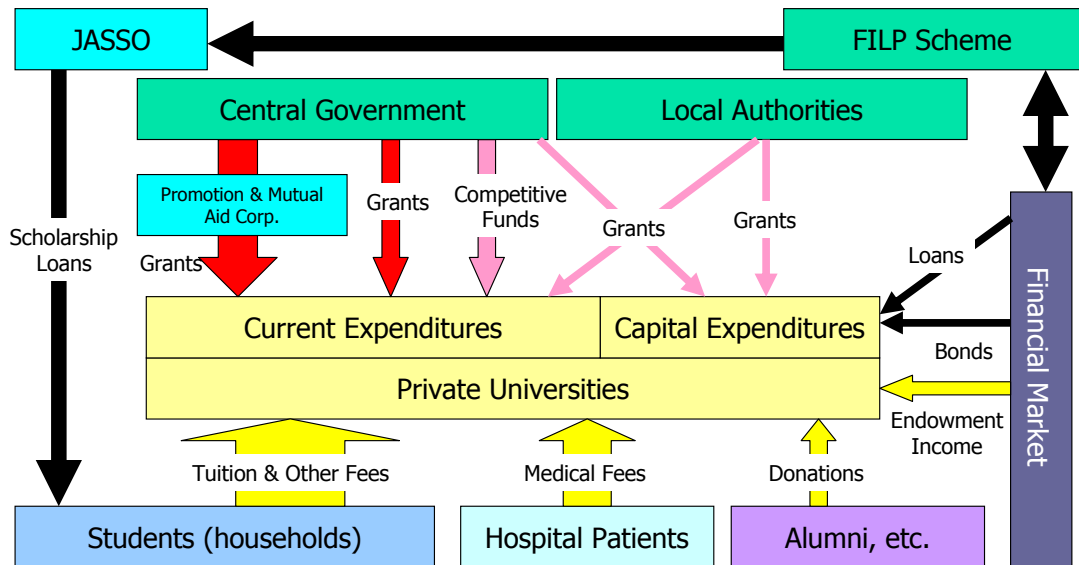
Expenditure	bil¥	mil€	
Personnel Costs	1,577.6	9,561.2	56.1%
Education & Research Costs	986.2	5,977.0	35.1%
Administrative Costs	201.8	1,223.0	7.2%
Interest Payable	10.2	61.8	0.4%
Sale of School Properties	28.6	173.3	1.0%
Provision for Uncollected Tuition and Other Fees	5.9	35.8	0.2%
Total	2,810.3	17,032.1	100.0%

Source: PMAC-PSJ (2006)

Funding Flows of the PUs

As a summary of this section, the flow of funds related to the PUs is shown in Figure 12.

Figure 12. Funding Flows of the Private Universities



Source: Mizuta (2007a)

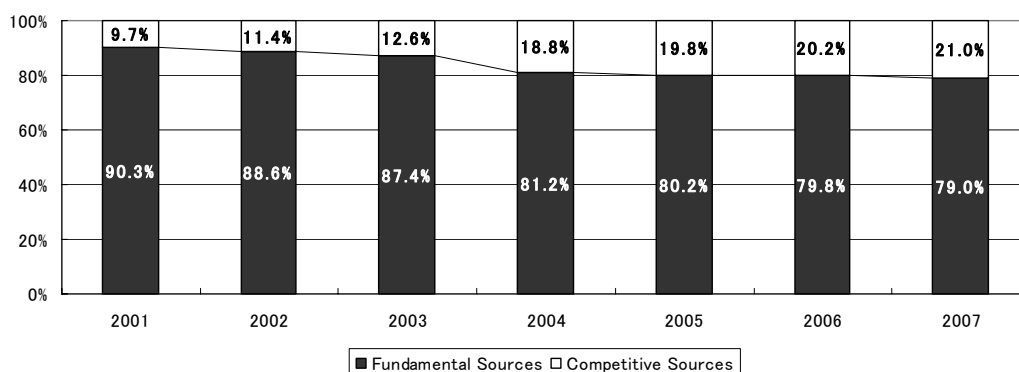
2.4. Competitive Sources and Student Aid

This section introduces the government competitive research funds and student aid programs. Mr. Bunmei Ibuki, who had been the Minister of Education until late September 2007, announced the favorable governmental direction of funding to Japanese higher education in a meeting of the Economic and Fiscal Advisory Council held on April 17, 2007 as described in Table 14.

Table 14. Necessary Support for the Promotion of Japanese University Reforms

1. It is necessary to enhance the competitive funds [e.g. the Global COE Program (about ¥60 billion) and so on] as well as to surely secure the fundamental funds [e.g. the NUCs' OG (about ¥1.2 trillion), the SCE-PU (about ¥330 billion) and so forth].
2. Regarding the concepts of “fund distribution based on institutions' efforts and results” or “more selective and concentrated fund distribution”, it is necessary to clarify the criteria of “results”, “selects” and “concentration”. We should not adopt the opinion which indicates that only the scientific research & development is efficient from the viewpoint of the contribution to the nation's economic growth. Especially, the NUCs' OG includes (1) the fund for their fundamental activities and (2) the special education and research fund; the item (1) should not simply be distributed without thinking about the actual situation of education and research inside a university, and the item (2) should be used for supporting each university's strategic direction.
3. For the government, it is favorable to pave the way by the policy assistance to enable the faculty to get more funds from private companies or individuals instead of enhancing the governmental funding to the scientific research & development directly related to the Nation's economic activities.

Source: APUJ (2007, 115)

Figure 13. Fundamental Funds and Competitive Funds^{iv}

Source: APUJ (2007, 120)

In his announcement, Mr. Ibuki tried to oppose the growing opinion calling for governmental funding for Japanese universities to be more contestable, an opinion

supported by the MOF^v as a measure of fiscal reforms. However, since the proportion of competitive research funds has been gradually increasing while the proportion of fundamental funds has been decreasing based on the government's efficiency rule (Figure 13), Japanese universities have to become adapted to a more contestable environment now and in the future.

Table 15. Major Competitive Funding Schemes by MEXT

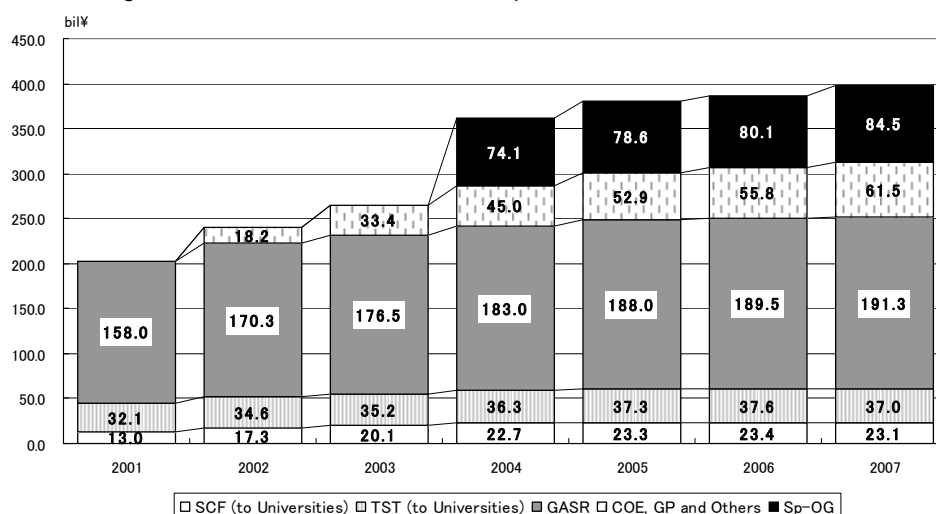
<p>1. Special Coordination Funds for Promoting Science and Technology (SCF) These funds are used for the comprehensive promotion and coordination of critical tasks necessary to promote science and technology according to the policies set forth by the Council for Science and Technology.</p> <p>2. TST Basic Research Program for Advanced Technology (TST) As part of efforts to establish a nation based on the creativity of science and technology and develop intellectual assets that contribute to the creation of new industries, funds are used to promote basic research mainly in the four priority fields by inviting research proposals from researchers in the business, academic and public sectors, based on the strategic goals set by the government considering its science and technology policy as well as social and economic needs.</p> <p>3. Grants-in-Aid for Scientific Research (GASRs) Grants are awarded with the aim of advancing scientific research in Japan by encouraging creative and pioneering work across a spectrum of fields, from the humanities and social sciences to the natural sciences.</p> <p>4. Center of Excellence (COE) “The 21st Century COE Program” carried out priority support and promotes the building of universities of the highest international standard. This program mainly provided priority support adding advanced human resources cultivation functions to research and education centers with high research potential. “The Global COE Program” took over the previous program and is progressing since 2007.</p> <p>5. Distinctive University Education Support Program (Good Practices: GP) This program is based on the indications of the necessity to diversify universities, and the necessity of incentives for universities placing priority on educational aspects, coming from all parties concerned, such as various councils related to higher education. It consists of the following two schemes: the Support Program for Distinctive University Education and the Support Program for Contemporary Education Needs.</p> <p>6. The Special Education and Research Fund included in the NUCs’ OG (Sp-OG)</p>

Source: MEXT website, MEXT (2004, 61-65)

The major schemes of competitive funding are listed in Table 15. Any universities or any researchers in any of the three sectors (NUCs, LPUs and PUs) can present research proposals to apply for these funds. Independent committees consisting of

experts in specific scientific fields evaluate the applications and select the distinguished proposals for funding. Additionally, we can see in Figure 14 that the funding volume of these schemes has been growing rapidly.

Figure 14. Historical Transition of Competitive Funds to Universities



Source: APUJ (2007, 120)

Table 16. Scholarship Loan Programs (2006 Budget)

Classification	No. loan recipients	New recipients (Included in No. loan recipients)	Loan amount (millions of yen)
Category 1 loans (Interest-free loans)	377,366	100,985	253,138
Upper secondary schools	44,225	1,514	10,445
Universities	241,403	64,575	153,129
National and local public	99,895	23,532	56,207
Private universities	129,203	34,776	89,047
Private junior colleges	12,305	6,267	7,875
Graduate schools	58,413	24,703	71,916
Master's courses (Including graduate law schools)	32,928 (3,416)	16,178 (1,300)	34,719 (3,598)
Doctoral courses	25,485	8,525	37,197
Colleges of technology	12,158	2,422	4,686
Specialized training colleges (post secondary courses)	21,167	7,771	12,961
Category 2 loans (low-interest loans)	631,287	203,078	527,840
Universities (undergraduate) and junior colleges	491,143	139,083	385,748
Graduate schools	30,057	15,302	34,415
Master's courses (Including graduate law schools)	28,204 (3,953)	14,604 (2,200)	32,275 (9,314)
Doctoral courses	1,853	698	2,140
Colleges of technology (4th and 5th year students)	428	219	311
Specialized training colleges (post secondary courses)	106,527	46,074	89,003
Increase in the Loan Amount for Entrance Preparatory Expenses	(50,000)	(50,000)	15,000
Scholarship loans for study abroad	3,132	2,400	3,362
Total amount	1,008,653	304,063	780,978

Source: JASSO (2006, 10)

As Japanese public student-aid programs, Japan Student Service Organization (JASSO) offers the following two types of scholarship loan programs (the figures are those of 2006). The source of these programs is the FILP scheme (see Figure 7 in Section 2.1.).

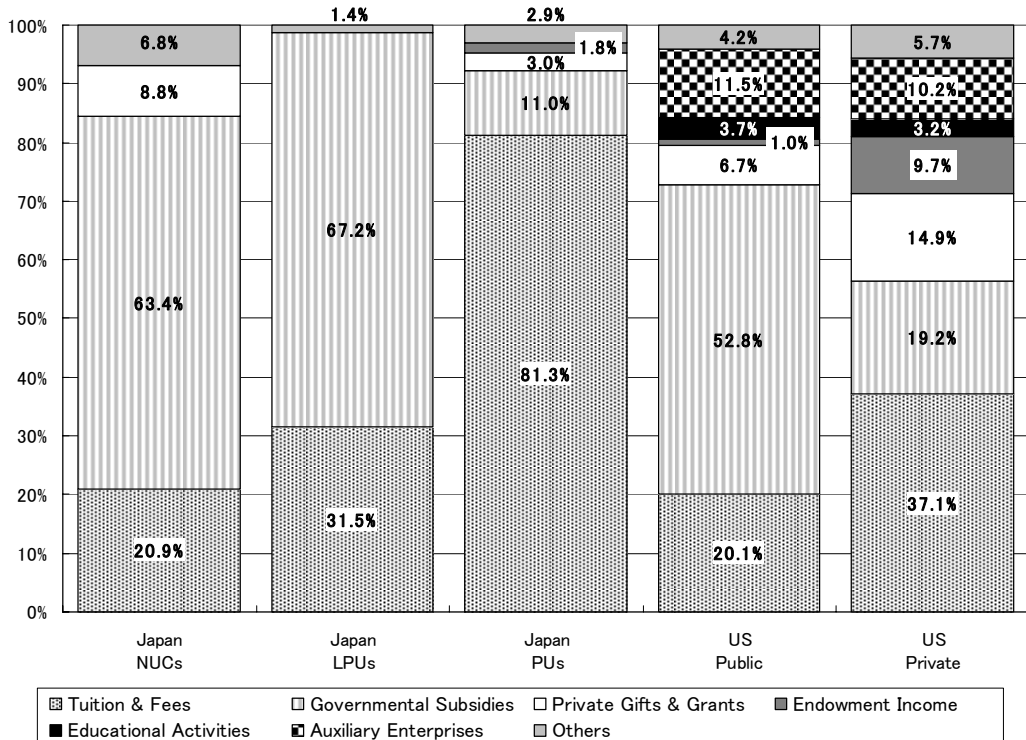
a) Category 1 (Interest-Free Loans):
253.1 billion yen (€15,339 million)
for 377,366 recipients.

b) Category 2 (Low-Interest Loans):
527.8 billion yen (€31,988 million)
for 631,287 recipients.

2.5. The Income Structure of Japanese Universities

As the end of this chapter, I now summarize the income structure characteristics of Japanese universities. As Figure 15 shows, Japanese universities are much more heavily dependent on public money and tuition fees than universities in the United States.

Figure 15. Income Structure of Japanese and American Universities

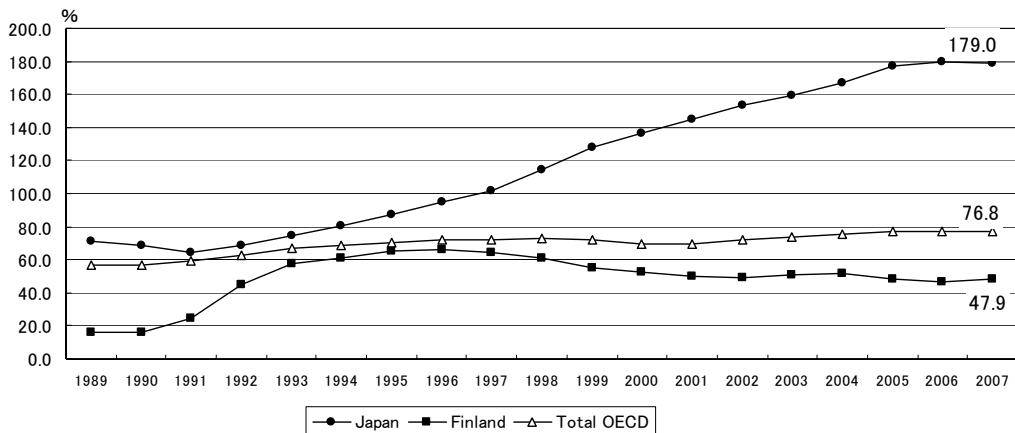


Note: All revenues from universities' affiliated hospitals are eliminated. The NUCs of Japan is based on the summarized income statement of 2005 (CNUFM, 2007). The LPUs of Japan is based on the current budget of 2005 (JAPU, 2006). The PUs of Japan is based on the summarized income statement of 2005 (PMAC-PSJ, 2006). The public universities and the private universities of the United States are based on the figures of 2002 in Table 330 and Table 347 of U.S. Department of Education (2006).

These characteristics provide us two important points of note. Firstly, the Japanese government must pay more attention to the form the allocation mechanism of public money among universities should take as well as the form the regulatory policy mechanism of tuition fees should take. These policy instruments have to match the

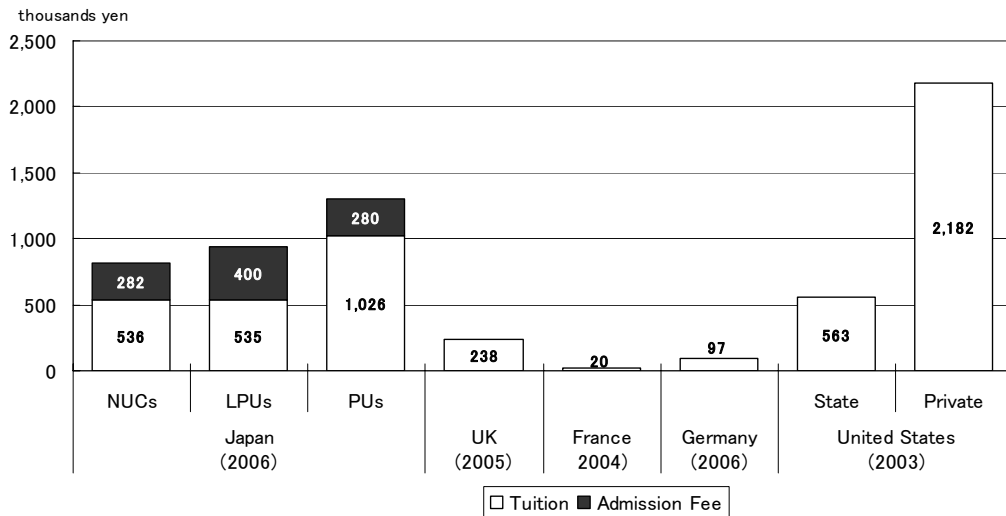
ultimate goals of Japanese higher education sector. Secondly, Japanese universities have to consider how to diversify their income sources as the universities in the United States have done. Deregulation and marketization are an inevitable current in Japanese higher education sector; therefore, the universities have to become more financially independent of public money funding and tougher at competing in the deregulated market. Furthermore, the Japanese fiscal condition is the worst among the OECD countries (Figure 16), making fiscal reform one of the most urgent policy issues. It is difficult to expect increases in public spending on the Japanese higher education sector during fiscal reform^{vi}. Although Japanese universities can think to raise their tuition fees as a means of securing necessary resources in place of public funds, their average tuition fees are already the highest among major OECD countries (Figure 17). In a shrinking market led by the declining population of 18-year-olds, the critical question is how can they become indispensable and more value-added entities in society?

Figure 16. General Government Gross Financial Liabilities (per nominal GDP)



Source: OECD (2007a, 270)

Figure 17. International Comparison of Tuition Fees



Source: MEXT (2007, 68-70)

Public Funding Schemes and their Objectives

Public funding schemes for the higher education sector have to fit the sector's ultimate policy goals (e.g. the efficiency and productivity of the institutional operations, the improvement of the educational quality, the enhancement of the competitiveness of research and so forth) as well as its necessary characteristics including transparency and fairness. In this chapter, I examine the strengths and weaknesses of several Japanese public funding schemes introduced in the previous chapter, and make some proposals for compensating their weaknesses.

3.1. Analytical Framework

As the analytical framework adopted in this chapter, I use the typology of Salmi and Hauptman (2006) and the ARC framework introduced in Mizuta (2007b).

Firstly, Salmi and Hauptman (2006) classify public funding schemes into two categories: (1) Direct Public Funding of Institutions and (2) Public Funding of Students and Families/Indirect Funding of Institutions, with the former further divided into traditional schemes and innovative performance-based schemes (Table 17). Additionally, the funding for research is separately categorized. They then examine the effectiveness of each scheme and their results are summarized in Annex B.

Table 17. The Typology of Salmi and Hauptman (2006)

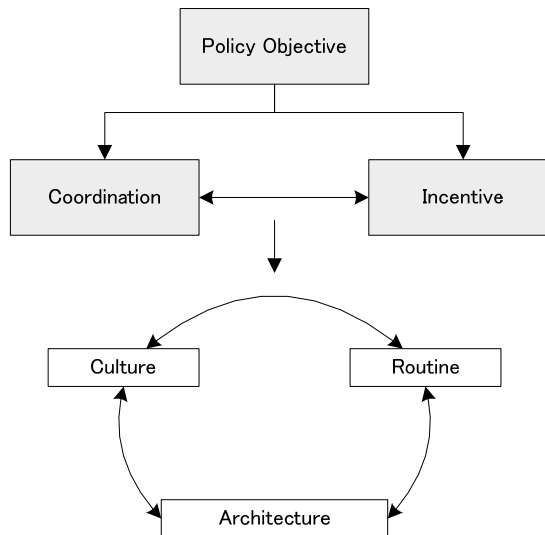
Direct Public Funding of Institutions		Public Funding of Students and Families / Indirect Funding of Institutions	
Traditional	Performance-Based	Vouchers	Student Aid / Loans
Negotiated Budgets	Performance Contracts	Demand Side Vouchers	Grants and Scholarships
Categorical/Earmarked	Performance Set-Asides		Tax Benefits
Formula Funding	Competitive Funds		Student Loans
	Payment for Results		
Funding for Research			
Instruction and research Funded Together			
Projects Peer Reviewed			
Block Grants (RAE Type and COE Type)			

Source: Mizuta (2007b, 50)

Secondly, the ARC framework stands for Architecture-Routine-Culture framework^{vii}. This framework is extended from a method for analyzing the corporate organizational structure. I describe the details of this framework as follows.

Each funding scheme has its compounded policy objectives. To achieve its main objective, each funding scheme sets the eligibility for its fund or the criteria information used; this is the function of “Coordination”. On the other hand, each funding scheme motivates institutions to act for its main policy objective; this is the function of “Incentive”. The key point of the ARC framework is that the essence of each funding scheme is defined as the relation between “Coordination” and “Incentive”. And then, the design of each scheme is described by the three factors of “Culture” (Background view of each scheme), “Routine” (Periodic decision-making and evaluation) and “Architecture” (Logic used through the decision-making procedure). This framework can be described by the diagram in Figure 18.

Figure 18. ARC Framework



- a) Policy Objective: Objective to be achieved by a funding scheme.
- b) Coordination: Participants in decision-making, Institutions, Necessary Information, Disclosure Requirement, Political Neutrality and so on.
- c) Incentive: Motivation given by a funding scheme (including a possibility of deteriorating quality).
- d) Architecture: Mechanism of deciding funding volume.
- e) Routine: Periodic events of decision-making or evaluation.
- f) Culture: Sense of value governing a funding scheme.

Source: Mizuta (2007b, 56)

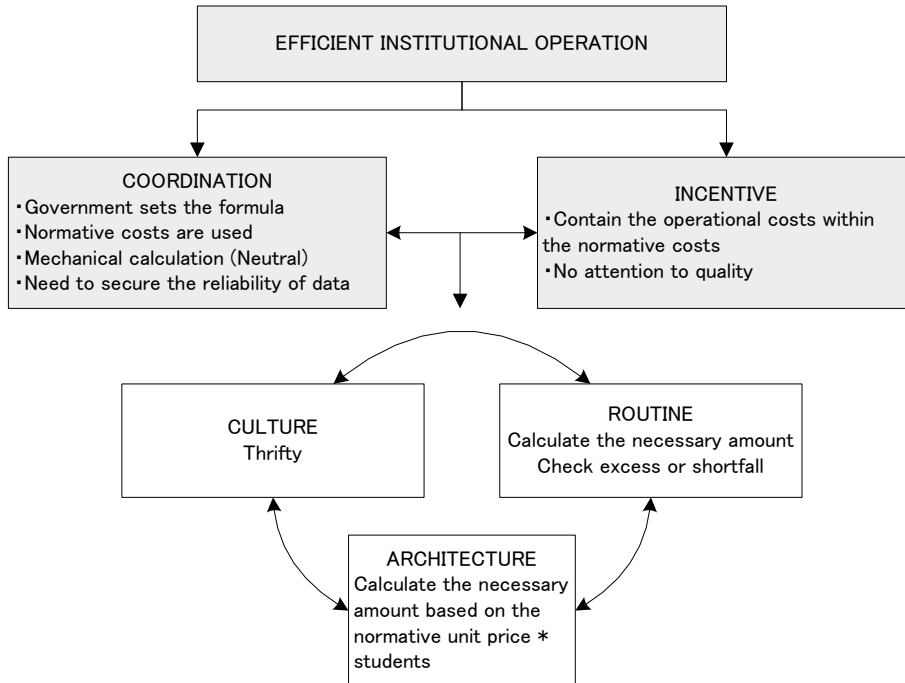
I will now examine the compatibility between the funding schemes and their objectives with regard to the Operational Grants (OGs) for the National University Corporations (NUCs), the Subsidies for Current Expenses for Private Universities (SCE-PU) for the Public Universities (PUs) and other competitive funding schemes by using the typology of Salmi and Hauptman (2006) and the ARC framework.

3.2. Operational Grants for National Universities

The OGs for the NUCs is calculated by the formula-like method described in Table 2 in Section 2.1. The Standard Operational Grant (St-G) is based on the difference between the NUCs' normative revenues and expenses; which means the formal design of St-G resembles cost-based formula funding based on normative costs/students (and

teachers). As shown in Annex B, this type of formula funding has a very positive impact on cost containment. Figure 19 shows the structure of normative cost-based formula funding drawn by the ARC framework. Its policy objective is efficient institutional operation; however, there is a lack of attention to the quality improvement of education and research.

Figure 19. Normative Cost-Based Formula Funding



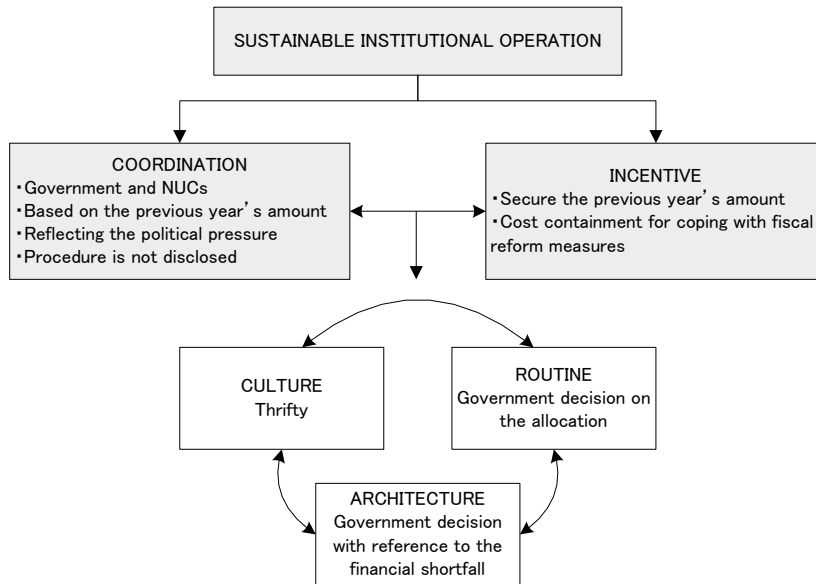
Source: Mizuta (2007b, 58)

However, the OGs also include a Special Operational Grant (Sp-G) portion which resembles the cost-based formula funding based on the actual costs^{viii}. This type of formula funding has a very negative impact on cost containment and a fairly negative impact on several other aspects as shown in Annex B. Thus, the formal design of the OGs for NUCs seems to offset the cost containment effect by the combination of the St-G and the Sp-G.

From the macro viewpoint, the total amounts of OGs have continued to decrease since the establishment of the NUCs in 2004, indicating that a thrifty culture has been secured in terms of the macro-base, with strong pressure being applied by the government's efficiency rule and other fiscal reform measures. In these circumstances, the OG seems to have become a negotiated budget system when referring to the

difference between each NUC's revenues and expenses. According to Annex B, negotiated budgets have a fairly positive impact on cost containment, but have a negative impact on several other aspects. These characteristics fit the general impression of the OG system. Figure 20 shows the structure of the OG system as a negotiated budget system using the ARC framework.

Figure 20. Operational Grants for the National Universities



Source: Mizuta (2007b, 71)

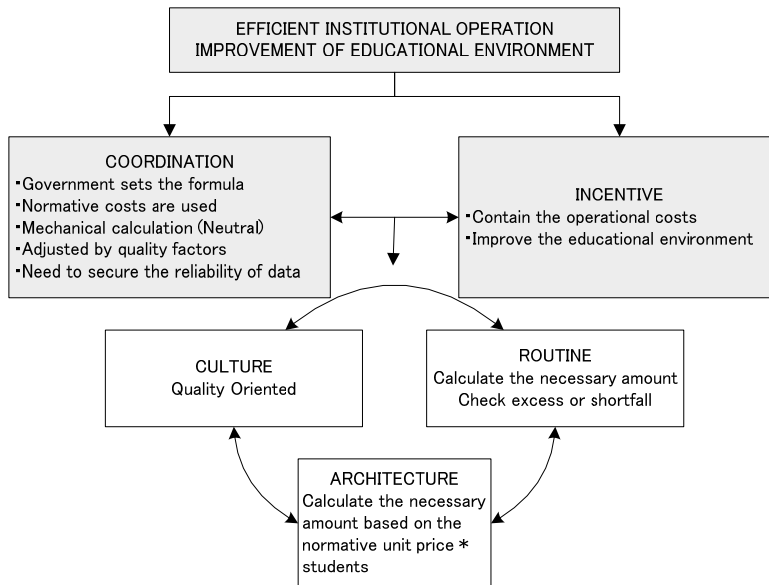
Therefore, the OG system gives only slight incentive to universities to improve the quality of their education and to enhance their research competitiveness among the NUCs at the macro level; this means other funding schemes and the internal (micro) resource allocation system play main roles in providing the incentive to reinforce the NUCs' fundamental functions of education and research.

3.3. Subsidies for Current Expenses for Private Universities

The SCE-PU is placed as a scheme of fundamental funding for the Japanese higher education sector as mentioned in Table 14, Section 2.4. The Ordinary Subsidies of the SCE-PU are calculated by the formula introduced in Table 10, Section 2.3. This formula includes quality factors as three adjustment coefficients, so we can categorize these subsidies as the cost-based formula funding based on the normative costs/students (and teachers) with regards to the quality of education. As mentioned in

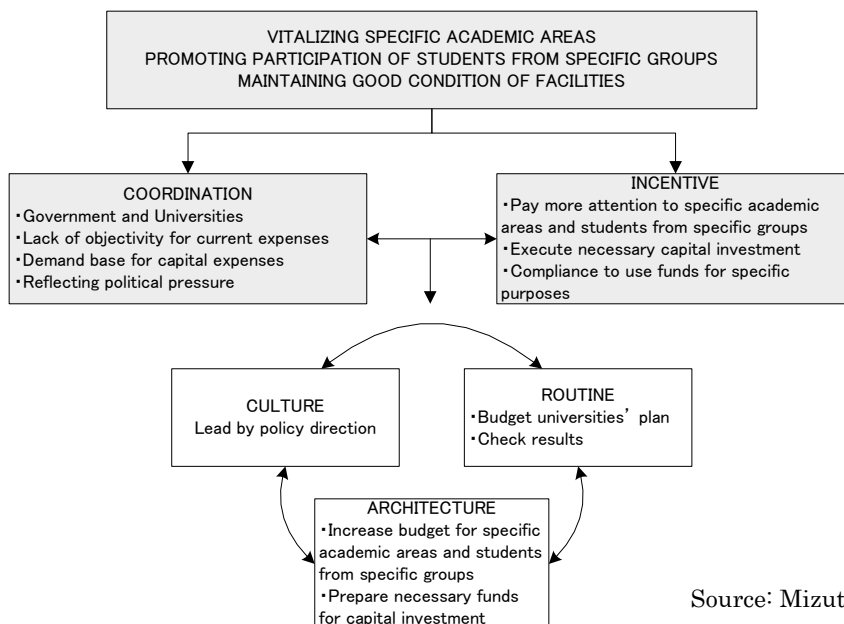
Annex B, this type of funding motivates the PUs to contain costs; additionally, they are expected to try to improve their educational environment for obtaining more funds through this formula. This effectively means the Ordinary Subsidies serve as enhanced normative cost-based formula funding as described in Figure 21 using the ARC framework.

Figure 21. Enhanced Normative Cost-Based Formula Funding



Source: Original

Figure 22. Categorical or Earmarked Funds



Source: Mizuta (2007b, 57)

As I wrote at the beginning of Chapter 2, one of the objectives for introducing the SCE-PU is to deal with the problem of the PUs' deteriorating educational environment during the Regulated Market period. This formula was designed to fit this objective. However, the budget for the SCE-PU is limited and occupies only about 10% of all the PUs' revenues. We must pay attention to the fact that the figures calculated by this formula are not the real funding volume provided to the PUs, but are just referred for the allocation of the annual fixed funding volume among the PUs by the government. Thus, we might have to think of the Ordinary Subsidies as a kind of negotiated budget referring to the PUs' demands and quality issues.

Regarding the Special Subsidies of the SCE-PU, they are typically Categorical or Earmarked Funds as well as Special Assistance for Promoting the Advancement of the Education & Research of the Private Universities provided by MEXT. They are expected to improve the relevance of the allocation of funds, as shown in Annex B, and can be drawn by the ARC framework as shown in Figure 22.

To sum up, the SCE-PU system is designed as a more quality-oriented and more policy-oriented funding system than the OGs for the NUCs; however, its influence as a policy instrument is limited since its annual volume is small for the PUs.

3.4. *Competitive Sources*

In this section, I examine the design of the competitive sources listed in Table 15, Section 2.4. Japanese competitive funding schemes for universities are all categorized as Competitive Funds^{ix} in the typology of Salmi and Hauptman (2006). Typically, universities, individual departments in universities or individual researchers in departments are invited to formulate project proposals that are reviewed and selected by committees of peers according to transparent procedures and criteria (Salmi and Hauptman, 2006, 20). The strengths and weaknesses of the Competitive Funds are summarized in Table 18 according to Salmi and Hauptman (2006).

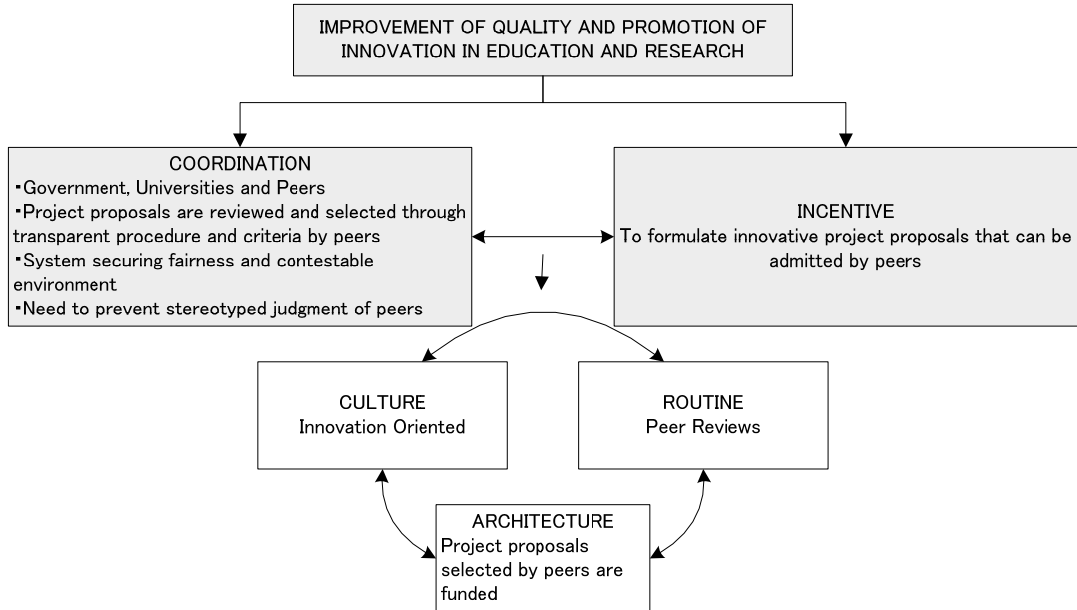
Table 18. Strengths and Weaknesses of the Competitive Funds

Strengths	Weaknesses
1. Improves quality and promotes innovation.	1. Instability (not suitable for the source of capital projects)
2. Takes account of the relevance to national and regional needs.	2. Need to formulate the system so as to secure fairness and a contestable environment.
3. Flexibility to change the eligibility and the screening criteria.	3. Need to prevent stereotyped judgment of peers.
4. Eliminates the political influences.	

Source: Mizuta (2007, 55)

These funding schemes can be drawn up as in Figure 23 using the ARC framework.

Figure 23. Competitive Funds



Source: Mizuta (2007b, 59)

As we confirmed in Figures 13 and 14 in Section 2.4, there has been an increase in the volume and the proportion of competitive funds in the government budget over recent years. This policy direction is aiming at creating a more competitive environment for Japanese universities and pressuring them to improve the quality of their education and to make their research more innovative. However, this trend seems to have caused the unexpected adverse effect in Japanese higher education sector with the efficiency pressure created by the curtailment of fundamental sources.

Conclusion: The Challenges Faced

An overview of Japanese public funding schemes to the three sectors of universities was presented in Chapter 2, along with discussion of their recent reforms and actual trends. Additionally, the strengths and weaknesses of several major schemes were analyzed in Chapter 3. As a result, we have confirmed the fact that Japanese universities under the reformed funding systems have been forced to become more economically efficient and to act in a more competitive and shrinking market while

holding more discretionary power over their finances. At this point, we should ask the following question: have Japanese universities been moving in the direction the Japanese government aimed at?

For example, the OGs, which are the NUCs' main financial source, provide them with considerable discretionary power; however, the volume of the OGs has been shrinking by means of the government's fiscal reforms (Figure 5, Section 2.1.). To cope with this situation, the NUCs have had to find other financial sources and/or contain costs within the shrinking volumes of their OGs. As a way of compensating for the reduced volume of this fundamental source, the government has given more to the NUCs from other sources (e.g. Competitive Funds) and to the university sectors via the competitive route.

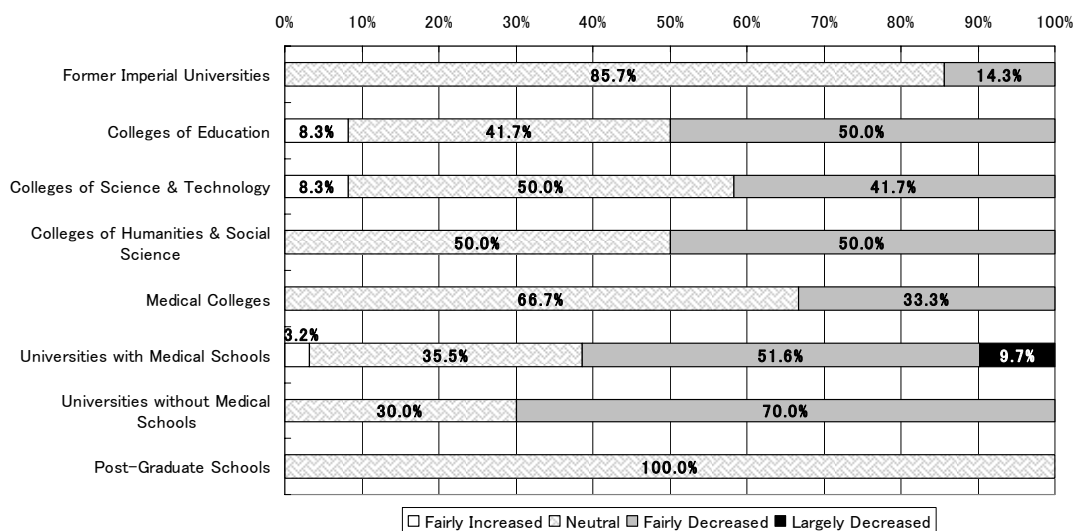
In reality, the recent series of reformed public funding schemes has widened the disparity among the NUCs. For example, the national colleges of education are concentrated on the training of new teachers for elementary and secondary education and thus tend to have less scientific research potential than research-intensive universities and must heavily depend on human resources for providing their educational services. The reforms of the public funding schemes have reduced their fundamental sources of funding, and they do not have sufficient competitiveness to gain other contestable sources for offsetting the reduction. Of course, they have more discretion over how to use the public funds than they did before their incorporation, but they must consume their funds simply to maintain minimum standards of services and can not financially afford to motivate their faculties to improve the quality of their educational services. Moreover, personnel cutbacks have already been introduced^x as a strategy for managing the financial difficulties faced and universities fear a deterioration of the quality of their fundamental functions. For if their educational quality worsens, their opportunities to gain funding from contestable sources will in turn be reduced, creating a truly vicious circle.

The several national research-intensive universities, such as the former imperial universities, are in a different situation however. They have great research potential enabling them to attract money from contestable sources, making them more competitive with time. Although these universities are also affected by the government's fiscal reforms, they can obtain sufficient funds to offset reductions in the OGs. However, another disparity exists even within this kind of university. The departments of natural sciences dealing with advanced technologies directly related to industrial applications can earn much more money from the public competitive funding schemes and the private sector than departments not directly related to

advanced technologies, such as those in the humanities, social sciences, arts and so forth. Thus, the disparity between the rich and poor departments has been widening.

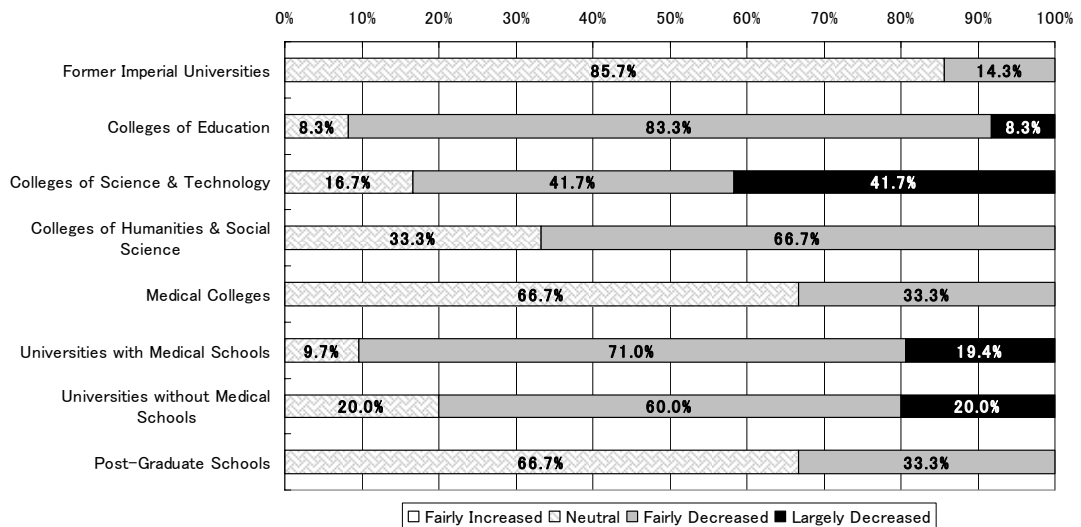
The circumstances described above are evidenced by the data and the results of several surveys. For example, in the ranking of institutions who received GASRs (see Table 15, Section 2.4.) in 2005, the top 7 places were occupied by all 7 former imperial universities, which received a total 62.0 billion yen (€375.9 million) or 41.3% of the total 150 billion yen (€909.1 million)^{xi} provided to 1,074 institutions (Endo, 2005, 193, 196). Regarding the allocation of the GASRs in 2005 among the scientific fields, biotechnology received 47.1%, other science and technology received 39.8% and humanities and social sciences received a mere 11.5% (Endo 2005, 159). It is clear that typical public competitive research funds in Japan are unevenly distributed both among the institutions including universities and among the scientific fields. Additionally, the 32 applications made by the 7 former imperial universities were all awarded funding as Global COEs in 2007 from among the total of 63 selected applications; meaning that these 7 universities occupy 50.8% of the total awarded projects (JSPS, 2007, 2-3).

Figure 24. Changes in Fundamental Educational Funds of the NUCs



Source: CNUFM

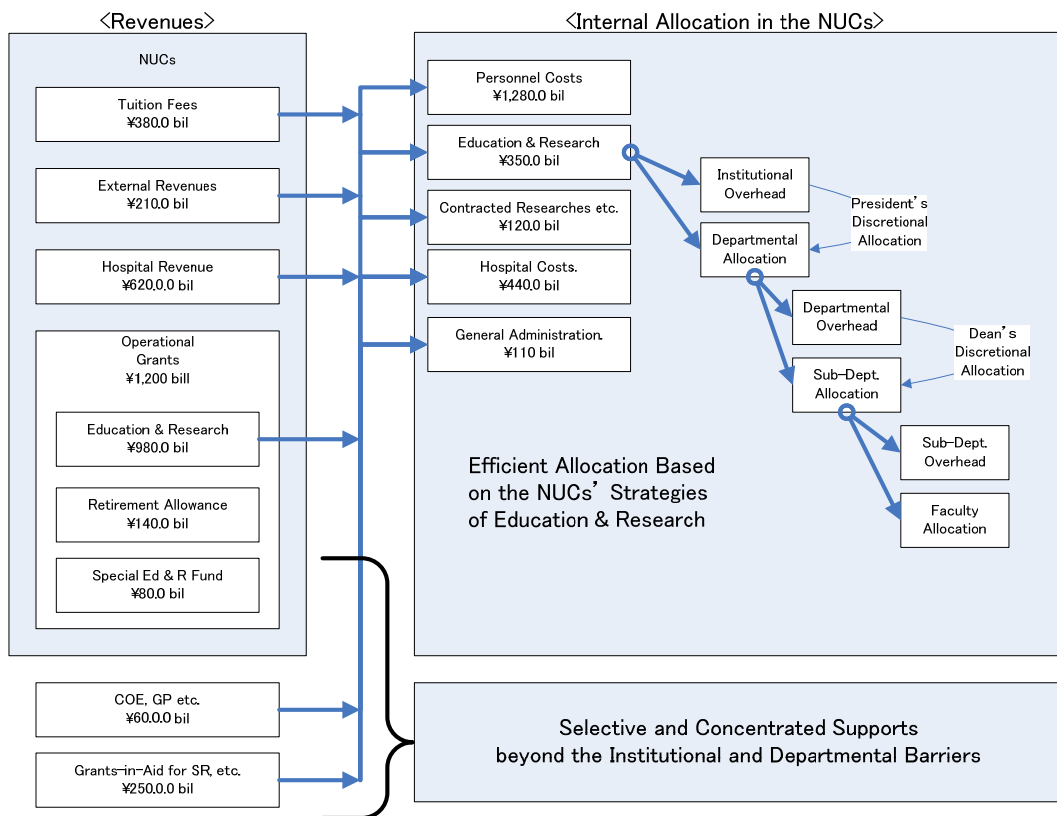
Figure 25. Changes in Fundamental Research Funds of the NUCs



Source: CNUFM

A survey on the NUCs' changes in relation to several aspects (organization and operation, finance, human resource management and facility management) caused by their incorporation was conducted by CNUFM in February 2006. The results of responses received from the Chief Finance Officers of 85 out of 87 NUCs to questions about changes to the fundamental educational funds and the fundamental research funds after their incorporation are shown in the Figures 24 and 25. As we can see from these figures, almost all the former imperial universities and the post-graduate schools have been unaffected by their incorporation in terms of increases or decreases in their fundamental funds. On the contrary, the adverse effects on the fundamental funds of the colleges of education are clear. The case is the same for universities located outside metropolitan and economically prosperous areas, which have insufficient competitiveness compared with the research-intensive universities like the former imperial universities and have also suffered a serious reduction in their fundamental funds. The surprising finding is that the colleges of science & technology have in fact suffered a serious reduction of their fundamental research funds; this situation can be explained by the fact that almost all colleges of this type are located outside the metropolitan and economically prosperous areas, so they can not recruit excellent faculty and students and do not have a enough competitiveness to obtain enough contestable resources.

Figure 26. Resource Allocation in the NUCs (based on the 2007 budget)



Source: JAPU (2007, 120)

MEXT describes the macro level resource allocation systems as connected to the micro level resource allocation systems, as shown in Figure 26. As analyzed in Chapter 3, the OG system provides a strong incentive of cost containment, so the internal allocation systems must play a major role in creating the incentives to improve quality of education and competitiveness of research. However, besides a few research-intensive universities, the NUCs can not benefit enough from the “Selective and Concentrated Support” seen in Figure 25, and they can not easily afford to introduce discretionary and contestable resource allocation systems internally to enhance their fundamental functions since their fundamental sources have been reduced at the macro level. The allocation of the OGs is scheduled to be reviewed at the end of 2009 based on the results of the NUCs’ performance evaluations of the current medium term (2004-2009). At that review, it will be necessary to take the correction of the widening disparity into account.

Regarding the PUs in Japan, in the past they shouldered the responsibility to

supply their capacity to the expanding higher education market; however, the 18-year-old population bracket peaked in 1992 and has been decreasing thereafter. In these circumstances, the PUs must compete with each other to recruit students; however, from among all PUs, the proportion of those who could not complement their capacity showed a dramatic increase from 8.0% to 30.2% during the period 1998-2001. In 2006, this proportion hit 40.4% (JAPU, 2007, 200). They have gotten more discretionary power in relation to their educational services and management, but they face the difficulty of a shrinking market. However, it should also be noted that 15.3% of all the PUs recruited more than 120% of their capacity, thus indicating another disparity in the private sector.

The public funding schemes have been remarkably reformed in the most recent series of university reforms, but the fundamental funding volume has been shrinking due to the fiscal reforms. The disparity among universities has been widening, and natural selection may start in marketization. Now is the most important time for the government to indicate the direction to follow; will it be to save the universities by policy objectives that make available public money or will it be to make them face natural selection in the marketplace?

Annex A. Local Allocation Tax System (Local Autonomy College, 2007, 30-39)

1. Function of the Local Allocation Tax

Local Allocation Tax is not a locally collected tax. It is distributed from the central government to prefectures and municipalities. Out of the 1,867 local authorities, about 92% receive Regular Local Allocation Tax from the national treasury four times every fiscal year.

The system does not impair the freedom of local authorities in carrying out their functions.

The Local Allocation Tax system is the one system which the Central Government, in order to distribute to local governments the necessary revenue to maintain an adequate level of public services, grants a certain portion of financial receipts collected as national taxes. Every year, the central government calculates the amount given to the respective local governments in proportion to their lack of revenues, taking into consideration the standardized financial receipts and demands of individual local governments.

2. Source of the Local Allocation Tax

The source of the Local Allocation Tax (LAT) is a certain percentage of the three major kinds of the central government taxes designated by the LAT Law (1950) as revenue for local authorities. The sum is allocated based on an established formula, to promote equality in local government revenues and to guarantee well-planned local government administration.

The total amount of LAT in FY2006 was calculated as the sum of the following:

A – 32% of the total yield of the Income Tax and Liquor Tax

B – 35.8% of the total yield of the Corporation Tax

C – 29.5% of the yield of the Consumption Tax

D – 25% of the yield of the Tobacco Tax

* The rate of the total yield of the Corporation Tax will change to 34% from fiscal 2007.

3. Regular Allocation Tax (RAT) and Special Allocation Tax (SAT)

LAT consists of the Regular Allocation Tax (RAT) and Special Allocation Tax (SAT). The amount of the former is 94% of the total LAT and the latter is 6%.

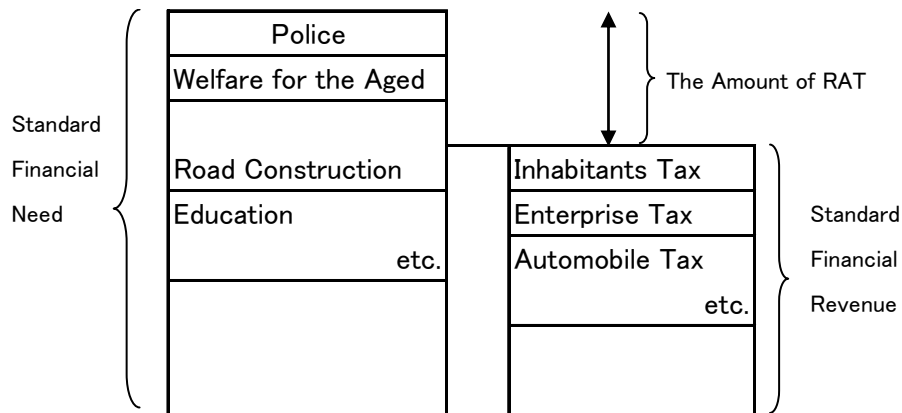
The Minister for Internal Affairs and Communications allocates the total amount of RAT to local governments whose standard levels of revenue are below that of expenditures so as to supplement the shortfall. SAT is granted to local authorities according to their extraordinary financial needs (e.g. temporary expenditures for measures taken to protect against natural disaster) that cannot be satisfied by the allocation of the RAT.

4. Allocation of the Regular Allocation Tax

The amount of RAT to be given to a local government is computed using the following formula:

$$\text{RAT} = \text{Standard Financial Need} - \text{Standard Financial Revenue}$$

Figure A-1. The Amount of RAT (Example of a Prefecture)



A. Standard Financial Need

The amount of Standard Financial Need is the total standard expenditure of a local government computed according to its respective functions, for example, police, fire defense, welfare for the aged, road construction, education, etc.

The standard expenditure for each item is computed as follows:

Specific Service Item:

$$\text{Amount of Measuring Units} \times \text{Unit Cost} \times \text{Adjustment Coefficient}$$

In other words, there are four factors in the formula.

(a) Service Item

The functions of local governments are classified to measure financial need, such as, police, fire defense, primary and secondary education, etc. Local public universities are also included as a service item.

(b) Measuring Unit

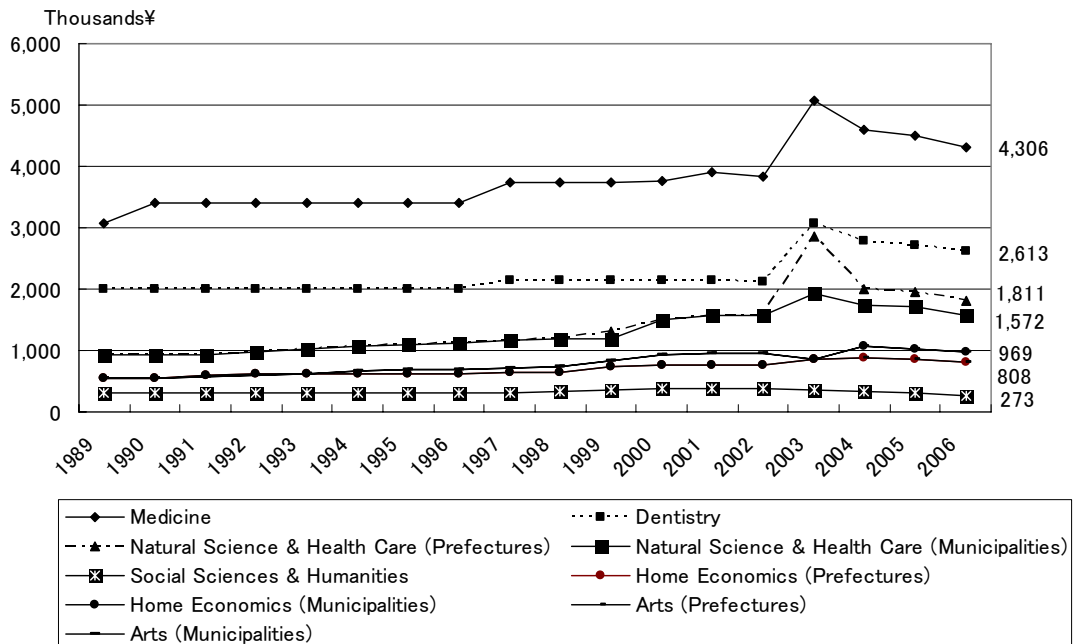
For each service item, an indicator is selected to measure the financial needs which guarantee a certain level of performance of the service. For instance, the number of police officers employed by a prefectural government is selected as the measuring unit for police protection. The number of students is the measuring unit for local public universities. In the actual computation, the amount of each measuring unit of each

prefectural authority is fixed on the basis of official statistics and other reliable sources.

(c) Unit Cost

For each measuring unit, the cost per unit (unit cost) is fixed. For instance, the unit cost for police protection is fixed at 9,408 thousand yen per police officer and road building is at 2,790 thousand yen per 1 km for fiscal 2006. The unit cost for local public universities varies among the disciplines. Figure A-2 shows the unit cost of each discipline and its historical transition. The unit cost for each item is calculated on the basis of the standard expenditures of standard-size local authorities.

Figure A-2. Unit Cost for Local Public Universities



Source: Ministry of Internal Affairs and Communications

(d) Adjustment Coefficient

The adjustment coefficient is used in order to reflect the difference in administrative costs among respective local governments with different geographical, climatic, and social conditions. For instance, the cost of road construction is much higher in northern parts of the country than in southern parts because there is much ice and snow in winter, which not only causes delays in construction work but also

requires strong road foundations.

Thus, the unit cost should properly be diminished or increased according to these conditions. However, since the unit cost is fixed, the numerical value of the measuring unit is diminished or increased instead of altering the unit cost.

B. Standard Financial Revenue

The Standard Financial Revenue is computed by a formula which reflects the financial capacities of local governments. It is the total of the estimated amount of revenue from local taxes and the like, calculated on the basis of respective standard tax rates and revenue from the Local Transfer Taxes (LTT).

The total (100%) of the LTT for each local authority is included in the calculation of its Standard Financial Revenue, whereas only 75% (from FY 2003, until then 80% (prefectural taxes) or 75% (municipal taxes)) of the total of local taxes is counted so that the remainder can be used freely to enhance the level of administrative activities in each authority.

5. Allocation of the Special Allocation Tax

SAT is complementary to RAT. Its *raison d'être* is that the RAT is, by nature, not responsive to the extraordinary financial needs of local authorities. For instance, there may be a decrease in a particular local authority's financial revenue and an increase in administrative expenditures during a particular fiscal year due to a severe natural disaster or consolidation of municipalities.

On the other hand, there can be special extra revenues accrued from the operation of lotteries, horse races, and the like. In such cases, it is not adequate to neglect the extraordinary conditions of the local authorities. The SAT is used to deal with these special conditions. The actual amount of SAT revenue to be given to individual local authorities is determined annually by the Minister for Internal Affairs and Communications (in the case of prefectures or cities) and by Prefectural Governors (in the case of town or villages).

6. Amount of Local Allocation Tax

The amount of LAT in FY 2006 was 15,995.3 billion yen (RAT 15,040.8 billion yen and SAT 954.5 billion yen), and it represented 19.1% of the local authorities. In the event that Standard Financial Revenues exceed Standard Financial Needs, which shows

that such local governments have sufficient financial resources, LAT is not allocated.

From 47 prefectures and 1,820 municipalities (with Tokyo's Special Wards counted as one municipality), only Tokyo Metropolis, Aichi Prefecture and 169 municipalities were not allocated the RAT in fiscal 2006.

7. Local Special Grants

In 1999, the system of Local Special Grants (LSGs) was started with the purpose of making up the shortfalls in local tax revenue caused by the permanent tax reduction of the tax reform in 1990. In comparison to LAT, LSGs are distributed from the Central Government to all prefectures and municipalities (including special wards).

In 2006, the system of Child Support Allowance Special Grants (CSASGs) was established to make up the shortfalls in local tax revenue caused by the fact that the national government stopped bearing the portion of child support allowance. CSASG is a kind of LSG.

Annex B. The Effectiveness of Allocation Mechanisms

A. Possible effects by policy objective							
Type of Allocation Mechanism	Access and Equity				External Efficiency	Internal Efficiency	
	Increase Level of Access	Improve Equity of Access	Promote Lifelong Learning	Private Sector Expansion	Improve Quality & Relevance	Contain Cost Growth	Increase Throughput
I. Direct Public Funding of Institutions							
1. Funding Instruction, Operations, and Investment							
1.1. Negotiated Budgets	-	-		-		+	-
1.2. Categorical/Earmarked	-				+		
1.3. Formula Funding							
i) Input-based					-	+	
 ii) Cost Based							
- Actual Costs/student			-	-	-	--	
- Average costs/student						+	
- Normative costs/student					+	++	
iii) Priority-based			+		++		
iv) Performance Components				+			++
1.4. Performance-Based Funding							
i) Performance set-asides							
ii) Performance Contracts							
iii) Competitive Funds					++		
iv) Payment for Results		+				+	++
2. Public Funding of University-Based Research							
- Funded w/instruction					-		
- Block grants					+	+	
- Projects peer reviewed			+		+	-	
II. Public Funding of Students and Families/Indirect Funding of Institutions							
1. Demand Side Vouchers	+	-	-	++		+	-
2. Grants and Scholarships							
- administered by insts				+/-			
- student aid vouchers		+		++		+/-	
- means-tested	+	+					
- merit-based		-			+		
- need and merit-based	+	+			+		
3. Tax Benefits							
- tuition fee offsets	+	-	+	+	-	-	-
- family allowances	+	+/-					
4. Student Loans							
i) Mortgage-type	+					-	
ii) Income Contingent	+	++	+			+/-	
5. Grant/Loan Arrangements							

+ = positive impact

- = negative

+/- = depends on specific program design

Source: Salmi and Hauptman (2006, 92)

Notes

- i Total amount of FILP is 28.6 trillion yen (€173.5 billion), which is scaled as 35.9% compared with 79.7 trillion yen (€482.9 billion) of the initial budget of the central government's general account in 2006.
- ii Nara Institute of Science and Technology, Tokyo University of Agriculture and Technology, Utsunomiya University
- iii Two NUCs have already gotten their credit rating: Tokyo University as AAA and Okayama University as AA+ by the end of September 2007.
- iv The competitive funds include Special Coordination Funds for Promoting Science and Technology (a portion distributed to universities), TST Basic Research Program for Advanced Technology (a portion distributed to universities), Grants-in-Aid for Scientific Research, COE, GP, Special Education and Research Fund included in the NUCs' OGs and others. The fundamental funds include the NUC's OGs excluding the Special Education and Research Fund (or the Funds from the Special Account before their incorporation) and the SCE-PU.
- v The MOF estimated the distribution of OGs among the NUCs based on each NUC's actual received amount of the grants-in-aid for scientific research and the special education and research fund in the meeting of the Fiscal System Board held on May 21, 2007; the results of its estimation showed a widening disparity among the NUCs.
- vi The Japanese government's "Public Expenditure Reform Plan 2006-2011" includes the following measures for the higher education sector: (1) the OGs for the NUCs is curtailed by 1% per year nominally under the efficiency rule, (2) for 5 years starting in 2006, the NUCs alongside all other governmental agencies must reduce their personnel costs by 5% compared with the actual costs of 2005, (3) the SCE-PU is also curtailed by 1% per year nominally under the circumstances of declining numbers of university students.
- vii ARC framework is introduced in detailed in Saloner, Shepard and Podolny (2001).
- viii The Sp-G contains the contestable portion (The Special Education and Research Fund) which is a kind of Competitive Fund presented in Annex B; therefore, the Sp-G is not simply an actual cost-based formula funding system but pays some attention to the improvement of quality and relevance.
- ix Block Grants funded to centers of research excellence exist in the typology of Salmi and Hauptman (2006); however, the Japanese COE is not included in this type because Salmi and Hauptman's definition of "center of research excellence" is not project based and is lead by the political priority for enhancing the competitiveness of the nation's strategic scientific fields.
- x They do not adopt layoffs for reducing their personnel but instead tend to stop hiring new employees to offset retirees.

xi This total amount of the GASRs mentioned in Figure 14 of Section 2.4. (188.0 billion yen in 2005) is the budgetary amount which is different from the actual amount provided to institutions in 2005 (150.0 billion yen).

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