

# HIGHER EDUCATION RESEARCH in JAPAN

English Versions of Articles Originally Published in Daigaku Ronshu



Research Institute for Higher Education  
Hiroshima University

# Higher Education Research in Japan

## English Versions of Articles Originally Published in Daigaku Ronshu

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Volume 2, March 2005

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# Higher Education Research in Japan

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Volume 2, March 2005

# **A Study on the Fixed-Term System for Faculty Members: Focusing on the Analysis of Types, Length of Term and Renewal**

**Atsunori Yamanoi\***

**Koichi Kuzuki\*\***

## **Introduction**

Structural reform of universities is commonplace in all countries. In Japan, after the regulations for personnel management were addressed in the revised *Standards for the Establishment of Universities* in 1991, the whole area of faculty employment reached a turning point with a report from the University Council in 1994. In 1995, its “University Organization and Management” subcommittee discussed and presented a framework for “the Fixed-Term Appointment of Faculty Members in Relation to the Revitalization of Teaching and Research in Universities.” In June 1997, legislation for a *Fixed-Term System for Faculty Members* (hereinafter called *the Fixed-Term Law*) was implemented. This allows each institution or unit to introduce a Fixed-Term System (FTS). The FTS legislation had two characteristics: (1) it was the first non-tenure system to be introduced in Japan; and (2) each institution or unit had to decide whether or not to introduce FTS. The form of FTS that might be introduced had to be selected by each institution: that is, one of the three types of FTS defined in *the Fixed-Term Law* could be introduced for specified positions. Necessarily, the institution would also need to use its initiative in deciding various associated matters, such as the length of term and provision for renewal of appointments. Currently, FTS has been implemented in a variety of forms. This paper reports an analysis of the present state of FTS, focusing especially on its introductory stage.

## **Framework of the Fixed-Term System Analysis**

Faculty-personnel management in Japan has had three basic characteristics: the tenure system, the seniority system, and academic exclusivism,<sup>1</sup> which are derived from aspects of Japanese culture. The right of tenure has been guaranteed even to young and junior members of faculty such as lecturers. One consequence has been that academic mobility in Japan was the lowest of all the countries in the Carnegie International Survey, as analysis by the authors showed. Overseas, various alternative policies for personnel affairs have been introduced, such as the pyramidal system of positions, probation systems, non-tenure systems, and prohibition of promotion to a professorial position within the same institution.

As interpreted in a variety of reports on personnel policy, there lies a political intention behind the trend of university reforms in Japan to revitalize universities by promoting mobility (see Figure 1, the

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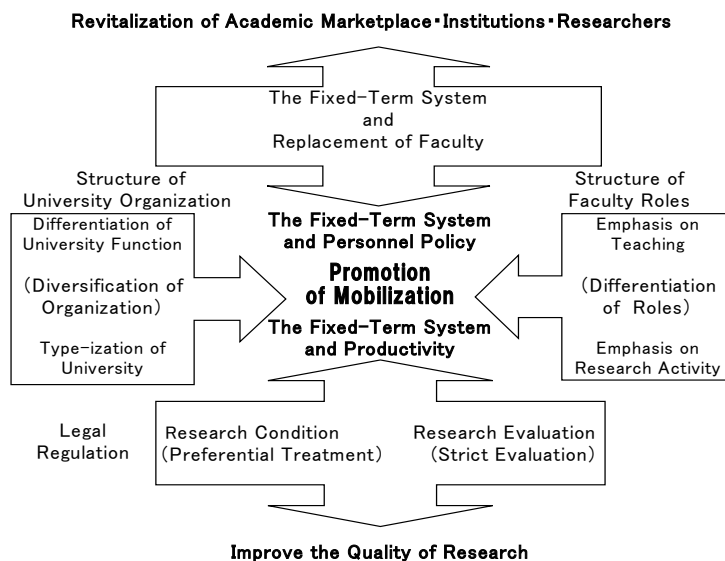
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Mobility-Academic Productivity Hypothesis). It is quite difficult to verify the Mobility-Productivity Hypothesis because it assumes a long-term reading of a trend of research achievement as well as its evaluation. The framework of this research include the following four points.

First, the relationship between the FTS and mobility needs to be verified. In the academic market, mobility adopts three forms: 1) “forced” mobility caused by growing and shrinking of the academic marketplace; 2) “exchange” mobility caused by retirement of faculty members; and 3) “pure” mobility caused by introduction of FTS. The mechanism of the third form, “pure” mobility, needs to be revealed. Second, the relationship between FTS and academic productivity needs to be clarified. In the Mobility and Productivity Hypothesis (Figure 1), the relationship between mobility and academic productivity constitutes a focal issue; but this relationship needs to be analysed before the relationship between FTS and academic productivity can be clarified. Third, the current procedures for FTS in Japan are based on university autonomy. Therefore, it must be necessary to establish what form of FTS each institution or unit has introduced. Finally, the mechanism of introduction of FTS and its future direction need to be examined. Under the bureaucratically led higher education policy in Japan, FTS is likely to be introduced, formally or informally, through political pressure, possibly in conjunction with the additional budget requests before the start of each fiscal year. On the other hand, there is a possibility that institutions could decide to introduce FTS as a means of improving academic productivity by self-evaluation.

National statistical data on FTS have been collected by MEXT.<sup>2</sup> A detailed analysis of this data is now reported in this paper. This allows us to examine the third of the above points first: what form of FTS the autonomous universities are introducing. To clarify the mechanisms leading to decisions and implementation, further survey data by means of questionnaires and interview are needed.

**Figure 1. The Model of Mobility-Academic Productivity Hypothesis**

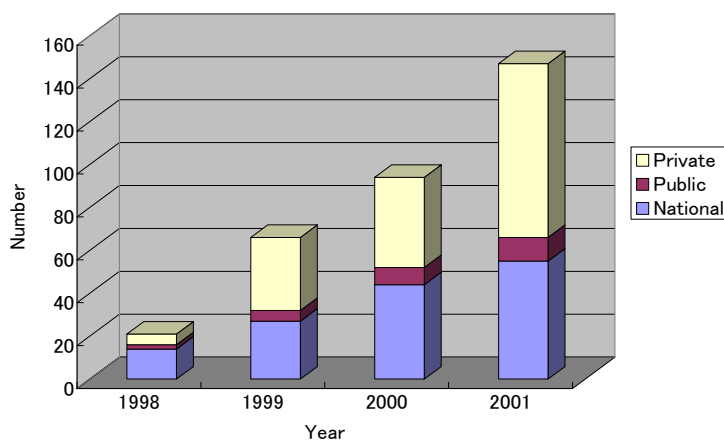


### Condition regarding the Introduction and Application of the Fixed-Term System

Since *the Fixed-Term Law* was enacted in 1997, the number of institutions as well as faculty members engaged in FTS has been increasing year by year. By August 1998, FTS had been introduced by a total of 21 institutions: 14 national universities; 2 public universities; and 5 private universities. The total number of institutions using FTS increased seven times to 147 institutions by August 2001: 55 national universities; 11 public universities; and 81 private universities (See Figure 2).<sup>3</sup> By university sector, the growth of each sector was: national universities, 3.9; public universities, 5.5; and private universities, 16.2 times respectively. Obviously, in private universities the increase is significant.

The number of universities adopting FTS amounted to around 21.3% of all the universities in Japan by August 2001. In each university sector, the percentages had increased: national universities, 55.0%; public universities, 14.9%; and private universities, 15.5%. It appears that so far FTS has been introduced mainly among the national universities.

**Figure 2. Changes in the Number of Universities Introducing FTS**



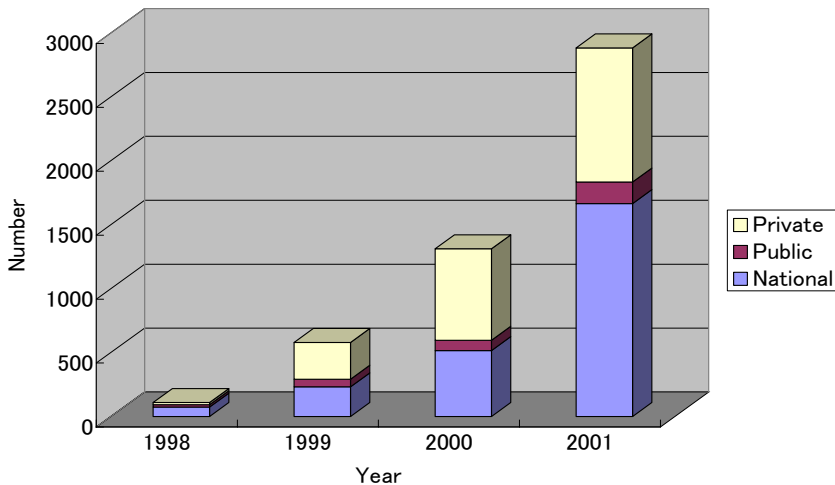
On the other hand, in terms of the number of people directly affected by FTS, the total in October, 1998 was only 99: 74 in national universities, 8 in public universities, and 17 in private universities. By August 2001, the total had increased to 2,884, an increase of around 30 times. The increased numbers were distributed: national universities, 1,666; public universities, 169; and private universities, 1,049 (See Figure 3). The growth of numbers by university sector was respectively: national universities, 22.5; public universities, 21.1; and private universities, 61.7 times. Clearly, significant increases have occurred in the numbers of both institutions and faculty members affected by FTS in the private universities.

The number of faculty members affected by FTS by August 2001 amounted to only 1.9% of the total in Japan. Although in each sector the numbers were low, they were largest in the national universities and relatively more than twice those of the private universities. Even in institutions where

FTS had been introduced, the proportion of faculty members affected amounted to only 4.5% of the total. By university sector, the level of participation was lowest for the national universities at 3.9% with public universities, 7.6% and private universities, 5.5%.

From these results, it appears that introduction of FTS has been based on different philosophies and context in each academic unit. Consequently, the diversification and actual conditions for FTS need to be analysed.

**Figure 3. Changes in the Extent of Application of FTS to Faculty Members**



### Analysis of the Fixed-Term System

As noted, the current FTS is premised on the autonomy of academic personnel management in each university. In other words, by virtue of their independence there will be a variety of decisions regarding FTS, including whether or not the system should be introduced. Further, the *Fixed-Term Law* states that institutions or units have to decide “the regulations of the Fixed-Term System for faculty members” when they introduce the system. The *Ministerial Ordinance* of MEXT prescribes the following five items to be covered in institutional regulations:

- (1) academic units;
- (2) positions;
- (3) length of term;
- (4) issues of renewal; and
- (5) other issues which each institution or unit needs.

What kind of choices has each institution or academic unit made on these items? On what philosophy and context are these choices based? Each of the items (1) to (4) needs to be analysed.

According to the analytical data, by August 2001, FTS had been introduced to 143 universities, 352 academic units, and applied to 2,842 faculty members.<sup>4</sup> Two types of data were used in the



analysis: “Unit Data” (population parameter: 352 academic units) and “Faculty Data” (population parameter: 2,842 faculty members). It is not uncommon that even though some universities or units have introduced FTS to some or all of their faculty positions, it has not really been applied to faculty members. Across Japan, such situations exist in some 14 universities. Furthermore, 67 academic units do not have members of faculty in all positions;<sup>5</sup> 146 academic units have not filled vacancies in some positions.<sup>6</sup> Therefore, it should be noted that the “Faculty Data” do not always represent accurately the effective condition of FTS in each institution or unit.

*Academic Units* Which academic units have most commonly introduced FTS? This analysis is performed for university sector, academic field and type of academic unit.

a. *University Sector* In total 352 units have introduced FTS: national universities, 166 units; public universities, 16 units; and private universities, 170 units. Although in comparison with the other two sectors there are few units implementing FTS in public universities, they cannot easily be compared because the total number of academic units in each sector is not available. However, just as an indicator, the ratio of undergraduate units with FTS at public universities to the total units in Japan<sup>7</sup> was the lowest among the three sectors: national universities, 10.8%; public universities, 4.5%; and private universities, 11.8%. If this reflects the situation generally, it may be that the ratio for FTS in public universities is the lowest of the three sectors.

b. *Academic Fields* The academic field in which FTS is most frequently located is medicine: 98 units (See Table 1). It accounts for 27.8% of all units with FTS. There is little difference among other academic fields: numbers in humanities and social science are slightly low. By university sectors, the academic fields which have mainly introduced FTS are respectively: national universities, medicine and science; public universities, interdisciplinary fields; and private universities, interdisciplinary fields, humanities and social science.

**Table 1. Academic Fields implementing FTS by University Sectors (Unit Data) (%)**

	National	Public	Private	Total
Humanities	12 (7.2)	2 (12.5)	38 (22.4)	52 (14.8)
Social Science	13 (7.8)	3 (18.8)	40 (23.5)	56 (15.9)
Natural Science	48 (28.9)	2 (12.5)	15 (8.8)	65 (18.5)
Medicine	69 (41.7)	3 (18.8)	26 (15.3)	98 (27.8)
Interdisciplinary	12 (7.2)	5 (31.1)	46 (27.1)	63 (17.9)
Others	12 (7.2)	1 (6.3)	5 (2.9)	18 (5.1)
Total	166 (100.0)	16 (100.0)	170 (100.0)	352 (100.0)

The academic field in which FTS has been applied to faculty members most frequently is still medicine, accounting for 1,801 (63.4%) of the total of 2,842 faculty members (See Table 2). In

contrast, humanities and social science are the fields with fewest faculty members affected by FTS. Irrespective of university sector, medicine is the academic field where FTS applies to the largest numbers of faculty members. This is particularly so in the national universities where the number of medical faculty members with FTS is 1,208, 74.0% of all those with FTS in the national universities. By university sector, the other fields where FTS has been most commonly introduced are: national universities, science; public universities, interdisciplinary fields and science; and private universities, interdisciplinary fields and humanities.

**Table 2. Academic Fields implementing FTS by University Sector (Faculty Data) (%)**

	National	Public	Private	Total
Humanities	35 (2.1)	11 (6.5)	140 (6.5)	186 (6.5)
Social Science	30 (1.8)	11 (6.5)	93 (8.9)	134 (4.7)
Natural Science	272 (16.7)	37 (21.9)	91 (8.8)	400 (14.1)
Medicine	1,208 (74.0)	64 (37.9)	529 (50.9)	1,801 (63.4)
Interdisciplinary	68 (4.2)	45 (26.6)	150 (14.4)	263 (9.3)
Others	20 (1.2)	1 (0.6)	37 (3.6)	58 (2.0)
Total	1,633 (100.0)	169 (100.0)	1,040 (100.0)	2,842 (100.0)

c. Types of Academic Units The academic unit in which FTS has been introduced most frequently is the undergraduate unit, 183 units, followed by the institute unit, 104 units (see Table 3). By university sector, public and private universities show the same tendency. This is especially evident at private universities, where 138 undergraduate units have introduced FTS and it accounts for 81.2% of all the total units with FTS at private universities. In contrast, at national universities, it is the institute unit where FTS has been introduced most commonly.

**Table 3. Academic Units with FTS by University Sector (Unit Data) (%)**

	National	Public	Private	Total
U-Graduate School	38 (22.9)	7 (43.6)	138 (81.2)	183 (52.0)
Graduate School	43 (25.9)	1 (6.3)	5 (2.9)	49 (13.9)
Institute	71 (42.8)	6 (37.5)	27 (15.9)	104 (29.5)
Hospital	13 (7.8)	1 (6.3)	0 (0.0)	14 (4.0)
Others	1 (0.6)	1 (6.3)	0 (0.0)	2 (0.6)
Total	166 (100.0)	16 (100.0)	170 (100.0)	352 (100.0)

Among academic units that have implemented FTS, undergraduate units are those which have the largest number of faculty members, 1,739 (61.1% of the total number of faculty members with FTS) (see Table 4). Elsewhere there is little difference between the numbers in graduate schools, research institutes and hospitals affiliated with faculties of medicine. And irrespective of the university sector, there are a large numbers of faculty members with FTS in undergraduate units. In particular, in private universities, where there are 961 and public universities, 137: these constitute 92.4% and 81.0%

respectively of all faculty members with FTS in these universities. In contrast, in the national universities substantial numbers occur in units other than undergraduate units.

**Table 4. Academic Units with FTS by University Sector (Faculty Data) (%)**

	National	Public	Private	Total
U-Graduate School	641 (39.2)	137 (81.0)	961 (92.4)	1,739 (61.1)
Graduate School	393 (24.1)	1 (0.6)	3 (0.3)	397 (14.0)
Institute	229 (14.0)	29 (17.2)	76 (7.3)	334 (11.8)
Hospital	369 (22.6)	1 (0.6)	0 (0.0)	370 (13.0)
Others	1 (0.1)	1 (0.6)	0 (0.0)	2 (0.1)
Total	1,633 (100.0)	169 (100.0)	1,040 (100.0)	2,842 (100.0)

By type of academic unit, the proportion of faculty members with FTS to all faculty members is highest in the institute unit (7.1%), followed by hospitals affiliated with a faculty of medicine (4.4%), graduate units (2.3%) and undergraduate unit (1.5%). Across all university sectors, the proportion stays highest in the institute unit. The proportion is especially high at public universities (11.2%), and is followed in second place by the undergraduate unit (1.5%). In private universities the proportion is lower than in the public universities though it shows the same tendency. In the national universities, however, it is the undergraduate unit proportion that is the lowest (2.1%) among academic units in the sequence institutes (7.2%); the hospitals (6.4%); and graduate schools (2.4%).

*Type of Position* There are constraints on the freedom of institutions and units to make decisions about FTS. The *Fixed-Term Law* restricts application of FTS to the following three types of position:

- (a) "Research Organization Type": positions that require securing of diverse human resources in advanced, interdisciplinary or integrated education and research as well as in other activities that have particular characteristics of academic fields or methods;
- (b) "Research Associate Type": positions of research associates whose main duty is researching with their own research objectives
- (c) "Research Project Type": positions in which the duties lie in educating and researching for a limited period based on a specific project established by an institution or in which an institution participates.

To introduce FTS, each university or unit has to stipulate with which of these types the position is identified.

In the following section, differences in the three types of position and the grades to which they are applied are analysed by university sectors and academic fields that are identified as attributes of academic units.

### Types of Position in the Fixed-Term System

a. University Sectors The ways in which types of position have been introduced by units are extremely varied. Some units have introduced only one type and some have used all three. The total numbers of units and the types they have employed are shown by university sector in Table 5. The type most employed is type (a) “research organization type” (235 units, 68.9%), followed by type (b) “research associate type” (110 units, 32.3%). Units employing type (c) the “research project type” amount to less than 10% (34 units) of the total units. The requirements and definitions of “research associate type” and the “research project type” are extremely precise. In contrast, for the “research organization type”, the definition in the legislation is ambiguous and could be interpreted broadly. Therefore, it is a logical conclusion that the “research organization type” has been used most. For each university sector, the type employed most is also the “research organization type”, followed by the “research associate type.” In private universities however, the proportion of units using “research organization type” is relatively low compared with those in the other sectors; there is through a relatively large number of units in the private sector that use the “research associate type” as well as the “research project type.”

**Table 5. Types of FTS by University Sector (Unit Data) (%)**

	National	Public	Private	Total
incl. Research Organization Type	131 (81.4)	11 (68.8)	93 (56.7)	235 (68.9)
incl. Research Associate Type	34 (21.1)	5 (31.3)	71 (43.3)	110 (32.3)
incl. Research Project Type	7 (4.3)	1 (6.3)	26 (15.9)	34 (10.0)

Note: Each value in the list is the total number of units on the FTS. The values in parenthesis are the rate of the total units on the FTS by university sectors.

In regard to application of FTS to faculty, 77.2% (2,194 faculty members) of the total faculty with FTS fall into “research organization type”, and 20.6% (586 faculty members) into the “research associate type” (see Table 6). Only 62 faculty members are in the “research project type”, equivalent to only 2.2% of the total. By university sector, the number of faculty in the “research organization type” is highest across all three sectors, followed by the “research associate type.” At national universities, however, there is a much bigger difference between the proportions in the “research organization type” and in the “research associate type.” At private universities, on the other hand, the difference between the “research organization type” and the “research associate type” is much narrower and the relative proportion of the latter is notably high. The proportion of the “research project type” faculty at private universities is higher than in either of the other two sectors and accounts for three-quarters (47 faculty members) of all those in this category.

**Table 6. Types of FTS by University Sector (Faculty Data) (%)**

	National	Public	Private	Total
Research Organization	1,492 (91.4)	136 (80.5)	572 (55.0)	2,200 (77.4)
Research Associate	128 (7.8)	31 (18.3)	421 (40.5)	580 (20.4)
Research Project	13 (0.8)	2 (1.2)	47 (4.5)	62 (2.2)
Total	1,633 (100.0)	169 (100.0)	1,040 (100.0)	2,842 (100.0)

b. Academic Fields Across all academic fields, the “research organization type” has been most widely used (see Table 7). Its occurrence is highest in science (82.5%), and medicine (76.3%). In contrast, usage of the “research associate type” and the “research project type” is relatively high in humanities, social science and interdisciplinary fields.

**Table 7. Types of FTS by Academic Fields (Unit Data) (%)**

	Humanities	Social Science	Natural Science	Medicine	Inter-disciplinary	Others	Total
incl. Research Organization Type	30 (58.9)	32 (61.5)	52 (82.5)	74 (76.3)	30 (49.1)	17 (100.0)	235 (69.0)
incl. Research Associate Type	22 (43.2)	21 (40.3)	11 (17.4)	28 (28.9)	28 (45.8)	0 (0.0)	110 (32.4)
incl. Research Project Type	7 (13.8)	7 (13.4)	4 (6.3)	4 (4.1)	12 (19.7)	0 (0.0)	34 (10.1)

Note: Each value in the list is the total number of units with FTS. The values in parenthesis are the proportions of the total number of units with FTS by university sector and academic field.

It is, however, highly likely that these differences among academic fields just reflect differences between the university sectors. When a triple cross-analysis with university sectors was carried out, the results showed that in the national universities, the extent of use of the “research organization type” remained relatively high in science and medicine, and of the “research associate type” and the “research project type” in humanities, social science and interdisciplinary fields. Conversely in private universities, there is little difference between the academic fields.

### The Grades of the Fixed-Term System

a. University Sectors The combinations of grade of appointment to which each unit has introduced FTS vary widely from unit to unit, and indeed all possible combinations might occur. Considering that some units do not designate specific grades, three combinations can be categorized: “research associate grade only”; “all grades including research associate”; and “grades above lecturer.” As shown in Table 8, FTS has been introduced most commonly to a “research associate grade only” (43.2%), followed in sequence by “grades including research associate” (36.4%) and “grades above lecturer” (20.5%). By university sector, national and private universities show similar tendencies. At public universities, on the other hand, the number of academic units applying FTS to “grades above

lecturer” is higher than in both of the other two categories. Therefore, it appears that public universities have intentionally applied FTS to the higher grades.

**Table 8. The Grades of FTS by University Sector (Unit Data)** (%)

	National	Public	Private	Total
grades above lecturer	26 (15.7)	6 (37.5)	40 (23.5)	72 (20.5)
grades including research associate	65 (39.2)	5 (31.3)	58 (34.1)	128 (36.4)
grade of research associate only	75 (45.2)	5 (31.3)	72 (42.4)	152 (43.2)
Total	166 (100.0)	16 (100.0)	170 (100.0)	352 (100.0)

In terms of faculty members, there are 1,682 research associates with FTS (59.1%), a number overwhelmingly greater than that for other grades in the system (see Table 9). The number of professors, 519 (18.3%) exceeds the numbers of associate professors and lecturers in the system. By university sector, in national and private universities, the numbers of research associates remain overwhelmingly larger than those of other grades, with national universities showing proportions of: 56.6% and private universities: 69.0%. In contrast, in public universities there are few differences in the numbers of faculty members with FTS by grades, and indeed FTS has been applied more to professors and associate professors than to research associates.

**Table 9. The Grades of FTS by University Sector (Faculty Data)** (%)

	National	Public	Private	Total
Professor	349 (21.4)	42 (24.9)	128 (12.3)	519 (18.3)
Associate Professor	227 (13.9)	51 (30.2)	54 (5.2)	332 (11.7)
Lecturer	133 (8.1)	36 (21.3)	140 (13.5)	309 (10.9)
Research Associate	924 (56.6)	40 (23.7)	718 (69.0)	1,682 (59.2)
Total	1,633 (100.0)	169 (100.0)	1,040 (100.0)	2,842 (100.0)

Calculating the participation in FTS with respect to total numbers of faculty members by grade gives the following percentages: research associates, 4.5%; lecturers, 1.6%; associate professors, 0.93%; and professors, 0.87%. It appears that the lower the rank, the higher its participation. By university sector, in national universities, the proportion of research associates is the highest (5.2%), followed by that for lecturers (2.4%). In private universities, although the proportions differ, the tendency is similar. For public universities, on the other hand, the participation by lecturers is the highest (2.2%), followed by that for associate professors (1.9%). Evidently, FTS has been applied mainly to upper grades, such as associate professors and lecturers at public universities, while at national and private universities it has been applied mainly to the lowest grade.

b. Academic Fields As is shown in Table 10, participation in FTS by those in the group “research associates only” is largest in interdisciplinary fields (52.4%), and least in social science (37.5%). For grades “above lecturer”, it is largest in humanities (32.7%) and least in medicine (11.2%)

**Table 10. Application of FTS by Grades and Academic Field (Unit Data) (%)**

	Humanities	Social Science	Natural Science	Medicine	Inter-disciplinary	Others	Total
grades above lecturer	17 (32.7)	13 (23.2)	14 (21.5)	11 (11.2)	9 (14.3)	8 (44.4)	72 (20.5)
grades including research associate	12 (23.1)	22 (39.3)	23 (35.4)	48 (49.0)	21 (33.3)	2 (11.1)	128 (36.4)
grade of research associate only	23 (44.2)	21 (37.5)	28 (43.1)	39 (39.8)	33 (52.4)	8 (44.4)	152 (43.2)
Total	52 (100.0)	56 (100.0)	65 (100.0)	98 (100.0)	63 (100.0)	18 (100.0)	352 (100.0)

From a triple cross-analysis with university sectors, the FTS for “research associates only” is high in humanities, social science and interdisciplinary fields in the national universities. Conversely, in private universities, it is high in science and medicine. Curiously, in both sectors, few units have introduced FTS in these fields.

*Length of Term of Appointment* In this section, faculty data are analysed for differences in the length of term by academic units and grade of appointment. Both university sectors and academic fields are characterised with regard to academic units and grades of appointment.

a. University Sectors The length of term of appointment under FTS varies from 1 to over 10 years (see Table 11). The longest term is 12 years, which the Chemical Resources Laboratory of Tokyo Institute of Technology has established for their positions of associate professor and research associate. A 5-year term is the one most commonly established (1,250 faculty members, 44.0%), followed in second place by a 3-year term (801, 28.2%). By university sector, national universities have used relatively longer terms than the others. At national universities 5-year (926 faculty members, 56.7%), 10-year (183, 11.2%) and 7-year terms (167, 10.2%) are most widely used. In public and private universities there are no faculty members with a term longer than 5-years and a large number with shorter terms. In private universities, the most common term is 3 years (600 faculty members, 57.7%), followed by 5-year (213, 20.5%) and 1-year terms (183, 17.6%). In public universities, only 3-year (58 faculty members, 34.3%) and 5-year terms (111, 65.7%)<sup>8</sup> are established.

**Table 11. Length of Terms of FTS by University Sector (Faculty Data) (%)**

	National	Public	Private	Total
1-year	40 (2.4)	0 (0.0)	183 (17.6)	223 (7.8)
2-year	63 (3.9)	0 (0.0)	28 (2.7)	91 (3.2)
3-year	143 (8.8)	58 (34.3)	600 (57.7)	801 (28.2)
4-year	68 (4.2)	0 (0.0)	16 (1.5)	84 (3.0)
5-year	926 (56.7)	111 (65.7)	213 (20.5)	1,250 (44.0)
6-year	34 (2.1)	0 (0.0)	0 (0.0)	34 (1.2)
7-year	167 (10.2)	0 (0.0)	0 (0.0)	167 (5.9)
8-year	2 (0.1)	0 (0.0)	0 (0.0)	2 (0.1)
10-year	183 (11.2)	0 (0.0)	0 (0.0)	183 (6.4)
12-year	7 (0.4)	0 (0.0)	0 (0.0)	7 (0.2)
Total	1,633 (100.0)	169 (100.0)	1,040 (100.0)	2,842 (100.0)

The 5-year term used by private universities is attributable to application of *Article 626 of Clause 1 of the Civil Law* to their faculty members. Under this provision, the employer (an “*academic juridical person*”) has the right to terminate a labour contract after five years. There is, however, no reasonable explanation of why the length of terms at public universities is constrained within 5 years or why they would concentrate on contracts of 3-year and 5-year terms.<sup>9</sup> Further investigation of these issues will require conducting surveys by questionnaire and interview in the next couple of years.

b. Academic Fields The lengths of term established for science and medicine are relatively very long, with many of them 10 years (see Table 12). On the other hand, terms longer than 5-years have rarely been used in humanities, social science and interdisciplinary fields. As noted, private and public universities have no faculty members with terms longer than 5 years. It is highly likely that these differences in length of terms among academic fields reflect the application of FTS at national universities. Consequently, a triple cross-analysis with academic sectors was performed. The results suggest that the length of terms used for science and medicine would be also longer than those for other fields in public and private universities.

**Table 12. Length of Terms for FTS by Academic Field (Faculty Data) (%)**

	Humanities	Social Science	Natural Science	Medicine	Inter-disciplinary	Others	Total
1-year	22 (11.8)	52 (38.8)	33 (8.3)	38 (2.1)	43 (16.3)	35 (60.3)	223 (7.8)
2-year	14 (7.5)	15 (11.2)	35 (8.8)	23 (1.3)	2 (0.8)	2 (3.4)	91 (3.2)
3-year	95 (51.1)	49 (36.6)	63 (15.8)	461 (25.6)	114 (43.3)	19 (32.8)	801 (28.2)
4-year	3 (1.6)	1 (0.7)	17 (4.3)	52 (2.9)	11 (4.2)	0 (0.0)	84 (3.0)
5-year	52 (28.0)	16 (11.9)	185 (46.3)	915 (50.8)	80 (30.4)	2 (3.4)	1,250 (44.0)
6-year	0 (0.0)	1 (0.7)	1 (0.3)	32 (1.8)	0 (0.0)	0 (0.0)	34 (1.2)
7-year	0 (0.0)	0 (0.0)	30 (7.5)	124 (6.9)	13 (4.9)	0 (0.0)	167 (5.9)
8-year	0 (0.0)	0 (0.0)	2 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.1)
10-year	0 (0.0)	0 (0.0)	27 (6.8)	156 (8.7)	0 (0.0)	0 (0.0)	183 (6.4)
12-year	0 (0.0)	0 (0.0)	7 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	7 (0.2)
Total	186 (100.0)	134 (100.0)	400 (100.0)	1,801 (100.0)	263 (100.0)	58 (100.0)	2,842 (100.0)



c. **Grade of Appointment** Those members of faculty in senior positions generally tend to have longer terms (See Table 13). As this may just reflect the application of FTS in national universities, a triple cross-analysis with academic sectors was carried out to clarify the situation. The results suggest that public and private universities have not always established longer terms for their senior faculty members. Especially in private universities, of the total number of professors on FTS, 42.2% (54) have only a one-year term, a higher proportion<sup>10</sup> than is found for other grades.

As it was data for August 2001 that were used for the analysis in this paper, 223 members of faculty with one-year terms and 91 with 2-year terms should have already finished their terms at present.

**Table 13. Length of Terms of FTS by Grade of Appointment (Faculty Data) (%)**

	Professor	Associate Professor	Lecturer	Research Associate	Total
1-year	82 (15.8)	16 (4.8)	30 (9.7)	95 (5.6)	223 (7.8)
2-year	39 (7.5)	5 (1.5)	9 (2.9)	38 (2.3)	91 (3.2)
3-year	61 (11.8)	28 (8.4)	75 (24.3)	637 (37.9)	801 (28.2)
4-year	24 (4.6)	1 (0.3)	19 (6.1)	40 (2.4)	84 (3.0)
5-year	145 (27.9)	182 (54.8)	111 (35.9)	812 (48.3)	1,250 (44.0)
6-year	0 (0.0)	15 (4.5)	0 (0.0)	19 (1.1)	34 (1.2)
7-year	11 (2.1)	63 (19.0)	61 (19.7)	32 (1.9)	167 (5.9)
8-year	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.1)	2 (0.1)
10-year	157 (30.3)	20 (6.0)	4 (1.3)	2 (0.1)	183 (6.4)
12-year	0 (0.0)	2 (0.6)	0 (0.0)	5 (0.3)	7 (0.2)
Total	519 (100.0)	332 (100.0)	309 (100.0)	1,682 (100.0)	2,842 (100.0)

*Renewal of Appointment* How much difference is there in the issues of renewal, such as the provision on renewal and the length of term after renewal? In this section, these issues are analysed using data for faculty members by university sector and academic field in regard to academic units, types of FTS and grades of appointment.

#### Provision for Renewal

a. **University Sector** Under FTS, there are 427 faculty members who have no right of renewal: this amounts to 15.0% of all those with FTS (see Table 14). Conversely, 79.5% (1,920 faculty members) have unlimited right of renewal. And among the 2,415 (85.0%) members of faculty with some right of renewal there are 59 who have been guaranteed to work until retirement after renewal.

By university sector, the proportion of those without right of renewal is overwhelmingly highest in private universities (32.4%). At both national and public universities the comparable figure is about 5%. On the other hand, those with unlimited right of renewal constitute a majority of those with rights of renewal in all university sectors: national universities, 1,223; public universities, 110; and

private universities, 587. Of those who have limited rights, renewal may be permitted once or twice at national universities, only once at public universities, but it may be up to five times at private universities. This is likely to be because private universities generally set up a shorter period of appointment (see Table 11).

**Table 14. The Number of Renewals of Appointment by University Sectors (Faculty Data) (%)**

	National	Public	Private	Total
None	82 (5.0)	8 (4.7)	337 (32.4)	427 (15.0)
1	321 (19.7)	51 (30.2)	5 (0.5)	377 (13.3)
2	7 (0.4)	0 (0.0)	6 (0.6)	13 (0.5)
3	0 (0.0)	0 (0.0)	55 (5.3)	55 (1.9)
4	0 (0.0)	0 (0.0)	6 (0.6)	6 (0.2)
5	0 (0.0)	0 (0.0)	44 (4.2)	44 (1.5)
Unlimited	1,223 (74.9)	110 (65.1)	587 (56.5)	1,920 (67.5)
Total	1,633 (100.0)	169 (100.0)	1,040 (100.0)	2,842 (100.0)

b. Academic Field A large number of faculty members have no right of renewal in humanities and social science (See Table 15). Especially in social science, the number with unlimited right of renewal is lower than in other fields (29.1%). In addition, the faculty members in social science have been subject to extremely strict conditions of renewal. In contrast, the proportion of faculty members with no right of renewal in medicine amounts to about 10%, and for those with unlimited right of renewal almost 80%. Clearly, in comparison with the conditions for renewal for those in social science, renewal for members of faculty in medicine is relatively easy.

It is highly likely, however, that these differences in provision of renewal among academic fields may just reflect differences between university sectors. To clarify this, a triple cross-analysis with the sectors was performed. The results suggest that the conditions for renewal at national universities tend to be strict in humanities and social science but easy in medicine. In private universities, on the other hand, the number of faculty members without the right of renewal in medicine is higher than that in humanities and social science, and renewal conditions may not always be easy.

**Table 15. Number of Times for Renewal by Academic Fields (Faculty Data) (%)**

	Humanities	Social Science	Natural Science	Medicine	Inter-disciplinary	Others	Total
None	58 (31.2)	56 (41.8)	45 (11.3)	211 (11.7)	40 (15.2)	17 (29.3)	427 (15.0)
1	4 (2.2)	6 (4.5)	146 (36.5)	165 (9.2)	53 (20.2)	3 (5.2)	377 (13.3)
2	5 (2.7)	0 (0.0)	2 (0.5)	0 (0.0)	6 (2.3)	0 (0.0)	13 (0.5)
3	3 (1.6)	23 (17.2)	9 (2.3)	14 (0.8)	6 (2.3)	0 (0.0)	55 (1.9)
4	0 (0.0)	6 (4.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (0.2)
5	3 (1.6)	4 (3.0)	1 (0.3)	7 (0.4)	29 (11.0)	0 (0.0)	44 (1.5)
Unlimited	113 (60.8)	39 (29.1)	197 (49.3)	1,404 (77.9)	129 (49.0)	38 (65.5)	1,920 (67.5)
Total	186 (100.0)	134 (100.0)	400 (100.0)	1,801 (100.0)	263 (100.0)	58 (100.0)	2,842 (100.0)

c. Types of Fixed-Term System In regard to the types of FTS, the proportion of faculty members without right of renewal is highest in the “research project type” (25.8%), followed by the “research associate type” (15.7%) and “research organization type” (14.5%) (see Table 16). Conversely, the proportion with unlimited right of renewal is highest in the “research organization type” (67.9%), followed by the “research associate type” (67.1%) and the “research project type” (59.7%). By using a triple cross-analysis for university sectors, the proportion of faculty members with no right of renewal in the “research project type” is highest in national universities (76.9%) and lowest in private universities (12.8%). For those with unlimited right of renewal, the proportion in the “research organization type” is also highest (76.6%) at national universities, while for both the “research associate type” and the “research project type” in private universities the proportions are nearly 70%. As already noted, in private universities, the number of faculty members with no right of renewal is high, and of those with unlimited right of renewal it is low (See Table 14). It could be said that private universities have introduced FTS in accord with the spirit of *the Fixed-Term Law*, in order to improve mobility. However, by focusing on the way FTS is operating, 68.1% of the total faculty membership under FTS in the private universities in the category of “research project type” have the possibility of working until retirement even though in this category there is a connotation of a limited period of appointment. It does therefore seem that, private universities also work against the spirit of the law.

**Table 16. Number of Times for Renewal by Type of FTS (Faculty Data) (%)**

	Research Organization	Research Associate	Research Project	Total
None	319 (14.5)	92 (15.7)	16 (25.8)	427 (15.0)
1	344 (15.7)	33 (5.6)	0 (0.0)	377 (13.3)
2	2 (0.1)	11 (1.9)	0 (0.0)	13 (0.5)
3	0 (0.0)	54 (9.2)	1 (1.6)	55 (1.9)
4	6 (0.3)	0 (0.0)	0 (0.0)	6 (0.2)
5	33 (1.5)	3 (0.5)	8 (12.9)	44 (1.5)
Unlimited	1,490 (67.9)	393 (67.1)	37 (59.7)	1,920 (67.5)
Total	2,194 (100.0)	586 (100.0)	62 (100.0)	2,842 (100.0)

d. Grades The data in Table 17 suggest that faculty members in the lower grades tend not be given the right to renewal; and similarly, with the exception of professors, those with unlimited rights of renewal tend to be in the higher grades. Although the rate for professors is similar to that for research associates, renewal for professors shows a tendency to be approved more than once.

If we can assume that an evaluation on renewal was implemented one year before the end of the time limit, more than at least 767 cases might have already been reviewed.

**Table 17. Number of Times for Renewal by Grade of Appointment (Faculty Data) (%)**

	Professor	Associate Professor	Lecturer	Research Associate	Total
None	33 (6.4)	14 (4.2)	48 (15.5)	332 (19.7)	427 (15.0)
1	141 (27.2)	36 (10.8)	24 (7.8)	176 (10.5)	377 (13.3)
2	0 (0.0)	0 (0.0)	0 (0.0)	13 (0.8)	13 (0.5)
3	0 (0.0)	0 (0.0)	0 (0.0)	55 (3.3)	55 (1.9)
4	6 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	6 (0.2)
5	5 (1.0)	8 (2.4)	25 (8.1)	6 (0.4)	44 (1.5)
Unlimited	334 (64.3)	274 (82.5)	212 (68.6)	1,100 (65.4)	1,920 (67.5)
Total	519 (100.0)	332 (100.0)	309 (100.0)	1,682 (100.0)	2,842 (100.0)

### The Length of Term after Renewal

a. University Sectors Following renewal, about 80% of faculty members are granted re-appointment for the same term as their first contract (see Table 18). Where conditions for second-contracts differ from the first, a 3-year term is most common. Generally, the length of term after renewal tends to be set shorter than the original contract. There are, however, a few faculty members who were granted second contracts with the right to work until retirement. In addition, there are a few cases in which a second-term has been set longer than the first, such as a research associate position in the Child Clinic Institute of Notre Dame Seishin University. Irrespective of university sectors, the proportion of those given the same length of term as in the first contract is relatively high. The proportion is, however, slightly lower at public universities (59.0%). Of those (59) who acquired the right to work until retirement, 44 (74.6%) of them are in public universities, with the remainder in private universities; none are in national universities.

**Table 18. Length of Term after Renewal by University Sector (Faculty Data) (%)**

	National	Public	Private	Total
same as the 1st term	1,337 (86.2)	95 (59.0)	484 (68.8)	1,916 (79.3)
1-year	10 (0.6)	0 (0.0)	46 (6.5)	56 (2.3)
2-year	51 (3.3)	3 (1.9)	71 (10.1)	125 (5.2)
3-year	111 (7.2)	7 (4.3)	86 (12.2)	204 (8.4)
4-year	2 (0.1)	0 (0.0)	1 (0.1)	3 (0.1)
5-year	40 (2.6)	12 (7.5)	0 (0.0)	52 (2.2)
until retirement	0 (0.0)	44 (27.3)	15 (2.1)	59 (2.4)
Total	1,551 (100.0)	161 (100.0)	703 (100.0)	2,415 (100.0)

Note: The population parameter is the total of faculty members excluding those (427) who do not have a right of renewal (Table 16).

The maximum possible period of appointment, calculating from the duration of the first contract, the number of times for renewal, and the length of term after renewal are shown in Table 19. From the data, a large majority of faculty members at national and public universities could remain for a lengthy

period even until retirement. On the other hand, members of faculty in private universities have been offered extremely strict conditions with a maximum term of 6 years.

**Table 19. Possible Maximal Length of Term by University Sectors (Faculty Data) (%)**

	National	Public	Private	Total
1-year	7 (0.4)	0 (0.0)	1 (0.1)	8 (0.3)
2-year	44 (2.7)	0 (0.0)	0 (0.0)	44 (1.5)
3-year	40 (2.4)	7 (4.1)	281 (27.0)	328 (11.5)
4-year	47 (2.9)	0 (0.0)	71 (6.8)	118 (4.2)
5-year	16 (1.0)	1 (0.6)	54 (5.2)	71 (2.5)
6-year	27 (1.7)	2 (1.2)	46 (4.4)	75 (2.6)
7-year	2 (0.1)	0 (0.0)	0 (0.0)	2 (0.1)
8-year	30 (1.8)	0 (0.0)	0 (0.0)	30 (1.1)
9-year	5 (0.3)	0 (0.0)	0 (0.0)	5 (0.2)
10-year	154 (9.4)	49 (29.0)	0 (0.0)	203 (7.1)
12-year	27 (1.7)	0 (0.0)	0 (0.0)	27 (1.0)
14-year	9 (0.6)	0 (0.0)	0 (0.0)	9 (0.3)
16-years	2 (0.1)	0 (0.0)	0 (0.0)	2 (0.1)
until retirement	1,223 (74.9)	110 (65.1)	587 (56.4)	1,920 (67.6)
Total	1,633 (100.0)	169 (100.0)	1,040 (100.0)	2,842 (100.0)

## Conclusions

The results of the analysis discussed in this paper can be summarized as follows.

1. By August 2001, the universities that have introduced FTS amount to about 20% of all universities in Japan; and FTS has been applied to about 2% of all faculty members in Japan. Currently it could be said that the initiative for introducing FTS has been taken by the national universities.
2. Overall, the academic field in which FTS has been most commonly introduced is medicine, and less so in humanities and social science. By university sector, the academic fields where FTS is most common are: in national universities, medicine and science; public universities, interdisciplinary fields; and private universities, interdisciplinary fields, humanities and social science.
3. The academic unit where FTS is most commonly located is the undergraduate unit. There are differences between the sectors. In national universities, FTS is most commonly found in research institutes; public and private universities have hardly introduced FTS into graduate units or into hospitals affiliated with Faculties of Medicine.
4. The type of FTS that has been introduced most widely is the “research organization type.” There are few units that have introduced the “research project type”, this being most common and with a relatively high proportion in private universities. In national universities, the use of the “research organization type” is relatively high in science and medicine. At private universities, on the other hand, there is little difference in the usage of “research organization type” among academic fields.

5. The combinations of grades to which each unit has introduced the FTS vary widely from unit to unit. The grade to which FTS has been mainly applied is that of “research associate only.” In public universities, there is a relatively large number of units that have introduced FTS to “grades above lecturer.” While at national universities the proportion of those in the grade “research associate only” is high in humanities, social science and interdisciplinary fields, in private universities it is high in the area identified as “others.”
6. The length of term ranges widely from 1 to 12 years. Compared with national universities, the length of term at public and private universities is shorter. In addition, the length of term in science and medicine is relatively longer than that in other fields. National universities have a tendency to set a longer term for senior grades, while public and private universities do not always show this tendency.
7. The faculty members with no right of renewal account for 15.0% of the total number affected by FTS; the majority of them belong to private universities. Most faculty members with the right of renewal could work until retirement if their renewal was approved. It appears that the lower the grade, the more difficult its renewal tends to be.
8. The length of term after renewal tends to be set the same as or shorter than that of the first contract. There are, however, a few faculty members who, after having received renewal are entitled to work until retirement. Most of these faculty members belong to public universities; none belong to national universities.

From the viewpoints of university sectors, academic fields and units, grades of appointment and numbers of faculty members, it has been possible to analyse quantitatively the actual conditions for the introduction of the Fixed-Term System based on decision-making by each institution or unit. The analysis covers such significant areas as the type of FTS introduced (the “research organization type”; the “research associate type”; and the “research project type”), the length of term of contract and the provision for renewal. As noted, this research had four analytical frameworks. Qualitative analysis is required to clarify the operation of FTS more clearly. The conclusions of this qualitative analysis would provide a basis for future survey by questionnaire and interview. The ultimate goals of this research are to make clear two points:

- 1) the social contexts in which each institution or unit has introduced FTS; and
- 2) how FTS actually works in Japanese higher education.

## References and Notes

1. Advanced research on key areas such as the academic market place, academic profession and academic personnel affairs, has been accomplished by higher education research. The following are

the main references by each area.

Studies on the Academic Market Place

Shimbori, M. (1965). *Nihon no Daigaku Kyoujushijo: Gakubatsu no Kenkyu*. Toyokan Publishing Co.

Shimbori, M. (Ed.) (1984). *Daigaku Kyoujushyoku no Sougouteki Kenkyu: Akademikku Purofessyon no Shakaigaku*. Taiga Publishing Co.

Studies on Mobility

Yamanoi, A. (1990). *Daigaku Kyouju no Ido Kenkyu: Gakubatsu Shihai no Senbatsu Haibun no Mekanizumu*. Toshindo Publishing Co.

International Comparative Studies on the Academic Profession

Arimoto, A., & Ehara, T. (Eds.) (1996). *Daigaku Kyoujushyoku no Kokusai Hikaku*. Tamagawa University Press.

Studies on Human Resources Development

Tsukahara, S., & Kobayashi, S. (1996). *Nihon no Kenkyusya Yousei*, Tamagawa University Press.

Studies on Academic Personnel Affairs

Yamanoi, A. (2000). *Daigaku Kyouin no Koubosei ni kansuru Kenkyu: Nihon no Daigaku ha Zinzai wo ikani Rikuruto suruka*, the Research Institute for Higher Education, Hiroshima University, *Reviews in Higher Education*, 61.

2. The MEXT had conducted this national survey among all universities in Japan as of August 2001. This paper analyzed the unit data and the faculty data restructured by the Research Institute for Higher Education of Hiroshima University based on the original data, which was held by the Administrative Bureau of Hiroshima University.
3. Refer to *The Reform Condition of the University Curriculum*, (reported on December 19, 2001) University Division, Higher Education Bureau, MEXT. Data for institutions and faculty members are included
4. The analysed data show small discrepancies between the number of universities and faculty members on FTS and the official statistical data by MEXT. As the errors are small statistically, they are not regarded as introducing any significant perturbations. In addition, the results of questionnaire survey and interviews showed that some universities confused Fixed-Term Appointments, which are based on the *Law for the Appointment of Foreign Faculty* and institutional measures, with the FTS and that they erroneously declared the number of faculty members appointed to the former to MEXT as that on the latter.
5. For example, the Institute of Social Science of the University of Tokyo has introduced FTS to the position of associate professors but as of August 2001 the position has been empty.
6. For example, the Institute for Frontier Medical Sciences of Kyoto University has introduced FTS to all ranks but as of August 2001, the position of lecturers has been empty.
7. According to *Zenkoku Daigaku Ichiran* (2001), the number of graduate schools are as follows:

national universities, 387; public universities, 116; and private universities, 773. The number of hospitals affiliated with Faculties of Medicine are: national universities, 42; public universities, 10; and private universities, 42.

8. The Faculty of Engineering of Toyama Prefectural University has set a 7-year term for the position of research associate but as of August 2001 the position has been empty.
9. On May 29, 1997, the head of the Higher Education Division stated in the Education Committee of Lower House that a 10-year term should be the higher limit objective at national and public universities.
10. The private universities to which 41 of the 54 professors belong, have set a 1-year term for other grades as well. The units to which the rest of 13 professors belong have not introduced FTS to other grades.



# **Development of Autonomy in French and Japanese Universities: A comparative Study on the French Contractual Policy and the Incorporation of Japanese National Universities<sup>1</sup>**

Jun Oba\*

The purpose of this article is to develop a comparative study of French and Japanese universities, which show certain similarities, with special focus on the contractual policy in France and the incorporation of national universities in Japan.

The Japanese national universities<sup>2</sup> were, until March 2004, a part of the national government and directly operated by it. On 1<sup>st</sup> April 2004, by acquiring the status of “national university corporations”, they were given a legal personality and increased their autonomy.

On the other hand, French universities, after having being dismantled at the time of the Revolution, gained a legal personality towards the end of the 19th century; they have gradually extended their autonomy. However, it was not until recently that they came to operate in an integrated manner with an identifiable corporate identity: previously they had worked as a league of faculties.

The French experience in this matter may offer suggestions for the reform of the Japanese national universities – where academic units have traditionally been autonomous – for a more integrated management at university level, in order to become more responsive to society after incorporation. For the French universities, the Japanese reform may also be suggestive, because it contains initiatives that have never been practised in France.

## **University Governance in Japan and France**

### *The Governance system of Japanese National Universities before Incorporation*

Governance Organization National universities were a part of the national government. The internal structure (both academic and administrative) was determined by the Government, and its modification was subject to ministerial authorisation.

Each national university had a president to administer school affairs, having authority over all the staff. Vice-presidents could be appointed to support the president in his/her duties. Each faculty and graduate school had a dean to administer relevant school affairs.

A council was organised to deliberate on important matters of university administration. It was a collegial body, presided over by the president, and consisted of senior faculty members. Apart from the council, a number of committees were often established at the discretion of each university, to deliberate on different matters (planning, finance, public relations, publications, information system,

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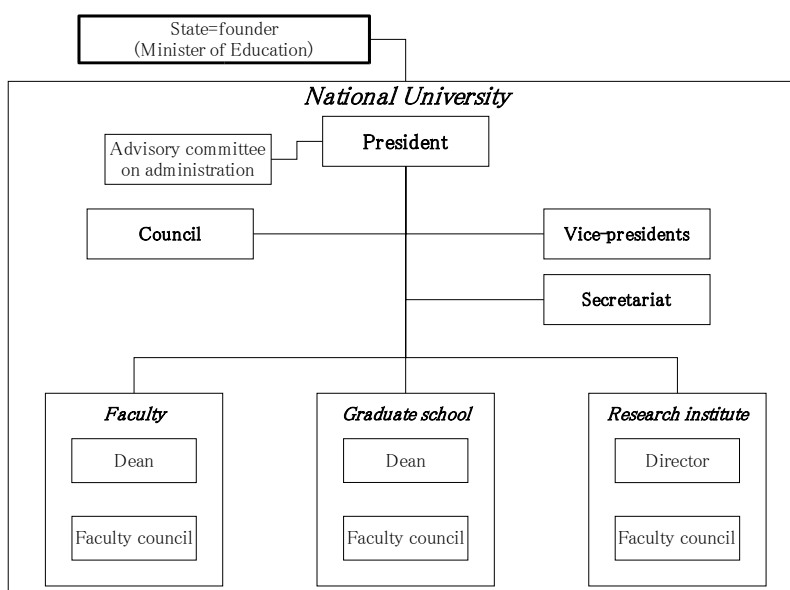
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*etc.*). In addition, each faculty and graduate school had its council (faculty meeting).

A secretariat was established, headed by a secretary-general, to execute administrative work. It contained several departments and a number of sub-units to provide a range of administrative services. Staff members in the secretariat were public servants, and except for part-time workers, were appointed through the national public service examination.

Traditionally, no external persons participated in university governance. In 1999, a modification of the School Education Law established an advisory committee on administration in each national university, composed of external experts from different social areas to advise the president on university administration.<sup>3</sup>

**Figure 1. Organization of Japanese National Universities before Incorporation**



**Collegiality and Duality** The governance of Japanese national universities was characterised by collegiality and duality. Although presidents were appointed by the Minister of Education,<sup>4</sup> they were selected, following election by faculty members, before a formal decision by the council on a proposal to nominate the president. Deans were selected by the president based on the advice of the relevant faculty council, which was formulated through an election by relevant faculty members.

Although the administrative organisation was supposed to provide support to the academic organisation, in effect the two were in competition. Control of the structure of clerical organisations throughout each university was directly administered by the Government. Although the appointment of most non-academic staff was delegated to the president, high-level non-academic staff were appointed by the Minister of Education. This included secretary-generals, vice-secretary generals and other directors, who were moved among universities and other institutions under the jurisdiction of the

Ministry of Education, including the Ministry itself. The Ministry managed these staff without consulting the relevant national universities.

Institutional autonomy of the national universities was thus very restricted in terms of administration, although the governmental control over academic activities was very limited.<sup>5</sup>

### *The Governance System of French Universities*

**Governance Organization** According to the Higher Education Law (1984),<sup>6</sup> a university is managed by decisions of the president, resolutions of the governing board – called the administrative council (*conseil d'administration*) – and proposals of the scientific council (*conseil scientifique*) and of the council for university studies and university life (*conseil des études et de la vie universitaire*) (Article 26).

The president is elected from among those full-time teacher-researchers (*enseignants-chercheurs*)<sup>7</sup> having French nationality, by obtaining the absolute majorities of all the constituent members of the above-mentioned three councils. The term of office for the president is five years and reappointment is not allowed. The president directs the university, is responsible for orderly running of the institution, and represents the university externally. The president has authority over all the staff, presides over the three councils, and controls expenditure and income. In order to assist the president, a presidential office (bureau) is set up, whose members are elected on the basis of the president's proposals (Article 27).

The governing board, the sole decision-making body among the three councils, is composed of 30-60 members, elected from four constituencies (Table 1). The governing board determines university policies, particularly by deciding the contents of the institutional contract (*contract d'établissement*) with the Ministry of National Education.<sup>8</sup> It votes the budget, approves the accounts, distributes posts, and approves agreements and conventions signed by the president (Article 28).

**Table 1. Composition of the Councils**

		<i>Governing board</i>	<i>Scientific council</i>	<i>Council for university studies and university life</i>
Number of members		30-60	20-40	20-40
<b>Constituencies</b>	Academic staff	40-45 %	60-80 %	**
	Non-academic staff	10-15 %		10-15 %
	Students	20-25 %	7.5-12.5 %*	**
	External persons	20-30 %	10-30 %	10-15 %

\* Graduate level only.

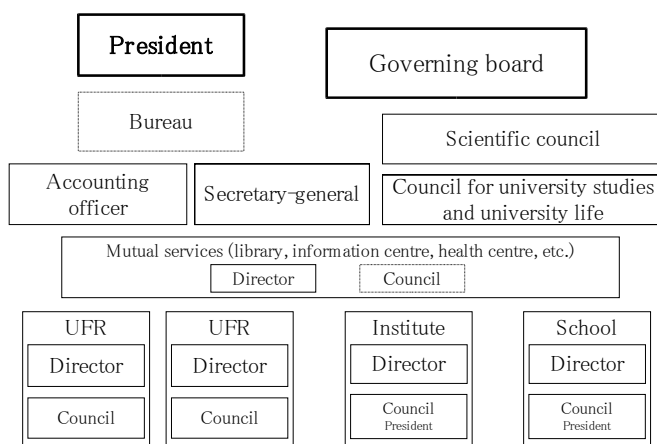
\*\* 75-80 % in total ; both constituencies are equal in number.

Directors of the UFR (*unités de formation et de recherche*), the basic education/research units,<sup>9</sup> are elected at meetings of the UFR council. The UFR councils comprise faculty members, non-academic staff, students and external persons (Article 32).

A secretary-general for the university is appointed by the Minister of National Education, based on the proposal of the president. The secretary-general directs the clerical staff, under the authority of the president, and participates in deliberative bodies including the governing board as a non-voting member (Article 59).

In contrast to the Japanese universities before incorporation, participation of non-academic staff, students and external persons in administration is institutionally assured in French universities. In the Japanese universities, an advisory council with external members was recently created, but existed for only 2 years, and students and non-academic staff were generally not allowed to participate in deliberative bodies.

**Figure 2. Organization of French Universities**



**Administration in Practice – Federation of UFR** Although the organisational structure of the French universities is fixed by law and is standard throughout the system, the actual conditions of decision-making are very disparate. In some universities, the decision-making process is centred around the presidential office; in others, UFR have a much greater voice in university administration. In all cases, because the councils are large bodies comprising between 20 and 60 members, it is often difficult to reach agreements and prearrangements (by small groups, for example) are very important (Musselin & Mignot-Gérard, 2001).

It should be noted that French universities are also dually structured. Two structures coexist – institution and disciplines. This complicates the university administration (Friedberg & Musselin, p. 5). Typically, procedures for employment and promotion of teachers are basically defined by the National Council of Universities (CNU), which is composed of sections classified by discipline. The administration of each university is hardly involved directly in the arrangements for employment of teachers (Musselin, 2001, pp. 75-76). For university teachers, their ranking in their discipline is a decisive factor for their promotion and recruitment. As a result, their sense of belonging to their

discipline has been much stronger than that of belonging to the university. This constitutes a significant factor preventing universities from being managed as one united body.

In the universities, the UFR have tended to be autonomous and agreement on contentious issues at university level, such as formulation of university strategies, is reached only with difficulty. In consequence, many universities have worked for a long time as federations of UFR and, at least until recently, have been unable to respond to the strategic needs of society.

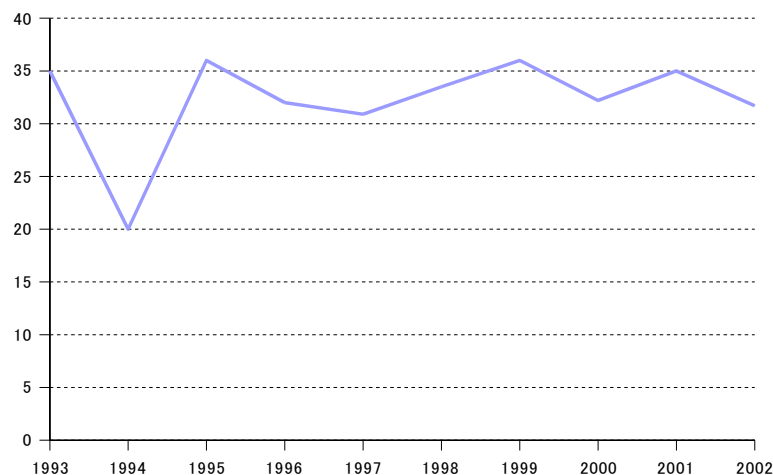
### Increased Autonomy of Universities

#### *Contractual policy in France and Unification of Academic Units in the University*

Adoption of a Contractual Policy After having been applied to research activities for several years, the “contractual policy” (*politique de contractualisation*) was generalised in 1989 to apply to all university activities. The aim of the policy was: 1) to establish a new relationship between the State and universities; 2) to enhance the autonomy of universities; and 3) to promote a sense of responsibility in the framework of a long-term strategic plan (*Conseil national de l'Évaluation*, 2001).

Each university draws up a four-year development plan based on its strategy, corresponding both to national objectives and to diverse local needs. The plan is submitted to the Ministry of National Education. After negotiation between the two parties, a four-year contract is signed, based on which the university is funded for the agreed activities. The amount of funds available through the contracts accounts for around one-third of the public subsidies provided by the State to the higher education institutions.<sup>10</sup>

**Figure 3. Percentage of Public Subsidy Budget Allocations through Contracts**



Source: Frémont *et al.*, 2004

The Effects of the Contractual Policy on University Management The principal goal of the contractual policy was to enlist the initiative of the universities to enrol and serve better the

increased numbers of students of the late 1980s and early 1990s. In fact, between 1988 and 1995, French universities enrolled almost 500,000 more students. This policy is regarded as the instrument that enabled them to “absorb an unprecedented influx of students on the campus of French universities” (Frémont *et al.*, 2004, p. 25).

Although this was not an explicit aim, the contractual policy enabled each university to function as a united body (Musselin, 2001, p. 135). That is, in order for a university to decide upon a plan for the contract, it needed to examine the entire activities of the university, and had to determine and prioritise policies and projects to be included in the plan. In order to reach agreement, people in the university needed repetitious negotiation and sometimes compromise was necessary for certain UFR.

Traditionally, such agreements had been reached with difficulty in universities where the academic units were organised by discipline. However, the contractual policy required the constituent members to act differently. For a UFR to realise a project – for example, to develop a new course – it had to be included in the plan and be prioritised in the course of negotiations at university level. With, over time, a succession of contracts, teachers, who traditionally held a strong sense of belonging to their discipline, gradually changed their attitude, and an environment developed in which they worked in the interests of the whole university.

Change in the Government-university Relationship Although, since the Law for the Orientation of Higher Education (Faure Law) was enacted in 1968, every government has emphasised the importance of the university autonomy, it has hardly devolved power and responsibility to universities. The situation has not fundamentally changed even after the adoption of the contractual policy. This is because, although universities blamed the Government for the failure to transfer authority, they regarded it as convenient to receive a budget allocation according to the norm defined by the Government rather than to assume responsibility for all their own financial matters (Friedberg and Musselin, 1993 : 14). However, in spite of the lack of devolution, introduction of the contractual policy led later to enhancement of autonomy as universities came to think how best to respond to societal needs and to operate in a more integrated manner.

### *Incorporation of National Universities in Japan*

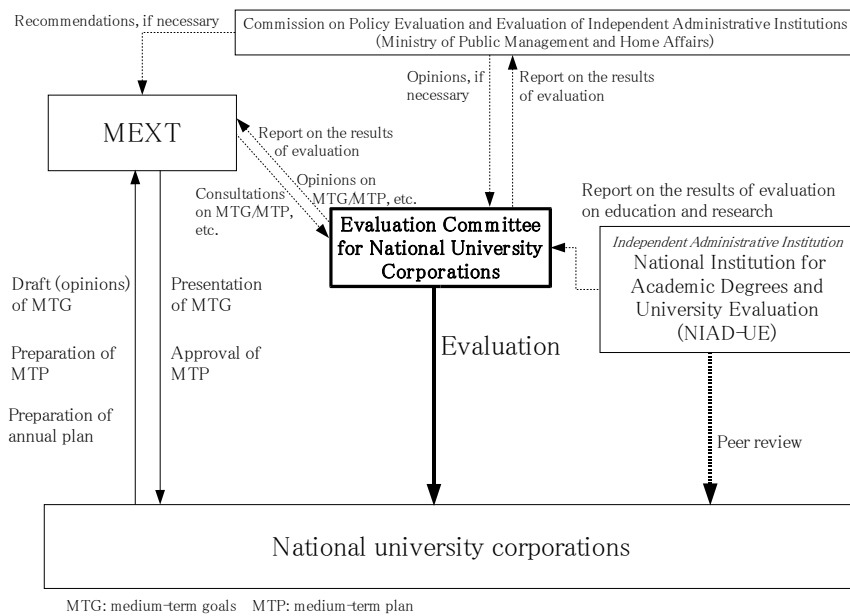
#### The National University Corporation System

a. Goals/Plan and Evaluation Each national university has been given an individual legal personality and has become a national university corporation.<sup>11</sup> This policy – individually incorporating national universities – aimed at extending individuality by enhancing the institutional autonomy of each institution.

The budget for each university is now allocated by the Government as a lump sum (operational grant) without earmarking. It is to be based on a medium-term plan prepared by each university and

approved by the MEXT. Medium-term goals are prepared by the MEXT and elaborated on the basis of the views of each university (see Figure 4). The duration of the medium-term goals/plan is six years. Subsequently, the budget allocation for the following period will be varied according to the results of an evaluation.

**Figure 4. Evaluation System of National University Corporations**



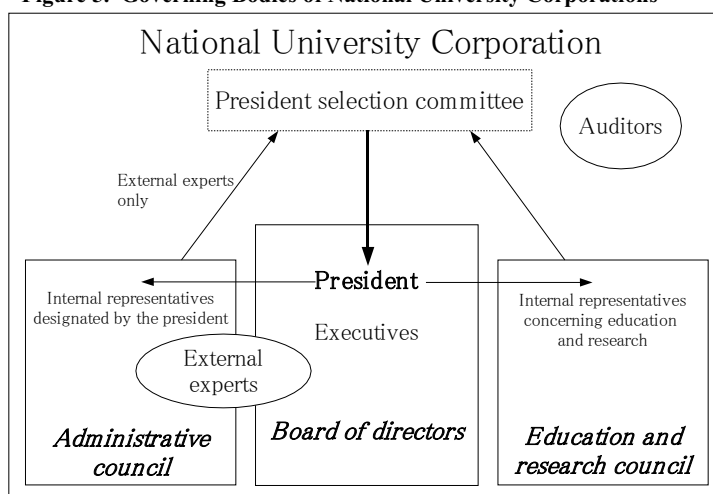
Before approving the medium term goals the Ministry will consult the Evaluation Committee for National University Corporations (hereafter referred to as the “evaluation committee”). With respect to matters essentially related to education and research, the evaluation committee will have received a report from the National Institution for Academic Degrees and University Evaluation (NIAD-UE), in order to respect the specialised nature of the education and research of each university. Even before foundation of the national university corporations, the evaluation committee was set up on 1<sup>st</sup> October 2003. It held its first general meeting on 31 October 2003 and selected Ryoji Noyori (a Nobel laureate in chemistry) as its chairman.

b. Governance and Management Each national university corporation has the president of the university and its executives on its governing body. In contrast to the former national universities, where the sole deliberative body was the council, three deliberative bodies are established in each corporation: (1) a board of directors, the highest deliberative body before the final decision by the president; (2) an administrative council (also translated as a “management consultation committee”), to deliberate on important matters concerning the administration of the national university corporation; and (3) an education and research council, to discuss important matters

concerning education and research. The governance is shared by these three organisations. In addition, the structure of the secretariat is now determined at the discretion of each university.

In order to ensure the national universities are accountable and responsive to society, people from outside the university now participate in their management. At least one of the executives — who compose the board of directors — should be a person from outside the university. In addition, not less than half of the total membership of the administrative council should be appointed from outside.

**Figure 5. Governing Bodies of National University Corporations**



*c. Personnel* National university teachers and other staff members are no longer public servants. The non-public servant status was adopted in order to allow the new national university corporations to practise more flexible forms of recruitment, salary structures and other conditions of employment. Differences between the two types are shown in Table 2.

**Table 2. Public Servant Type and Non-public Servant Type**

	<i>Public servant type</i>	<i>Non-public servant type</i>
<i>Guarantee of status</i>	Stipulated by law	Stipulated by rules of employment of each corporation
<i>Rights of labour</i>	Disputes are prohibited.	Disputes are not prohibited.
<i>Recruitment of non-academic staff</i>	Selection among successful candidates in the national public service examination	According to the criteria defined by each corporation
<i>Dual employment, side business, and political activities</i>	Restricted by the National Public Service Law	Stipulated in the employment rules of each corporation
<i>Foreigners</i>	Impossible to appoint them to management positions	Possible to appoint them to management positions
<i>Salaries and working hours</i>	Determined by each corporation	



	<i>Public servant type</i>	<i>Non-public servant type</i>
<i>Medical insurance and pensions</i>	Similar to the national public servants	
<i>Provisions of the penal code such as bribes</i>	Similar to the national public servants	

d. Students' payment Each national university corporation is allowed to raise tuition charges and entrance fees by up to 10% above the levels set by the MEXT. For the fiscal year 2004, the levels identified by the MEXT remained the same as those determined by MEXT in the previous year, 520,800 yen and 282,000 yen respectively. For fiscal 2004, all the national universities left their fees at the same level as those identified by the MEXT.

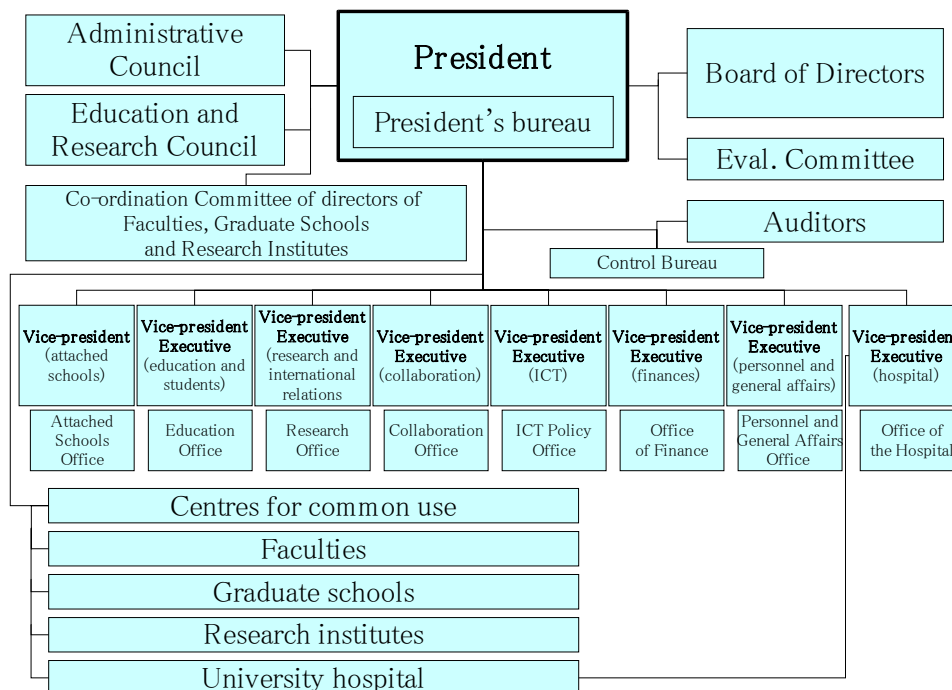
After Incorporation – What Has Happened and What Problems are Identified? The transition process of incorporation was relatively smooth, although preparations for incorporation had not been an easy task for each national university. After incorporation, however, some major problems can be identified in the light of the objectives of incorporation.

a. Financial Stability of the National Universities The 2004 fiscal year budget allocated to the national universities (operational grant) is unchanged from that of fiscal 2003. However, as a result of negotiations between the Ministry of Finance and the MEXT in the winter 2003-2004, it was agreed that the operational grant would subsequently be reduced by 1% each year except for the component provided for faculty members' salaries.

Apart from the operational grant, the major source of income for national universities is tuition fees. In December 2004, the MEXT revised the level of tuition fees for fiscal year 2005, by raising it from 520,800 yen to 535,800 yen. Most universities intend to raise their tuition fees according to the ministerial revision, but a small number of universities envisage maintaining their tuition fees at the level of 2004. If they succeed in doing so, for the first time in their history, tuition fees of the national universities will vary from institution to institution.

All in all, national universities will continue to be in a very precarious financial position. In order to resolve this problem they will need to rationalise their administration and identify additional sources of income.

b. Improvement of the University Governance Previously governance of the national universities was characterised by a dual structure: academic and administrative. In preparation for incorporation, each national university reorganised its administrative structure, more or less centring on the president. For example, Hiroshima University dismantled its secretariat and set up offices under vice-presidents composed of academic and non-academic staff members (Figure 6).

**Figure 6. Organisation of Hiroshima University as of April 2004**

University authorities have tried to centralise and concentrate powers in regard to finance and personnel affairs, in order to assure efficient management. These attempts are now more or less halfway to completion. Their success will depend largely upon the leadership of the president and also upon wide (and positive) participation by constituent members in the decision-making process. In addition, it will necessitate the development of non-academic staff, who have traditionally been supposed to support education and research according to official rules. Now they are expected to improve the university management as well as its education and research activities with knowledge and skills that are much more professionalised.

On the other hand, an excessive concentration on centralised university authority is not desirable. As Birnbaum (1988) has pointed out, shared governance is most often the best solution for university administration. In this sense, the recent abolition by Tohoku University of a process of election for its president, aiming at consolidating the presidential authority, may not result in increased performance.

c. Participation of External People in University Administration As mentioned above, people from outside the universities are now invited to participate in university administration. In particular, not less than half of the total members of the administrative council should be appointed from outside. As an example, the external members of the administrative council of Hiroshima University are listed in Table 3.

**Table 3. External Members of the Administrative Council of Hiroshima University**

<i>Name</i>	<i>Occupation (former)</i>
W. Imanaka	President, Chugoku Newspaper
K. Inai	President, Japan Audio Visual Educational Association (Former Secretary to the Minister of Education)
B. Johnstone	Professor of Higher and Comparative Education, State University of New York at Buffalo (Former President of State University of New York)
M. Ogasawara	President, Board of Education of Hiroshima Prefecture
M. Onami	Special Advisor, Kyoto Tachibana Women's University (Former President of Ritsumeikan University)
T. Shiiki	Lawyer
S. Takasu	Chairman, Chugoku Economic Federation / Chairman of the Board of Directors, Chugoku Electric Power Co. Ltd.
K. Tanabe	Secretary-General, Tokyo Conference for the Collaboration in Chugoku (Former Director-General, Chugoku Bureau of Economy, Trade and Industry (METI Chugoku))

Until now, the contributions of external people to university administration have not been strong, and the way they are to participate still needs much more study so that the national universities may optimise their involvement.

d. The Evaluation Increase in autonomy goes hand in hand with rigorous evaluation. However, evaluation methods have yet to be sufficiently developed, and much more study has to be done. In addition, evaluation practices are very time consuming. Fair and efficient evaluation methods are yet to be identified.

### **A Comparison of University Administration in France and Japan**

*A Comparison between Japanese National Universities (Ex-incorporation and Post-incorporation) and French Universities* In the Japanese national universities, a variety of changes to the system were sought from their incorporation: reinforcement of the presidents' authority, external participation in management, ex-post evaluation by a third party, and enhanced autonomy by conferment of the legal personality. This section presents a comparison of university administration in France and Japan - both pre-incorporation and post-incorporation systems for Japan (Table 4).

**Table 4. Comparison between Japanese National Universities (Ex-incorporation and Post-incorporation) and French Universities**

	<i>Japanese national universities</i>		<i>French universities</i>
	Pre-incorporation	Post-incorporation	
<b>Status</b>	Subsidiary organisation of the Ministry of Education	National university incorporation with legal personality	Public institution ( <i>établissement public</i> ) with legal personality
<b>Staff</b>	Public servants	Non-public servant type employees of the university	Public servants
<b>Staff quota management</b>	Administered by the State	Outside the administration by the State (subject to the budget)	Administered by the State
<b>Selection of the president</b>	Appointed by the Minister of Education based on the selection by the council; Japanese nationality required	Appointed by the Minister of Education based on the proposal by the president selection committee of the corporation; Japanese nationality <u>not</u> required	Elected by the members of the three councils among teachers-researchers ( <i>enseignants-chercheurs</i> ); French nationality required
<b>Boards and councils</b>	A council to deliberate on important matters of administration, composed of important faculty members and presided over by the president; An advisory council to the president composed of external persons	Board of directors, composed of executives including at least one external person; Administrative council, composed of internal representatives and external experts (not less than half of the total members); Education and Research council, composed of faculty members	Three councils (governing board, scientific council, and council for university studies and university life) composed of academic / non-academic staff, students and external persons
<b>Dean/Director of the UFR</b>	Appointed by the Minister of Education based on selection by the president in accordance with the deliberation by the faculty council	Appointed by the president (rules to be decided by each university)	Elected in the UFR council meeting
<b>Faculty/UFR council</b>	Composed of academic staff	No change in the membership, but matters taken into deliberation to be restricted depending on the university	Composed of academic/ non-academic staff, students and external persons
<b>Employment and promotion of teachers</b>	According to the selection by the president based on deliberations of the faculty council	According to the selection by the president based on deliberations of the faculty council, as well as taking the university policies into consideration	Decided by the governing board after selection by a committee of specialists from candidates on the list established by the CNU
<b>Secretary-general</b>	Appointed by the Minister of Education	Appointed by the president	Appointed by the Minister of National Education based on the proposal of the president
<b>Other non-academic directors</b>	Appointed by the Minister of Education	Appointed by the president	Appointed by the Minister of National Education

	<i>Japanese national universities</i>		
<b>Other non-academic staff</b>	Appointed by the president	Appointed by the president	Appointed by the Minister of National Education
<b>Recruitment of new non-academic staff</b>	From the successful candidates in the national public service examination	According to the rules determined by each university	According to the rules determined by the State
<b>Recruitment of vacant posts</b>	(N. A.)	According to the rules determined by each university	According to the rules determined by the State, based on the competitive examination or the aptitude list
<b>Tuition/registration fees</b>	Determined by the State	Determined by the university based on the levels determined by the State	Determined by the State
<b>Goals and plan/Contract</b>	(N. A.)	Six-year MTG/MTP determined/approved by the Minister of Education	Four-year contract between the Ministry and the university, based on the plan determined by the university
<b>Budget allotment (competitive funds excluded)</b>	Through special account for national educational institutions, precisely earmarked	Block grant (operational grant) on the basis of the six-year plan without earmarking, including personnel expenditures	Global allocation for running costs (DFG), allocation by contract (earmarked), personnel expenditures, and others
<b>External institutional evaluation</b>	(N. A.)	Evaluation by the evaluation committee at the end of the MTG/MTP	A periodical evaluation by the CNE in accordance with the contract term is planned.

Note: The comparison shown in the table above focuses on the principal elements concerning governance and excludes some marginal elements (contract employees, for example).

*Comparing the Incorporation of National Universities in Japan and the Contractual Policy in France* In this section, four key points affected by incorporation of the Japanese national universities and the French contractual policy will be examined: issues of governance, the personnel system, the finance and accounting systems, and external institutional evaluation.

Governance Issues Both university systems place councils and boards around the president, all of which are presided over by the president, in order to draw opinions from all sectors of the university community. However, the manner of participation of the stakeholders is not the same. In French universities, participation of non-academic staff and students is institutionally assured, whereas in Japanese universities both parties have been long excluded from deliberative bodies. In Japan, students have been always regarded as objects for teaching, and their learning has been relatively neglected.<sup>12</sup>

As mentioned above, involvement of non-academic staff has led to a dual structure in Japan – academic and administrative – in which the two elements were often conflictual. Incorporation of the Japanese national universities was intended to dissolve this dual structure, thus reinforcing presidential leadership and integrating non-academic staff into top university management. However, it requires thorough rethinking of the role of non-academic staff and their development, neither of which has yet

been achieved. These factors are also essential for an increase in autonomy by which universities should by themselves seek to establish policies and formulate strategic plans responsive to society.

Such a situation seems to be similar to the situation in which French universities are currently placed. Much more autonomy is claimed for the universities (CPU, 2001, for example), and in this context, reinforcement of the effectiveness of the management team is pointed to.<sup>13</sup> In a similar vein, the administrative work is said to be fundamentally changing. Dizambourg (1997) said: "The function of the administrative services of the university was, up to the recent period, to produce administrative proceedings, applications or preliminary proceedings to decisions often taken out of the university, in particular at ministerial level", and then pointed to emergence of new functions requiring competencies such as communication skills, managerial ability, and juridical and administrative competence.

As for deliberative bodies, French councils are larger than Japanese ones, although both systems have the same number of councils. It may be more difficult for the French councils to reach agreements but easier to draw together various opinions on campus. In Japanese universities, they are likely rapidly to reach a consensus and to show strategic vision, but consensus in the councils may lack adhesion across the university. As Birnbaum (2004) has indicated, the effectiveness of universities is not based on efficiency and speed but on reliability and trust; a participatory management style involving the maximum number of people on campus should not be excluded from Japanese university administration.

The Personnel System The staff in Japanese national universities are no longer public civil servants, which gives much more flexibility to university administration. In particular, the staff quota is no longer administered by the State, and each university is able to design a personnel system it deems appropriate. Discretion over the personnel system constitutes one of the key elements of university autonomy. If French universities are to increase substantially their autonomy, they will ineluctably have to rethink the status of the staff and the personnel system, even though the staff, especially the non-academic staff, are much attached to the public function (*fonction publique*) and are very reluctant to accept reforms. Recent decisions on the devolution of authority over non-academic personnel of schools from central to local governments<sup>14</sup> did not include university staff. However, devolution of authority for personnel to universities may be placed on the agenda for discussion on the enhancement of university autonomy in the near future.

The Finance and Accounting Systems Each Japanese national university receives a lump sum (operational grant) to be divided according to the university's priorities, including academic and non-academic staff salaries. This block grant approach enables universities to develop a more efficient resource allocation on campus. In addition, with the abolition of the staff quota, Japanese national universities are now able to implement strategic human resource management within the limit of their

budget. For that, reliability and trust, mentioned earlier, are essential.

In French universities, because staff members are public civil servants, their salaries are directly controlled by the State. This may become a very contentious issue when an increase in university autonomy, including financial autonomy, is considered. In fact, a bill presented to parliament in 2003 to boost university autonomy<sup>15</sup> was withdrawn, in the face of student and staff movements opposing the bill as well as a proposal for a new degree system called *LMD* (bachelor, master, doctor), where they feared that the nature of higher education as a public service might be modified. The bill envisaged allocating more resources to universities as block funds, including, to a certain degree, personnel expenditures.

In addition, the term of the MTG/MTP for the Japanese national universities is six years. The term was determined after taking into consideration the nature of university education and research, for which a stable base was considered essential. In France, contracts are signed for four years, but its prolongation to 5-6 years is currently being studied (Frémont *et al.*, 2004, pp. 120-121).

External Institutional Evaluation Both countries are moving from ex-ante towards ex-post evaluation, both for institutional as well as project-based evaluation, and are putting the emphasis on self-evaluation assisted by external examiners. For Japanese universities, the Evaluation Committee for the National University Corporations has been set up inside the Ministry of Education and is entrusted with a periodical evaluation of all the national universities in accordance with the mid-term goals/plan. The first evaluation is scheduled for 2010, and therefore its effectiveness is still unknown.

In France, the *Comité national d'Évaluation* (CNE), an independent administrative institution, has been active since 1985 (*Décret n° 85-258*). It has implemented institutional evaluations and thematic evaluations, and has suggested various improvement measures. However, its influence has remained marginal both for the central administration and for institutions themselves, mainly because it is located outside the Ministry of National Education, but also because it has been decided that its reports should not be used for budgetary allocation (Musselin, 2001, pp. 107-108). Recently, the CNE has been encouraged to participate in institutional evaluations in accordance with the contract cycle, so that its recommendations may be considered in preparation for the next contract. A report on the contractual policy (Frémont *et al.*, 2004) also recommended a reinforcement of the role of the CNE in evaluation of projects in the contracts.

## **Closing Remarks**

Incorporation of national universities was said to be one of the most significant reforms from the inception of the Japanese modern higher education system in the Meiji era. Various measures for reform had previously been taken, but they were basically implemented within the existing legal framework in which national universities operated. For this reason, the flexible development of education and research was restricted, particularly under the Japanese budget system and national

public service system (Ministry of Education, 2004). The reform was implemented in April 2004, and it is now up to each university to develop its education and research with much less restriction.

As for French universities, the contractual policy has been effective for almost 20 years, if that implemented for research activities is included. In the meantime, university autonomy has been enhanced as Musselin (2001, p. 151) described it: “from the idea of the University to the emergence of universities”, and universities have become more diverse and diversified, which is also an aim of the Japanese incorporation policy. Nowadays, the contractual policy is widely accepted by university people and is regarded as a success, even though further improvement is necessary (Frémont *et al.*, 2004, p. 125).

In the course of study on incorporation of national universities, the Japanese government investigated some foreign higher education systems, including the French contractual policy. It appears that the policy had an influence on the Japanese national university corporation system, especially on the MTG/MTP scheme.

Before incorporation, there were so many restrictions concerning the Japanese national universities, coming from the legal framework upon which the national universities were founded. Now, in many respects, Japanese reform has gone beyond that of the French higher education system, including provision of budget allocations as block funds, a personnel system without staff quota management, and a governance system centred on the president, even though the French system is advancing towards the same goals. If the Japanese reform turns out good (or bad) enough, it may provide some useful information for French higher education.

However, one can also find major differences in university management, such as student and non-academic staff participation. In Europe, participation of students in various decision-making processes is becoming common,<sup>16</sup> including participation at high levels of authority (vice-presidency and governing board). In France, where participation in councils is legally assured, student vice-presidents are found in some universities. A Minister of National Education once proposed that this situation should be generalised with a student vice-presidency in all universities;<sup>17</sup> and under the *LMD* system, students will be able to participate in evaluative activities of the education in each university. Student participation in university management may well draw more attention in Japan both for institutional accountability and student development.

Finally, reform of universities is still in progress in Japan as well as in France. In order to improve the higher education system, even more study is needed in both countries. Since a number of similarities are found between the two settings, both countries will be certainly able to gain much through sharing experiences.



## References

- Birnbaum R. (1988). *How colleges work : the cybernetics of academic organization and leadership*. San Francisco: Jossey-Bass.
- Birnbaum R. (2004). Governance and Management : U.S. Experiences and Implications for Japan's Higher Education. In *Restructuring the Governance and Management of Universities in Japan – Proceedings of the 31<sup>st</sup> RIHE Annual Study Meeting*. RIHE. 1-25.
- Conférence des Présidents d'Université (CPU) (2001). *Autonomie des universités – Les actes du colloque annuel de la conférence Lille 22-23 mars 2001*. Paris: CPU.
- Conseil national de l'Évaluation (2001). *Évaluation de la politique de contractualisation avec les universités*. Commissariat général du Plan, Paris.
- Dizambourg B. (1997). *Moderniser la gestion administrative des universités – Communication au colloque «Piloter des systèmes éducatifs en évolution, le rôle de l'encadrement» Poitiers*. Maison des Universités, Paris.
- Frémont A. et al. (2004). *Les universités françaises en mutation: la politique de contractualisation (1984-2002)*. Commissariat général du Plan, Paris.
- Friedberg E., & Musselin C. (1993). *L'État face aux universités en France en Allemagne*. Paris: Anthropos.
- Ministry of Education (2004). *Japanese Government Policies in Education, Culture, Sports, Science and Technology – FY2003 White Paper*. Tokyo: Printing Bureau, Ministry of Finance.
- Musselin C. (2001). *La longue marche des universités françaises*. Paris: PUF.
- Musselin C., & Mignot Gérard S. (2001). *Analyse comparative du gouvernement de quatre universités*. Paris: La Maison des Universités.

## Notes

1. This article is partially based on an article, originally published in the *Daigaku Ronshu (Research in Higher Education)* No. 33 in March 2002. Substantial additions have been made to the original text to provide additional information and description reflecting recent developments in both countries.
2. In Japan, there are three sectors of universities : 1) national universities established by the national government (currently national university corporations), 2) public universities established by local government, and 3) private universities established by non-profit educational foundations called *school juristic persons*.
3. In many cases, members of the advisory committee on administration became members of the administrative council of the same university at the time of incorporation.

4. The official appellation of the relevant ministry was “Ministry of Education, Science, Sports and Culture” (“*Monbusho*” in Japanese) until the merger with the Science and Technology Agency in January 2001. The *Monbusho* became then the Ministry of Education, Culture, Sports, Science and Technology (MEXT). In this paper, the Minister in charge of the *Monbusho* or the MEXT is referred to as the “Minister of Education.”
5. In Japan, accreditation (*habilitation*) is not necessary for the contents of academic programmes, and decisions on the selection of teachers are made locally (mostly by the faculty council).
6. Known as Savary Law (*Loi Savary*). Today, most articles of the law have been integrated into the Education Code (*Code de l'Éducation*).
7. University teachers with higher education status.
8. In France, the organisation of ministries is usually modified at the time of cabinet reshuffles, and the name of the ministry responsible for education is not stable. In this article, the term “Ministry of National Education” has been employed to designate the relevant ministry.
9. UFR correspond by and large to Japanese faculties. However, the former are more ramified and smaller than the latter, and provide education from undergraduate to graduate level.
10. They are comprised of an operational grant (*subvention de fonctionnement*) and an investment grant (*subvention d'investissement*).
11. More precisely, each national university was founded by a national university corporation (see below).
12. This can be seen in the underdevelopment of student affairs and professional development of teachers, especially compared with the United States. Support for students has been explicitly codified in the National University Corporation Law.
13. *Discours de Jack Lang, Ministre de l'Éducation nationale, devant la Conférence des Présidents d'Université, le 5 juillet 2001.*
14. *Loi 2004-809 relative aux libertés et responsabilités locales.*
15. *Projet de loi sur l'autonomie des établissements d'enseignement supérieur (de modernisation universitaire).*
16. Scottish universities can be cited as an advanced example.
17. *Discours de Jack Lang, Ministre de l'Éducation nationale, devant la Conférence des Présidents d'Université, le 5 juillet 2001.*

## Mergers of Chinese Higher Education Institutions in the 1990s

Fu-tao Huang\*

### Introduction

Up to now, while there have been many discussions at a policy level about issues concerning mergers of higher education institutions, little research has been done on changes in the structure of higher education (by type, area of research and level) and administrative system of higher education (by form of establishment and jurisdiction) that resulted from the mergers. The structure of higher education institutions and the administrative systems of individual institutions, which are among the most significant characteristics of modern Chinese higher education were established on the basis of the Soviet Model in the 1950s. This model has influenced various aspects of Chinese higher education institutions, including student enrollment, development of the undergraduate curriculum, expenditure allocations and sources of operating funds, training and employment decisions of graduates, and has become an important target and focus of higher education reforms since the end of the 1970s.

This paper aims at examining the changes that have occurred in the structure and administrative system of higher education institutions caused by mergers and in particular: (1) the background to and the policy of mergers of higher education institutions; (2) the current situation in, patterns of, and influences on, the structure of fields of research and the administrative relationships of higher education institutions with government exerted by mergers; and (3) a comparative perspective of similarities and differences between mergers of higher education institutions in China and Japan.

Chinese higher education institutions can be categorized into two major types: full-time regular higher education institutions and adult higher education institutions. The regular higher education institution is a three-tiered structure, comprising a short-cycle program (equivalent to a Junior College, *Tanki Daigaku*, in Japan), with programs extending from 2 to 3 years, undergraduate education (equivalent to a four-year university in Japan, though its programs last 5 years in the Faculties of Medicine and Engineering ), and graduate education (including masters' and doctors' degree programs, each covering 3 years respectively). The adult higher education institution is a two-tiered structure, providing a short-cycle program and undergraduate education. In accordance with the duration of programs or fields of study, the full-time institutions can also be divided into comprehensive universities, colleges with one specialization or area of study,

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colleges of short-cycle programs and vocational and technical colleges (also called short-cycle vocational universities). In this paper, the author is mainly concerned with undergraduate education and short-cycle programs in full-time higher education institutions.

### **Background and Policy of Mergers**

*Background* From July 1952, shortly after the People's Republic of China was established, to the end of 1953, there occurred a national-level merger of higher education institutions (*Yuanxi Tiaozheng* in Chinese) based on introduction of the Soviet Model. The purpose was to train human abilities in accord with the demands of a rigid, centrally planned economic system. Two aspects are particularly worth noting. First is the hugely increased share of professional higher education institutions of Science, Engineering, and Agriculture (Table 1) accompanied by a rapid decrease in the number of existing comprehensive universities and professional higher education institutions of Finance and Economics. Second was establishment of an administrative system for higher education by the educational administration of central and local governments as well as other central ministries or agencies (*Tiaokuai Fengge* in Chinese). This meant that higher education institutions were vertically established and administered by both the Ministry of Education (MOE) and other central ministries; while at the same time they were also horizontally subject to central and local educational authorities respectively. For example, on 13 November 1953, according to documentation from the Ministry of Higher Education, of 181 higher education institutions, 148 of them were clearly formulated in terms of administrative relationships with government, which reflects implementation of the administrative initiative described above.<sup>1</sup> Of these, at the central level, 8 institutions were administered by the Ministry of Higher Education, 30 of them by other central ministries and agencies; and at the provincial level, 72 institutions were administered by the Great District) Administrative Commission (at the time, China was divided into 8 Great Districts and 38 institutions were administered by provincial governments and authorities of the province-level municipalities.<sup>2</sup> By 1965 of a total of 434 higher education institutions, only 34 institutions were administered by the Ministry of Higher Education, while the number of institutions that were administered by other central ministries and agencies had increased to 149; and 251 institutions were under the administration of provinces and province-level municipalities. Consequently, a system of higher education characterized by administration by different ministries and agencies at different levels came into being.<sup>3</sup>

**Table 1. Changes of structure of higher education institutions caused by mergers from 1952 to 1953**

Type	1951	%	1954	%	Change (Institution)
Comprehensive Univ.	47	22.82	14	7.45	-33
Engineering	36	17.48	40	21.28	+ 4
Agriculture	15	7.28	26	13.83	+11
Forestry	-	0	3	1.59	+3
Medicine	27	13.10	28	14.89	+1
Teachers' Training	30	14.56	39	20.74	+9
Linguistics	8	3.88	8	4.26	0
Finance · Economics	19	9.22	5	2.66	-14
Politics · Law	1	0.49	4	2.13	+3
Physical Education	1	0.49	6	3.19	+5
Art	18	8.74	14	7.45	-4
Other	4	1.94	1	0.53	-3
Total (institution)	206	100.00	188	100.00	-18

Source: Zhonghua Renmin Gongheguo Jiaoyubu Jihua Caiwusi, *Achievement of Education in China -1949-1983*. People's Education Press, 1984, p.51.

Except for the 10-year so-called “confusion period” of the Great Cultural Revolution from 1966 to 1976, the administrative system greatly affected the development of Chinese higher education.

Economic reform and open-door policy since the end of the 1970s, and especially since 1992, with transition of the planned economic system into a socialist market economy system, have introduced higher education institutions to market mechanisms. Further, in an era of economic globalization, there have also been dramatic reforms of higher education directed to enhancing quality and management efficiency, as well as establishing world-class universities for the 21<sup>st</sup>-century. Hence, the structure and administrative systems of higher education modelled on that of the Soviet Union were criticized for their defects. These included: (1) practices concerning unified student enrollment, development of curriculum and employment decision for graduates that were based on the rigid centrally planned economy and did not correspond to the needs of a market economy, especially the needs of the local community; (2) institutions that were set up by different ministries and agencies at central and provincial levels were not responsive to training abilities for a knowledge-based society as the institutions were confined to a very few particularly highly-utilitarian fields of study with teaching based on narrowly-divided specializations; (3) due to the fact that the various institutions were established and administered by different educational or administrative ministries at central and provincial levels respectively, the limited budget available from government was allocated to many small scale overlapping institutions, so that the higher education institutions were considered to operate inefficiently. This last point is illustrated by the number of regular higher education institutions in 1992 with less than 1000 students at a undergraduate level accounting for 15.2% of the total, and that colleges of short-cycle programs and short-term vocational colleges contributed of 41.9% of the total.<sup>4</sup>

*Changes of Policy* Since 1985, changes of policy about mergers can be divided into two periods: from 1983 to 1992, was a period of formulating reform principles; and since 1992, a period of implementing the principles.

In the first period, from 1983 to 1992, although some small-scale mergers between higher education institutions took place, no clear policy or particular principles concerning mergers were enunciated by central government. As no real mergers occurred at system level, neither were there any changes in the structure of higher education institutions, nor in the administrative relationship between the government and institutions resulting from mergers. But with the progress of economic reform, new policies concerning reforms of the administrative system of higher education came to be adopted. For example, in the document *Decisions on Educational System Reform by the Central Committee of the Communist Party of China* formulated on 27 May 1985, objectives concerning reform of the administrative system of higher education were stated. Reform had to be undertaken at three levels: at the level of central government, of provincial government (including autonomous regions and municipalities directly under the Central Government) and of central cities (densely populated and economically well-developed cities).<sup>5</sup> This period can be called the phase of drafting the related policy.

During the second period from 1992 to 2000, mergers of higher education institutions were carried out in earnest at a national level because a clear policy had been established and practical plans existed for reform of the administrative system of higher education, and especially for mergers of higher education institutions. As a result, dramatic changes took place in the structure of higher education institutions and in the administrative relationship between government and institutions. Some documents that have greatly affected mergers of higher education institutions are discussed below.

At the Working Meeting of National Regular Higher Education from 14-18 November 1992, organized by the State Education Commission (renamed as the Ministry of Education in 1998) in Beijing, reforms on higher education system constituted important items and were seriously discussed. In the meeting, two decisions were made about the prospective reforms. First, the administrative system, which had been rigidly controlled by the government in the planned economic system and involved direct intervention by government, must be changed. The existing relationship between government, society and institutions had to be modified and gradually improved through a new system that, though comprehensively planned and administered at a micro level by the central government, was responsive to society and enjoyed autonomous management. Second, reform of the administrative system for higher education must allow gradual change so that individual institutions could assume major responsibilities from both the central government and the provincial authorities, including autonomous regions and municipalities directly administered by the central government.<sup>6</sup> After the meeting, guided by these policies at national level, more documents and plans were published and various reforms

implemented concerning the administrative system of higher education, including mergers.

The documents *Outlines for Reform and Development of China's Education* and its *Opinions on Implementation*, issued in February 1993, are regarded as the most important guidelines for China's education reforms since the 1990s. The "Outline" describes and clarifies the future of China's education reforms and operational principles, in transition from the planned economic system to a market economy starting from 1992. It also stresses some of the principles of reform identified in the *Decisions on Education System Reforms by the Central Committee of the Communist Party of China* that was promulgated in 1985. For example, with a regard to the objectives of reform of the administrative system of higher education in the 1990s, it refers again to the principle that "gradually it should fundamentally aim at forming a new administrative system that is administer and operated both by the central government and local authorities and at the same time with participation by all societal forces."<sup>7</sup>

With various attempts having been made to reform of the administrative system of higher education, the policy involved also became much clearer in the later 1990s. For example, in July 1995, according to the document *Opinions on Deepening Reforms on Higher Education System by the State Commission of Education*, five measures were adopted: *Gongjian* (universities to be run jointly by both central government and local authorities); *Lianhe* (universities to be operated jointly by academia, government, industry and the private sector); *Hebing* (mergers of higher education institutions); *Xiezu* (cooperation between universities, industry, research institutes and the local community); and *Huazhuan* (changes of administrative or subordinate relationships of universities with other central ministries).<sup>8</sup>

At a forum on the Reform of Higher Education Administrative System that was held in January 1996 by the State Commission of Education at Beidaihe, the eight-Chinese character principles regarding the reform on higher education administrative system were once again much emphasized: namely, *Gongjian*; *Tiaozheng* (reorganization of the structure of higher education); *Hezhuo* (cooperation between universities, industry, research institutes and local community); and *Hebing*. Among these, *Hebing* (mergers) is considered as the highest level of *Hezhuo*: it implies that, through consolidating the five areas of personnel, finance, property, education and research activities in different higher education institutions, there would follow improvements, particularly in quality of education and administrative efficacy.<sup>9</sup>

A National Meeting in Yangzhou for Exchanging Experience concerning Reform on the Higher Education Administrative System, held from 17 to 19 January 1998, aimed at accelerating the pace of reform of the higher education administrative system — as suggested in the report issued from the Fifteenth National Congress of the CPC — and the objective for reform of the administrative system was stated more explicitly. By early 2000 or shortly afterwards, "a new administrative system of higher education, to be run and administered at the levels of both the

central government and local authorities, should be established. In the new system the central and local governments would perform different duties according to their respective responsibilities; in particular provincial-level government would take a central and comprehensive role in operating and administering higher education institutions at a micro level in accord with policy and leadership established by the central government.”<sup>10</sup> Since then, the pace of reform of the administrative system for higher education administrative, starting with mergers, has rapidly accelerated.

### **Current Situation, Patterns, Character and Outcomes of Mergers**

*Current Situation of Mergers* In the 1990s, the first higher education institution resulting from merger in China was Zhengjiang College of Short-Cycle Programs that was founded on 5 March 1992. The college is made up of three institutions: Zhengjiang Vocational College, which used to be administered by Jiangsu people’s government as an adult institution, Zhengjiang Educational College and Jiangsu Broadcasting & Television University. Since then, mergers have occurred on a national scale. In 1992, 54 institutions were consolidated into 20 new institutions.<sup>11</sup> However, what should be stressed here is that the number of institutions involved in mergers and the pace of mergers in each year showed wide differences according to changes in policy and to the documents relating to reforms of the administrative system of higher education.

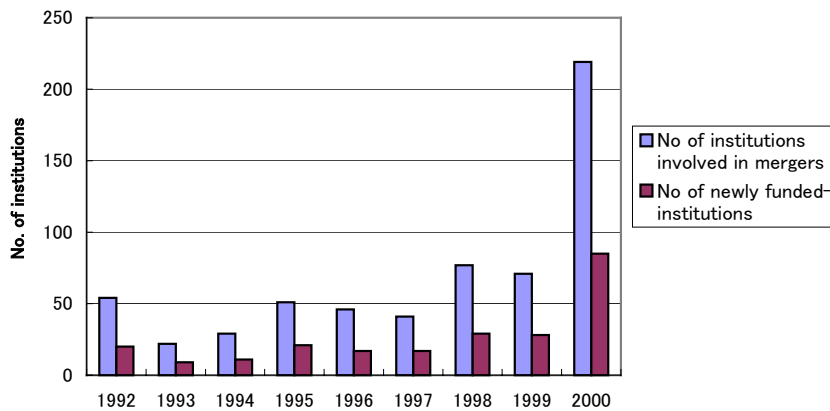
As shown in Figure 1, most mergers were implemented in 1992, 1995 and especially in the three years since 1998. The reason is that all these mergers were decided directly through policy documents at government level; that is, the pace and particular objectives related to mergers and the scale of mergers are fundamentally regulated by the government. As indicated in Figure 1, compared with only 22 institutions involved in mergers and only 9 new institutions originating from mergers in 1993, in 2000 about 218 institutions were involved in mergers and 85 new institutions came into being. It was in the year 2000 that the largest number of institutions was involved in mergers and also the biggest number of new institutions was established as a result of mergers.<sup>12</sup>

Second, from 1992 to 2000, there was not only a change in the number of both institutions involved in mergers and of newly-founded institutions, but also a change in diversification of structure (by type, field of study and educational level) and administrative system (by form of establishment). For example, in 1992, among the 54 institutions involved in mergers, there were 31 adult institutions and 7 regular colleges of short-cycle programs, indicating that fewer regular higher education institutions were participating in mergers. Among the 20 newly-founded institutions, there were 8 adult institutions and 4 colleges of short-cycle programs.<sup>13</sup> It is obvious that this yielded a fall in the number of adult institutions caused by related mergers. However, by 1992 there were almost no changes in educational level due to mergers. For example, among 54 institutions, with only one exception (the College of Wuhan Water Transportation being formed



by consolidating the College of Wuhan River Transportation and College of Wuhan Water Transportation Engineering, which was run and administered by the Ministry of Transportation), all mergers occurred among institutions that were run and administered by local authorities. Unlike the mergers in the later 1990s, almost no changes took place in administrative relationships between institutions and their governing ministries; and in particular, no authority was delegated from central ministries to local authorities. In other words, when mergers were started, a focus was placed on workers' vocational colleges or short-cycle colleges with programs of highly utilitarian and practical areas of study. It appears that mergers were basically initiated with the purpose of readjusting areas of study so as to reduce the number of adult institutions and colleges of short-cycle programs. In contrast, by 2000, among the 218 institutions involved in mergers, although the proportion of colleges of short-cycle programs still accounted for a large share, due to the rapid decrease in the number of adult institutions over past years there were only 56 adult institutions that were consolidated. Furthermore, in terms of areas of study similar to those in the previous period, on the one hand, many colleges of short-cycle programs in the areas of Engineering, Agriculture and Medicine were consolidated, absorbed, or promoted into four-year universities; on the other hand, it is particularly worth noting that many new teachers' colleges resulted from mergers between teachers' colleges of short-cycle programs and adult colleges of education and also that many comprehensive colleges or universities came into being due to mergers of institutions of education with other types of institutions of short-cycle programs. Consequently, since the later 1990s, changes not only happened in the structure of higher education institutions, mostly reflecting the decrease in number of adult institutions and colleges of short-cycle programs through mergers; but also in the administrative relationship of institutions with other central ministries. For example, compared with only 2 or 3 institutions that had changed their administrative relationship with the other central ministries from 1992 to 1995,<sup>14</sup> during each of the three years from 1998 to 2000, the corresponding number increased greatly and amounted to 161,<sup>15</sup> 51<sup>16</sup> and 778 institutions respectively.<sup>17</sup>

**Figure 1. Changes in mergers of Chinese higher education institutions (1999-2000)**



Source: *Zhongguo Jiaoyu Nianjian* (China Education Yearbook), from 1992 to 2000, People's Education Press. <http://www.moe.edu.cn>

*Patterns of Mergers* According to changes in the structure of higher education institutions (by type, area of study and educational level) and administrative system of higher education institutions (by form of establishment), two categories of mergers can be identified: Category One, based on mergers of institutions by type and area of study; and Category Two based on mergers of institutions by form of establishment (Table 2 and Table 3). Further, each category can also be divided into several groups.

**Table 2. Patterns of mergers of institutions by type, area of study and level (Category One)**

Category	Character	Examples	Outcomes
By Type	Mergers between regular institutions	Peking Medical Univ.+Peking Univ.	Peking Univ. (regular)
	Adult institutions absorbed into regular institutions	Qingdao Architectural College (regular) + Qingdao Workers' Univ. of Metallurgy Industry (adult)	Qingdao College of Architectural Engineering (regular)
By Area of Study	Mergers between several institutions with the same area of study that became one institution with the same area of study	·Hebei Normal Univ. + Hebei Normal College + Hebei College of Education ·Hebei College of Finance and Economics + Hebei College of Economics and Trade + Hebei College of Commerce	·Hebei Normal Univ. ·Hebei Univ. of Economics and Trade
	Mergers of institutions with different areas of study resulting in a comprehensive univ.	Jiangsu Engineering College + Yangzhou Normal College+Jiangsu Agricultural College +Yangzhou Medical College + Jiangsu College of Commerce + Jiangsu College of Water Engineering + Yangzhou Training Center of National Bureau of Tax	Yangzhou Univ. (comprehensive)
By Level	Mergers between universities at undergraduate level	Tongji Univ. + Shanghai Railway Univ.	Tongji Univ.
	Colleges of short-cycle programs were absorbed into univ. at undergraduate level and became four-year univ.	Beifang Jiaotong Univ. (undergraduate level) + Beijing Electronic College of Short-Cycle Program (short-cycle program)	Beifang Jiaotong Univ. (undergraduate level)
	Mergers between colleges of short-cycle programs promoted into univ. at undergraduate level	Shanghai College of Light Industry+Shanghai College of Metallurgy+Shanghai College of Chemical Industry	Shanghai College of Applied Technology (undergraduate level)
	One college of short-cycle programs resulting from several colleges of short-cycle programs	Maanshan Langhe Univ. (short-cycle program) + Maanshan college of Commerce (short-cycle program)	Anhui College of Commerce (short-cycle program)

Source: 1992, *yilai Quanguo Gaodengjiaoyu Guanli Tizhi Gaige Gaikuang* (Outline of Reforms on Higher Education Administrative System since 1992 ), Guangmin Daily, January 19, 1998.

**Table 3. Pattern of mergers of institutions by form of establishment (Category Two)**

Group	Character	Examples	Outcomes
A	Mergers of institutions administered by the same administrative body and no change of administrative relationship	Jiangxi Univ. (Jiangxi people's government) + Jiangxi Industrial Univ. (Jiangxi people's government)	Nanchang Univ. (Jinagxi people's government)
B	Mergers of institutions administered by several agencies or ministries resulting in one institution administered only by one agency or ministry	Tianjin Univ. of Trade (Ministry of International Business and Economics) + Nankai Univ. (Ministry of Education)	Nankai Univ. (Ministry of Education)
C	Mergers of institutions administered by Central-level agencies and local government and resulting in the transfer of authority to local government	Beijing College of Information Management (Ministry of Information Industry) + College of Cadre Management (Ministry of Electronic Industry)	Beijing College of Information Management (Beijing Municipal People's government)
D	Mergers between institutions administered by Ministry of Education and Central-level agencies and those by local government and resulting in institutions jointly administered by Central-level agency and local government	Taiyuan Univ. of Industry (People's government of Shanxi province) + Shanxi Mining Institute (Ministry of Coal Industry)	Taiyuan University of Science & Engineering (Ministry of Coal Industry and People's government of Shanxi province)
		Tongji Univ. (Ministry of Education) + Shanghai College of City Building (Commission of Shanghai City Building) + Shanghai College of Construction Material (Bureau of Industry of Shanghai Construction Material)	Tongji Univ. (Jointly administered by Ministry of Education and Shanghai Municipal people's government)

Source: 1992 *yilai Quanguo Gaodengjiaoyu Guanli Tizhi Gaige Gaikuang* (Outline of Reforms on Higher Education Administrative System since 1992), Guangmin Daily, January 19, 1998.

*Outcomes of Mergers* By 2000, in contrast to the decrease in the number of professional higher education institutions, especially in areas of science, engineering and agriculture, the number of higher education institutions, and in particular of comprehensive universities, institutions of economics, management, information, *etc.*, had grown strikingly.<sup>18</sup> By 31 December 2000, three aspects of the changes concerning the structure of higher education and the administrative system resulting from mergers can be identified.

First, the total number of regular higher education institutions had decreased from 1075 in 1992 to 1041 by 2000. But these figures conceal bigger changes. Of the 1075 institutions in 1992, 607 universities and professional colleges were either absorbed or promoted into 235 new institutions, with a reduction of 372 institutions through mergers, especially institutions of science or engineering.<sup>19</sup> The structure of the higher education system established in the 1950s with much emphasis on institutions of science and engineering had been changed by mergers between highly professional colleges with a single area of study or specialization. In their places, huge institutions were established with the intent of becoming world-class universities. For example,

the new Zhejiang University was formed in 1998 from the former Zhejiang University, Hangzhou University, Zhejiang University of Agriculture and Zhejiang University of Medicine; and in 2000 a new Peking University was based on the merger of Peking University and Peking University of Medicine; both of these became comprehensive universities with courses in almost all areas of study in China, including most of the key research units and experimental centers.

Second, a big change in the administrative system of higher education also occurred. In particular, the number of institutions administered by other central ministries greatly decreased from 318 in 1990 to 50. On the other hand, the numbers of institutions that are administered by MOE, and by local authorities increased from 36 and 721 in 1990 to 71 and 920 in 2000 respectively (Table 4). Over almost 8 years, there were changes of administrative systems in 509 institutions (296 regular institutions). Among these were 360 institutions (205 regular institutions) that had been administered by other central ministries but are now transferred to local authorities. There were also changes in the administrative relationships of institutions to their governing ministries in 99 institutions, including 83 regular institutions formerly run by other central ministries. In this regard, only 32 institutions of this type have had no administrative change. At a local level, 18 institutions that used to be administered by various agencies other than the education sector, had their operations and administration transferred to education departments. After mergers, MOE or educational departments in local authorities operated more of the administrative systems; and local authorities and individual institutions play the leading role in determining student enrollment, curriculum development, decision-making on organization in their own universities, and in generating resources. With more authority delegated from other central ministries to local government, higher education institutions are now expected to undertake closer cooperation with the local community and to increase their contributions to local industry.

Third, the scale of higher education institutions changed greatly. For example, with a decrease in the number of institutions with fewer than 3,000 students, and especially of institutions of science and engineering, the number of comprehensive universities, exceeding 4,000 students rose rapidly (Table 5). Furthermore, due to mergers between institutions that were administered by other central ministries, professional universities or specialized colleges with duplicated programs have changed their missions to cultivating more widely skilled graduates and enhanced their efficiency.

**Table 4. Changes in the Structure of Higher Education Institutions (by Type • Level) and Administrative System**

By type	1990	%	2000	%	Changes (institution)
Comprehensive	50	4.65	83	7.97	+33
Science & Engineering	286	26.60	239	22.96	-47
Agriculture	59	5.49	44	4.22	-15
Forestry	11	1.02	6	0.58	-5
Medicine & Drugs	122	11.35	100	9.61	-22
Teachers' Training	257	23.91	221	21.23	-36
Languages	14	1.30	15	1.44	+1
Finance • Economics	80	7.44	68	6.53	-12
Politics • Law	25	2.33	26	2.50	+1
Physical Education	16	1.49	14	1.34	-2
Art	30	2.79	29	2.79	-1
Other	125	11.63	196	18.83	+71
Total (institution)	1,075	100.00	1,041	100.00	-34
Among which					
Four-year Univ.	620	57.67	599	57.54	-21
Short-cycle	341	31.72	258	24.78	-83
Vocational colleges of short-cycle programs	114	10.61	184	17.68	+70
Total (institution)	1,075	100.00	1,041	100.00	
Administered by MOE	36	3.35	71	6.83	+35
Administered by other central	318	29.59	50	4.80	-268
Administered by local government	721	67.06	920	88.37	+199
Total (institution)	1,075	100.00	1,041	100.00	

Source: *Zhongguo jiaoyu Nianjian Bianjibu 1990* (Educational Statistics Yearbook of China), People's Education Press, 1991, pp.20. *Zhongguo jiaoyu Nianjian Bianjibu 2000* (Educational Statistics Yearbook of China), People's Education Press, 2001, p.22. *Zhongguo Jiaoyu Bao* (China Education Daily), November 7, 2000. <http://www.moe.edu.cn/highedu/>

**Table 5. Changes in the Scale of Comprehensive Universities and Institutions of Science & Engineering**

Inst. Scale (student)	1990		2000		Changes (institution)	
	Comprehensive	Science & Engineering	Comprehensive	Science & Engineering	Comprehensive	Science & Engineering
300 and below	0	6	0	2	0	-4
301–500	0	12	0	3	0	-9
501–1000	1	34	0	3	-1	-31
1001–1500	4	47	6	2	+2	-45
1501–2000	4	43	2	7	-2	-36
2001–3000	7	63	2	25	-5	-38
3001–4000	3	38	3	25	0	-13
4001–5000	3	10	4	20	-4	+10
More than 5001 student)	23	33	66	152	+43	+119
Total (institution)	50	286	83	239		

Source: *Zhongguo jiaoyu Nianjian Bianjibu 1990* (Educational Statistics Yearbook of China), People's Education Press, 1991, p.22. *Zhongguo Jiaoyu Nianjian Bianjibu 2000* (Educational Statistics Yearbook of China), People's Education Press, 1991, p.22.

### **Concluding remarks with a comparative perspective**

In Japan, in recent years mergers of higher education institutions have also occurred. Compared with China, these mergers of higher education institutions did not occur nationally or on a large scale. However, based on the foregoing discussion, the current situation, and the future trends of mergers in the Japanese context, three general aspects of mergers in both Chinese and Japanese institutions appear.

First, with regard to the background or rationale, the mergers of Chinese higher education institutions were implemented as part of a transition from a planned economic system to a market economy. The intent was to reform the structure of higher education and its administrative system from one based on that of the former Soviet Union in the 1950s. The mergers focused on the professional colleges of science and engineering that were administered by other central ministries, and contributed to attempts to create a number of world-class universities. They also sought to make professional colleges more comprehensive as well as to regionalize the administrative system, with greater delegation of responsibility from central government to local authorities and enhanced responsiveness to the needs of the local community. By implementing such mergers or reconstructing higher education institutions, also with a vision of globalization, the Chinese government is trying to realize the goal of structural reform in national universities. In contrast, in the Japanese context with a massified higher education system, mergers took place basically between teachers' training universities, or medical universities and comprehensive universities that were established after the Second World War and which are expected to train graduates for the local community.

Second, in China the mergers were undertaken on a national scale in a short period of time and basically were regulated and operated by the central education ministry, at a pace greatly accelerated in the later 1990s. In contrast, the mergers in Japan were initiated by individual universities or based on agreements between several Faculties. In a sense, the Japanese mergers were implemented by universities in cooperation with the government.

Third, although no clear image can be provided for the future of the current Japanese mergers, many issues are shared by both China and Japan. Particularly difficult in both countries are adjustment of activities or issues concerning teaching, research and internal institutional administration, and especially personnel affairs. Furthermore, there are also dangers that some institutions will lose their character or individuality as identifiable and unique institutions are consolidated. In some of the newly-founded higher education institutions, issues such as how to solve various conflicts, make full use of human resources and materials, as well as how to build up an institution with an identifiable character have to be taken into consideration.

### Notes and References

1. Zhonghua Renmin Gongheguo Jiaoyubu Jihua Caiwusi (1984). *Achievement of Education in China-1949-1983*. People's Education Press, 50.
2. Liu, G. (Ed.) (1990). *Xin Zhongguo Gaodeng Jiaoyu Dashiji 1949-1987* (Chronicle of Higher Education in New China. Northeast Normal University Press, 62.
3. He, D. (Ed.) (1998). *Zhonghua Renmin Gongheguo Zhongyao Jiaoyu Wenxian 1976-1990* (Important Documents of Education of the People's Republic of China), Hainan Press, 3725.
4. Zhou, Y. (2001). *Gaodengjiaoyu De Zhongda Gaige Yu Chuangxin* (Big Reform and Innovation of Higher Education System), *China's higher Education*, 1, 6-7.
5. He, D. (Ed.) (1998). *Zhonghua Renmin Gongheguo Zhongyao Jiaoyu Wenxian 1976-1990* (Important Documents of Education of People's Republic of China ), Hainan Press, 2288.
6. Zhongguo Jiaoyu Nianjian Bianjibu (1994). *China Education Yearbook*, People's Education Press, 148-149.
7. *Zhongguo Jiaoyu Gaige He Fazhan Gangyao* (Outlines for Reform and Development of China's Education), *People's Daily*, July 2, 1993.
8. He D. (Ed.) (1998). *Zhonghua Renmin Gongheguo Zhongyao Jiaoyu Wenxian 1976-1990* (Important Documents of Education of People's Republic of China ), Hainan Press, 3851-3854.
9. Hao, W., & Liu Z. (Eds.) (2000). *Gaodengjiaoyu Shi* (History of Higher Education), Hainan Press, 530.
10. Yanyan (1998). *Shiji Zhijiao De Huimo Yu Qianzhan* (Review and Forecast at the Turn of the Century), *Yangzhou University Journal (Higher Education)*, 1, 1-5.
11. Retrieved from <http://www.moe.edu.cn/highedu/gxtz/gxhb0.htm>
12. According to *China Education Yearbook 2001* (p.163), 196 institutions were involved in mergers in 2000.
13. Zhongguo Jiaoyu Nianjian Bianjibu, *China Education Yearbook*, from 1992 to 2000, People's Education Press. Retrieved from <http://www.moe.edu.cn>
14. Zhongguo Jiaoyu Nianjian Bianjibu (1996). *China Education Yearbook 1995*, People's Education Press, 197.
15. Zhongguo Jiaoyu Nianjian Bianjibu (2000). *China Education Yearbook 1999*, People's Education Press, 200.
16. Zhongguo Jiaoyu Nianjian Bianjibu (2001). *China Education Yearbook 2000*, People's Education Press, 163.
17. Zhongguo Jiaoyu Nianjian Bianjibu (2002). *China Education Yearbook 2001*, People's Education Press, 163.
18. Retrieved from <http://www.moe.edu.cn/highedu/gxtz/gxhb0.htm>
19. See Note 17.

## **Economics of Education. Part 7.**

### **Returns from R&D in Japanese Industry and Universities**

Keith J. Morgan\*

#### **Introduction**

A relationship between R&D and increased productivity is well established in economic theory. Of even greater significance is recognition by government that investment in research contributes to increase of national wealth; and by industry that it generates profitability. Direct evidence for this is provided by company financial reports. Profitability of companies undertaking R&D is consistently and substantially greater than for those companies that do no research. Not surprisingly, industrial spending on R&D in Japan is high and has increased at an average rate of about 5% over the past 25 years.

Even so, commercial decisions to commit resources to R&D are accompanied by many doubts. They arise from two major areas of concern. One reflects the nature of research work. No individual research project can be guaranteed to be successful, let alone profitable within a specified period; it is only when research is reviewed on a scale sufficient to be assessed statistically that its value can be assured. The other cause for concern is the problem of identifying the level of profit attributable to research; in company accounts, only expenditure on R&D is easy to locate.

Few anxieties and no inhibitions prevent academic institutions from performing research. University staff regard the opportunity to engage in research as a principal benefit of academic employment. Government encourages and subsidises the research as an essential component of policy for economic growth. The results of academic research are normally published in journals and books to become a public good. Accordingly, while it is accepted that the research constitutes a significant economic asset, there is no direct means of assessing its value or of estimating the return it provides.

Internal estimates of profits generated by company R&D require careful analysis of costs. These are frequently obscure in multi-product organisations. The effect of R&D on overall profitability is more readily accessible through detailed time-series analysis. When aggregated across whole sectors of industry this can yield values for both private and social rates of return from investment in R&D. Analysis of data from research-intensive industries in Japan by Goto and Suzuki (1989) indicates annual social rates of return averaging 40%. Similarly Mansfield (1991, 1998) has demonstrated that it is possible to identify earnings from commercial exploitation of academic research corresponding to annual social rates of return of 28% on total academic research expenditure.

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Treatment of R&D as an accumulating non-tangible asset rather than an annual expense has been developed by Lev as the basis of a convenient approach to estimating both its magnitude and its yield. By applying this approach to a wide range of research-intensive American manufacturing industry, Lev and Sougiannis (1996) demonstrate annual private rates of return from investment in R&D in the range 15-28%.

An abbreviated and simplified version of their method was recently used to obtain an estimate of the rate of return from R&D across industry in Japan and to apply the result to give an estimate of the value of academic research in the universities (Morgan, 2001). This result was obtained with a small and limited data set. It has now been possible to improve this procedure by the use of a more extended and comprehensive data set. Application of these results to academic research now allows estimates of its economic value, provides a basis for quantifying the scale of aggregated research knowledge in the universities, and permits examination of alternative routes for optimising its benefits.

### Procedure

Company earnings can be expressed as a function of tangible and intangible assets. Tangible assets (including inventory) are valued and reported in company annual financial statements. Intangible assets, apart from notional intangible fixed assets, are not reported. With the assumption that they consist largely of R&D, they can be estimated as a cumulative capital asset from annual expenditure on R&D. For a given year, R&D capital comprises the sum of the depreciated value of expenditure in the current and previous years. This can be written:

$$\text{R\&D Capital} = \Sigma[a_k(\text{RD})_{t-k}]$$

where the proportion of R&D expenditure (RD) that survives productively in year t-k is summed over n years (n = 0, 1...k). Then the relation between income (I) in year t to tangible and intangible assets becomes:

$$(I/S)_t = a_0 + a_1(\text{TA}/S)_{t-1} + \Sigma[a_{2k}(\text{RD}/S)_{t-k}] + e$$

where S is annual sales, TA is tangible assets, RD is expenditure on R&D in each of t-k years,  $a_0$  is a constant,  $a_1$  is the coefficient for tangible assets and  $a_{2k}$  is the set of coefficients corresponding to depreciation of intangible capital; e is an error term. The value of k (0, 1...n) is determined by the effective lifetime of investment in R&D. This is assumed to follow a polynomial decay and is estimated by an end-limited Almon lag procedure (Maddala, 1992).

### Data

No one generally accessible set of data provides all necessary information to perform this analysis. Annual statistics for R&D expenditure aggregated across sectors of Japanese industry are available in the Report on the Survey of Research and Development (R&D Report) (Statistics Bureau). This also provides some limited additional data for sales and operating profit. More extensive financial data aggregated by sector are in the Financial Statements of Principal Enterprises compiled by the Bank of

Japan (BoJ Statements): these data include tangible assets, inventories, sales, gross and operating profits but not R&D expenditure. The two samples are not identical. However, the composition of the sample used in the BoJ Statements (companies with capital not less than ¥1 billion) and the data for large companies in the R&D Report (capital not less than ¥10 billion) appear to be similar: although they vary over time; numbers of companies in the samples are similar and the ratios (operating profits/sales) in the two samples are similar and well correlated ( $r, 0.97$ ). Moreover, restricting analysis to the larger companies ensures that a high proportion (82%) is engaged in research in comparison with the much lower proportion (9%) of all the companies included in the whole sample for the R&D Report.

Coverage of the two data sets is not identical. The scope of the BoJ Statements is wider than that of the R&D Report, which is largely restricted to manufacturing industry. Conversely, fewer segments of manufacturing industry are explicitly identified in the BoJ data. This restricts analysis to 10 segments of manufacturing industry plus the construction industry. Further constraints are imposed by the different format of presentation of the BoJ Statements before 1980 and termination of the series in 1996, so that analysis is restricted to the 16-year period 1980-1995. Unless otherwise stated, all costs and prices are expressed in 1990 Yen.

Data on the costs of academic research are taken from Morgan (2001).

## Results

Regression of estimates of R&D capital on earnings from sales by research-active companies across Japanese industry according to equation 2 shows a return on investment of 210-250% over a period of 7-years at an annual rate of 20-24% (Table 1).

Accumulation of R&D capital was assumed to conform to a symmetrical, end-limited Almon lag function. Varying the period of accumulation of capital within the range 4-10 years showed little change in the overall return. Nor were the correlation parameters clearly sensitive to the period of capital accumulation, but optimal values corresponded to a period of about 7-years for effective depreciation of capital. This period is comparable to the range 5-9 years identified for depreciation of R&D capital in different sectors of industry in the USA (Lev & Sougiannis, 1996).

To reflect the direct effects of investment in R&D, earnings from sales (gross profits) were used as a measure of income: this excludes administrative expenses, taxation, depreciation and income from financial assets. Treating expenditure on R&D as capital investment rather than a production cost implies an adjustment to the stated income by adding back the costs of R&D less depreciation of R&D capital. Conversely, if R&D expenditure is booked either as a central administrative cost or as capital investment, no change is needed. The net effect, on both income (*ca.* 1-2%) and on return from R&D (Table 1) is small.

**Table 1. Results of Regression of R&D Capital and Tangible Assets on Earnings for Industry in Japan, 1981-1995**

	1981-1995			1986-1995		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Return on R&D Capital	211%	222%	200%	191%	201%	178%
Annual Rate of Return from R&D	22%	24%	20%	19%	21%	17%
Annual Rate of Return on Tangibles	2.0%	2.7%	6.3%	1.6%	2.2%	4.7%
R <sup>2</sup>	0.30	0.34	0.28	0.27	0.30	0.24
t <sub>stat</sub> (R&D)	8.46	9.07	7.30	6.26	6.75	5.55
t <sub>stat</sub> (Tangibles)	0.78	1.08	2.02	0.49	0.70	1.23

Notes: R&D capital is depreciated over 7 years in accord with end-limited Almon lag parameters. Return from R&D capital and tangible assets is estimated from equation 2. Annual rate of return from R&D capital is given by the stream of earnings indicated by the lag parameters. In model 1, earnings are corrected for costs of investment in R&D, less depreciation; tangibles includes inventory; in model 2, no correction is applied to earnings; in model 3 earnings are corrected as in model 1 and include changes in inventory; tangibles does not include inventory.

Tangible assets were included explicitly in the correlation. Inventories were treated either as additional tangible assets, or alternatively by adjusting earnings to reflect year-by-year changes in inventory. Estimates of returns from tangible assets appear to be low, particularly in recent years; while this may well reflect trading conditions, the results have only low statistical significance.

Although the regression coefficients for the Almon lag parameters are satisfactorily significant (at the 0.05% level), the precision of the regressions was not high (R<sup>2</sup> ca 0.36) and much lower than that reported by Lev and Sougiannis. This appears to be an inevitable consequence of aggregating data across industries without allowing for the characteristic and differing lags appropriate to each sector. The errors implicit in the use of multiple sources of data will also contribute significantly to the lack of precision and might be expected to nullify any attempt to refine the procedure.

## Discussion

*Industry R&D* From their study of some 800 companies, Lev and Sougiannis obtained estimates of industry average returns from R&D capital in the range 166% (machinery)-263% (chemicals and pharmaceuticals). These returns accrue during the average lifetime of R&D capital, which varies according to the sector of industry from 5-years to 9-years. The corresponding internal rates of return, derived from the stream of earnings over these periods, lie in the range 15% (machinery) to 28% (chemicals and pharmaceuticals). In Japan, Goto and Suzuki analysed data from a range of research-intensive manufacturing industries, identifying effective lifetimes for R&D capital of 4-7 years with annual rates of return averaging 40%.

Average figures for research-active companies across all industry in Japan (Table 1), show similar results. While the high values, 20-24% reflect the evident commercial benefits from investment in R&D, they have to be seen in an appropriate context. In terms of commercial profitability, the returns,

based on income from sales, need to be adjusted to incorporate substantial charges for company overheads, depreciation and taxation. Further, because they are derived from aggregate data across all industry, they constitute quasi-social returns rather than the lower private rates of return that are generated by internal company investment in R&D. Comparison with the results of detailed studies by Odagiri and Murakami of the pharmaceutical industry in Japan (1967-1986) confirms the scale of these effects, with private rates of return from R&D of 15-19% increasing to 20-23% for quasi-social rates, and 30-40% for social rates.<sup>1</sup>

Commercial returns from R&D are dependent on markets and fluctuate with the level of economic activity. Estimates of returns for each year within the period 1981-95 indicate high returns in the peak growth years of the 1980's, low returns in 1992-94, and an increase in 1995. Standard deviations of returns (0.6-0.7) about the overall mean values for the period 1981-95 reflect the scale of these fluctuations. However, because of the lag in returns from investment in R&D, annual values have limited significance: moving average returns for extended periods offer more relevant results. Comparison of the average returns for the 10-year periods 1981-1990 and 1986-1995 does show the expected reduction but indicates that returns remain substantial.

*Academic R&D* The success in assessing commercial returns (*i.e.* output) on the basis of investment (*i.e.* input) suggests that, despite its conceptual limitation, the procedure might be extended to non-commercial R&D. The status of academic research as a public good excludes the possibility of identifying income generated directly from it.<sup>2</sup> However, information on financial input is available (Morgan, 2001). By following the procedure used for industry, the R&D capital, accumulated in the university system in Japan is estimated to be (1995) ¥4,345 billion.<sup>3</sup> An annual return on this capital at an average commercial rate of 20% would amount to ¥869 billion.

There is of course little evidence of financial return to universities from their research. The academic tradition, placing university research in the public domain, by definition reduces the incentive for commercial exploitation by universities. Current encouragement to protect intellectual property rights by patenting research results would have the effect of identifying some academic research as a private good. Explicit financial gain from this will need to be set against the potential erosion of the basis for public subsidy of academic research as a non-excludable good and the actual loss of accompanying academic benefits. Even so, in the US, where with the Bayh-Dole Act the economic environment favours academic entrepreneurial developments, direct financial benefit remains small: two-thirds of research income is provided by government and less than 1% is provided

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<sup>1</sup> A return on commercial R&D of 20-24% may be compared with the historic returns on capital of 12.8-14.9% over the period 1980-1997 for the whole business sector in Japan (OECD).

<sup>2</sup> There is a trivial argument indicating a return of 100% through the recurrent annual subsidies attracted by academic research.

<sup>3</sup> Annual investment in academic research is taken as the sum of expenditure on research labour, consumables, equipment, and other costs and depreciated over 7 years. Inclusion of expenditure on property (land and buildings) would add an additional 9% to the total capital for 1995).

by license and royalty payments<sup>1</sup> (N.S.F., 2002). There is though much evidence of the high economic value of university research. Mansfield (1991) showed that, of new products and processes introduced commercially into the US, 10% were “dependent on” — and a further 7% were “very substantially facilitated by” — recent university research. With knowledge of the value over time of their sales and estimates of total expenditures on all university research, he calculated a social rate of return of 28% from these products alone. Similar results have been reported from Germany but with lower estimates of returns (Beise & Stahl, 1999). These results are further supported by an estimate of at least 16% as the social rate of return from publicly funded R&D in the US (Mamuneas, 1999).

Although economic returns appear to be similar in scale, and levels of competence and productivity for academic research at least match those in commercial research (Morgan, 2001), its performance exhibits distinctive characteristics. These fall into four groups: (i) a substantial part of academic research is devoted to the humanities, social sciences and the arts; (ii) a high proportion of academic research is categorized as basic research; (iii) inefficient transfer of academic research imposes substantial delay on commercial development; (iv) progress of research is impeded by the priority assigned to teaching. Each of these characteristics might be expected to reduce the economic value of academic research. The evidence suggests that, to a large extent, the converse may be true.

- (i) *Subject Mix* About one-third of university expenditure on research, and a higher proportion of academic staff, is located in faculties of humanities, social sciences and arts. Conventionally, little commercial advantage has been expected from exploitation of research in these areas. The Survey of R&D does not include data for economic activity in the service industries. From the late 1980's there has been rapid growth in the US of the proportion of industrial R&D in the service sector. It rose from 9% of all industrial R&D in 1987 to 20-25% in the 1990's (N.S.F.). On this basis, the existing level of research in humanities, social sciences and the arts is perhaps too small to satisfy the needs of what is already the largest sector of industry in Japan and where increased productivity may provide a key to future prosperity.
- (ii) *Basic Research* For statistical purposes, expenditure on R&D is categorised as ‘basic’ or ‘applied’ research and development. Most expenditure in industry is on development (72%) and least on basic research (7%). Conversely in universities basic research accounts for 52%, applied research, 47% and development 7% of research expenditure (Statistics Bureau). A commercial return is clearly dependent on the ability to provide saleable products or processes; to this end, applied research and development are essential components. Commitment of less than half of universities R&D to these aspects might suggest that it is capable of generating only lower returns. Arguments for increasing the relevance of academic research and for increasing

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<sup>1</sup> Royalty payments provided \$675 million (1999) to US universities. Although this is a substantial sum it represents only 2.5% of designated research expenditure. Inclusion of costs of academic salaries in the costs of research reduces the proportion to 1.1%. Apart from \$150 million designated for research, there is no indication how much of this income supports university research.

resources available for applied research are based on this supposition. The evidence does not support it. Commercially, it is basic research that generates the higher returns (Mansfield, 1980; Link, 1981; Griliches, 1986; Lichtenberg & Siegel, 1991; Funk, 2002). This apparently perverse result is attributable to two factors. First is the advantage provided by access to new discovery; this is limited by rapid diffusion and “spillover” of new knowledge. Low commercial investment in basic research is a consequence of the inability to retain the full benefit of new discoveries within a company. By the same token, “spillover” has economic advantage by allowing other companies to benefit; their ability to do so provides the second factor, absorptive capacity (Levin, 1988; Bernstein, 1988; Cohen & Leventhall, 1989). An ability to assimilate new knowledge requires a familiarity with emerging techniques and concepts, most effectively available through participation in basic research. The implication is that universities are particularly well placed to benefit from both of these factors and generate high value research. Indeed it is perhaps a defect that the proportion of basic research in Japanese universities (52%) is substantially lower than that in US universities (69%) (N.S.F.).

(iii) *Delayed Transfer* The traditional means of placing university research in the public domain is through academic journals. Although electronic and personal communications provide faster alternatives, delays in publishing results are endemic. Together with additional delays in recognition of the significance of results they impose time penalties in the process of developing commercial products. Estimates of delays between availability of research results and receipt of a commercial return vary up to 7 years (Mansfield, 1991). In effect this constitutes a lag in obtaining a return from capital invested in academic research without any increase in the value of the return. To estimate the scale of the consequent reduced rate of return, two models have been examined: (a) a simple extension of the time over which research capital accumulates, appropriate for a situation where research continues during commercial exploitation; and alternatively (b) retention of the 7-year lag time applicable to commercial research but introducing a delay period before commercial returns become available. For both models, the overall return is held at the level established for commercial research. With an arbitrary assumption of 12 years as the total period for both models, the rates of return are effectively halved (Table 2). Even so, at these levels the returns remain comparable to those indicated for returns from R&D in the public sector in the US (Mamuneas) and substantially greater than those expected from other public investments in Japan.

Notional returns of 8-13% from accumulated academic research capital depreciated over 12 years would have amounted to ¥700-¥1,000 billion in 1995, that is, more than the annual subsidy provided from government revenue.

**Table 2. Effects of Academic Delay on Rate of Return from University Research Capital in Japan**

1981-1995	Model 1		Model 3	
Return on R&D Capital	211%		201%	
Commercial Rate of return	22%		20%	
Academic Delay	<b>12 Year lag</b>	<b>5 Year delay, 7 Year lag</b>	<b>12 Year lag</b>	<b>5 Year delay, 7 Year lag</b>
Rate of return on Academic R&D Capital	13%	9%	12%	8%

Notes: Model 1 and model 3 are as defined in Table 1. Total returns on capital are unchanged but the earnings stream is extended to 12 years, either by using lag parameters for a period of 12 years, or by assuming zero returns for an initial period of 5 years followed by the stream of earnings indicated by the parameters for a 7 year lag.

(iv) *Teaching* Progress in research is frequently slower than is either planned or might have been hoped. Often this is a consequence of problems whose solutions provide unexpected benefits. It is though common to suggest that slow progress and delay in academic research is due either to a priority assigned to teaching or to an intrinsic lack of urgency. Academic staff in Japanese universities spend half their time on research, a higher proportion than is achieved in US or European universities. Moreover, this high average is sustained in an average working week longer than that worked in industry, or by university graduates in other employment. Measured by research output, academic staff are more productive than those employed full-time on research either in research institutes or in industry (Morgan, 1999, 2001). The importance attached to priority of discovery by the academic community provides its own urgency, irrespective of the financial or economic benefits that it may confer. Yet it is arguable that the economy would be better served if a greater proportion of time were required by teaching, and in particular, by teaching graduate students. Subsequent employment of graduate students provides the most effective means for diffusion of new knowledge (see *e.g.* Schuetze & Fujitsuka, 2001). It is the balance between advanced study and research that equips graduate students for this function. Through teaching they become informed of current development and the codified knowledge of published material; in their research they are trained and become familiar with the tacit knowledge of techniques and skills (Dasgupta & David, 1994). Together these two components allow graduate students proceeding to employment in industry to transfer the full range of benefits available from participation in basic research. Transfer of benefits in this way does not involve any significant “academic delay” and should be expected to yield an unattenuated rate of return. To the extent that graduate students are able to transfer the full value of academic research — containing a large proportion of high-value basic research — it should generate a rate of return at least equivalent to that available from commercial R&D.

*Location of Research Capital* An inability to touch an intangible asset does not imply that it has no physical location. Companies hold a variety of intangible assets in the form of documents. Research capital may appear as patents, licences, research reports and published articles. But clearly, research capital resides primarily in the research staff, who retain knowledge of the results they generate. Moreover, because research capital exists as knowledge, dissemination of research results increases rather than diminishes the total value of the capital even though it may substitute social for private return.

In universities, many people contribute to the progress of research and acquire research knowledge. It would though be appropriate to regard academic research capital as embodied in the senior academic staff *i.e.* professors, associate and assistant professors, and lecturers. Averaged over the total number of these staff in the whole university system, the research capital held by each of them would have amounted to (1995) ¥44.8 million.

Distribution of research capital varies within the system with respect to the university sector and the subject area. By using the previously reported data it is possible to derive the distribution of capital shown in Table 3. These figures reflect the much higher levels of research capital committed to agriculture, engineering, science and medicine; they also indicate the strength of investment in research in the national universities in these areas.

**Table 3. Academic R&D Capital per Member of Academic Staff, Japan (1995)** ¥ millions

	National Universities	Public Universities	Private Universities	All Universities
Social Science & Humanities	23.08	22.30	36.74	33.21
Science & Engineering	70.25	47.09	43.06	57.61
Medicine	84.65	62.60	65.24	71.60
Other Areas	19.91	21.14	32.49	26.01
All Subject Areas	50.02	37.52	42.12	44.84

Notes: Academic Staff includes professors, associate and assistant professors and lecturers as listed in the Schools Basic Yearbook (MESSC).

Science and Engineering includes Agriculture; Medicine includes other Health Sciences; the largest single component of "Other Areas" is Education.

R&D capital is depreciated over 7 years. Figures are recalculated from data used for estimates in Morgan (2001).

*Dividends from Research Capital* For commercial companies return on research capital appears as revenue from sales. Over time, the estimated average annual return across all research-active industry is indicated to be 20-24%. Lev and Sougiannis showed that for US industry returns varied substantially amongst the various sectors of industry; and as was shown by Mansfield, these returns will draw significantly on research originating in universities. Explicitly, these returns derive from new and improved products and processes; implicitly they are dependent on the skills and expertise of research workers, and notably on the knowledge of developments in basic research brought by recent graduate students.



University research, leading directly to products and processes, is similarly expected to generate returns, attenuated by the extended lag implicit in academic research at a lower rate of 8-13%. Some of these returns will actually appear in the results of commercial companies that have developed products and processes from research placed in the public domain rather than as payments to universities or to government agencies holding licences. However, this accounts for only a small part of university research. The vast majority resides in academic staff in the form of new ideas and new techniques, disseminated through publication, personal contact and the employment of graduate students. The non-rivalous nature of this knowledge means that its value also remains fully accessible within the universities. This suggests that it may be possible to estimate internal dividends available from university research capital.

Annual dividends generated from university research capital embodied in academic staff are available to their graduate students and research assistants in the form of codified and tacit knowledge. These knowledge dividends will not be attenuated by any academic time delay and so may be assumed to achieve internally a rate of return similar to the commercial rate (*i.e.* 20-24%). Moreover, as “knowledge” it is accessible equally to each graduate student and assistant.

On completion of their studies, employment allows graduate students to bring their research knowledge into the community. Its extent can be equated to the depreciated cumulative aggregate of the research knowledge dividends received by a graduate student during the period of study (Table 4). It constitutes a significant asset. While in principle the codified part of their knowledge will become available in the public domain, acquisition and application of it is not a free good but requires tacit knowledge. To obtain this knowledge, an employer would have needed to invest in research on a scale similar to that indicated by the level of professorial research capital.

**Table 4. Accumulated Research Knowledge Dividends for Masters and Doctoral Students at Graduation, Japan 1995**  
¥ millions (1990)

Masters Graduates	National Universities	Public Universities	Private Universities	All Universities
Social Science & Humanities	7.81	7.94	12.43	10.78
Science and Engineering	23.76	15.93	14.56	20.92
Medicine	28.63	21.17	22.09	25.02
Other Areas	6.73	7.15	10.91	7.83
Total	19.69	13.21	13.88	17.41
Doctoral Graduates				
Social Science & Humanities	13.48	13.01	21.44	17.68
Science and Engineering	40.98	27.48	25.12	38.73
Medicine	45.56	33.69	35.12	41.40
Other Areas	11.61	12.34	18.81	12.66
Total	37.79	27.49	27.87	34.71

Notes: Knowledge dividends are estimated at an annual rate of 20% of research capital embodied in academic staff. It is assumed that the value of dividends depreciates at the same rate as research capital (*i.e.* over 7 years). Master's students are assumed to complete studies in 2 years, doctoral students in 5 (2 + 3) years, except medicine where completion requires 4 years.

An indication of the scale of transfer of research knowledge that is potentially available by this route is provided by the numbers of new graduates (1996, masters, 47,747; doctors, 8,968) and the research knowledge they had accumulated as dividends from their studies. After making allowance for depreciation in the usual way, the equivalent financial value would amount to ¥1,143 billion, representing an annual return of 26% on universities' research capital. Realising returns at this level would though be dependent on effective use of the research knowledge. A prime criterion for this might reasonably be identified with employment. Currently, only about 70% of new graduates enter employment immediately after graduation (MESSC).<sup>1</sup> Although the proportion will increase over time, this may be only after their research knowledge has significantly depreciated.

When the aggregate value of research knowledge provided by new graduates is adjusted for the numbers in employment, the total financial equivalent is reduced to ¥840 billion, corresponding to an annual yield of 19%. Analysis according to subject area and university sector of graduates then reveals some striking differences (Table 5). The total value reflects the numbers of newly employed graduates and the academic research capital generating knowledge dividends. Within subject areas it is proportional to the average number of graduate students (masters and doctors) *per* senior member of academic staff (postgraduate student/staff ratio, pgs/s ratio): a pgs/s ratio greater than 1 increases the total dividend yield. Returns from engineering and science are very high, reflecting high employment of the graduates (79%) and a high pgs/s ratio (3.2). In contrast humanities and social sciences have low employment (21%) and a low pgs/s ratio (1.1) and consequently generate low returns; the figures for "other areas" are also low (56%; 0.9) as are the returns. For medicine, high employment (76%) is balanced by a low pgs/s ratio (1.3) to yield an intermediate level of return.

**Table 5. Aggregate Transfer of Academic Research Dividends through Newly Employed Higher Degree Graduates, Japan 1995**

	National Universities	Public Universities	Private Universities	All Universities
Social Science & Humanities	12.6 9%	2.2 6%	36.2 4%	51.1 5%
Science & Engineering	489.4 48%	15.3 22%	109.5 22%	614.3 39%
Medicine	87.9 19%	9.1 12%	41.0 7%	137.9 12%
Other Areas	18.7 9%	1.0 5%	11.1 3%	33.6 6%
Totals	614.3	27.7	197.8	836.8
Return on Research Capital	33.5%	13.0%	8.6%	19.3%

Notes: Aggregate research dividends are obtained by multiplying the *per capita* values (Table 4) by the number of graduates entering employment. Aggregate research capital is given by multiplying the *per capita* figures (Table 3) by the numbers of academic staff. Annual returns on academic research capital are estimated by dividing the aggregate transferred research dividends by aggregate research capital; the results are shown as percentages (in italics).

<sup>1</sup> Official estimates of numbers of graduates entering employment assume that those with unknown status are unemployed (MESSC). An alternative assumption, that those of unknown status are distributed in proportion to those of known status is used here. This increases the overall estimates of those employed by 4% (masters) and 8% (doctors) to 70.2% and 70.9% (1996) respectively.

An overall annual return of 19% on academic research capital through graduate transmission indicates the importance of this mechanism. It is noteworthy that three-quarters of this comes from the national universities and two-thirds of it from the areas of engineering, science and medicine in the national universities. But the most significant aspect is that transfer of basic research knowledge from these areas appears to be potentially economically efficient. This allows a number of conclusions to be drawn that might form a basis for future research policy.

1. In the areas of science, engineering and agriculture and, to a lesser extent, medicine, the universities might be encouraged to emphasise their core competences in basic research and research training of graduate students. Any diversion of emphasis into entrepreneurial activities, which could diminish the value of research training and transmission of knowledge, might well prove counterproductive.
2. Core competence in industry lies in applied research and development and in marketing. Employers should be encouraged to exploit the research knowledge available through recruitment of new postgraduates. High rates of employment of science, engineering, agriculture and medical graduates indicate some awareness of their value. However, less than adequate appreciation of their full value appears to be indicated by failure to pay the salary premiums found in other research-based economies.
3. Low returns in the areas of humanities, social science and “other areas” clearly derive from inefficient transfer of pg research knowledge. Three factors contribute. (a) Low employment prospects for postgraduates reflect a perception that research skills and attitudes are inappropriate to the needs of industry and commerce. (b) Relatively low enrolment of graduate students corresponds to limited career opportunities. A high proportion of pg students in these areas aspires to academic employment. (c) The labour component of academic R&D capital in these areas may be over-estimated. Particularly in the private university sector, where two-thirds of all senior academic staff work in these areas, only 40% of them are identified as graduate school teachers (MESSC). While increasing demand for commercially relevant pg programmes will modify attitudes and opportunities, teaching rather than research may come to provide a more effective route to knowledge transfer through pg students. Given that demand requires extensive employment of academic staff, and that non-labour expenditure on research in these areas is low, there is little economic advantage in seeking either to concentrate or restrict the accompanying research activity. In this case it appears appropriate to accept the traditional route of transmission of research through publication in books and journals as an economically effective route.
4. Responsibility for realising the potential benefits from academic research rests primarily with industry and commerce. It should though be a matter of enlightened self-interest for universities to contribute to this process. Universities might be encouraged to seek more

effective links with commercial companies. Professional post-experience courses and consultancy services provide valuable opportunities for education, technical interchange and collaboration.

## References

- Beise, M., & Stahl, H. (1999). Public Research and Industrial Innovations in Germany. *Research Policy*, 28, 397.
- Bernstein, J. I. (1988). Costs of Production, Intra- and Inter-industry R&D Spillovers. *Canadian J. Economics*, 21, 324.
- BoJ (1998 and earlier years). Financial Statements of Principal Enterprises in Statistics Bureau, *Japan Statistical Yearbook*. Tokyo: Prime Minister's Office.
- Cohen, W. M., & Levinthal, D. A. (1989). Innovation and Learning. *Economic Journal*, 99, 569.
- Dasgupta, P., & David, P. A. (1994). Toward a New Economics of Science. *Research Policy*, 23, 487.
- Funk, M. (2002). Basic Research and International Spillovers. *International Review of Applied Economics*, 16, 217.
- Goto, A., & Suzuki, K. (1989). R&D Capital, Rates of Return on R&D Investment and Spillovers of R&D in Japanese Manufacturing Industries. *Review of Economics and Statistics*, 71, 555.
- Griliches, Z. (1986). Productivity, R&D and Basic Research at the Firm Level in the 1970's. *American Economic Review*, 76, 141; (1995) R&D and Productivity. In Stoneman P. (Ed.) *Handbook of the Economics of Innovation and Technological Change*. Oxford: Blackwell.
- Lev, B., & Sougiannis, T. (1996). The Capitalization, Amortization and Value-Relevance of R&D. *J. Accounting and Economics*, 22, 107.
- Levin, R. C. (1988). Appropriability, R&D Spending and Technological Performance. *American Economic Review (P&P)*, 78, 424.
- Lichtenberg, F. R., & Siegel, D. (1991). The Impact of R&D Investment on Productivity. *Economic Enquiry*, 29, 203.
- Link, A. N. (1981). Basic Research and Productivity Increase in Manufacturing. *American Economic Review*, 71, 1111.
- Maddala, G. (1992). *Introduction to Econometrics*. New York: MacMillan.
- Mamuneas, T. P. (1999). Spillovers from Publicly Financed R&D Capital in High Tech Industries. *International J. Industrial Organization*, 17, 215.
- Mansfield, E. (1980). Basic Research and Productivity Increase in Manufacturing. *American Economic Review*, 70, 863.
- Mansfield, E. (1991). Academic Research and Industrial Innovation. *Research Policy*, 20, 1; (1992) 21, 295; (1998) 26, 773.

- MESSC (1997 and earlier years). *Schools Basic Survey*. Tokyo: Ministry of Education, Science, Sport and Culture.
- Morgan, K. J. (1999). Universities and the Community: Use of Time in Universities in Japan. *International Publication Series*, Research Institute for Higher Education, Hiroshima University.
- Morgan, K. J. (2001). Costs and Benefits of University Research. *Daigaku Ronshu*, 31, Research Institute for Higher Education, Hiroshima University, 175.
- N.S.F. *Science and Engineering Indicators* (2002). Washington: National Science Foundation.
- Odagiri, H., & Murakami, N. (1992). Private and Quasi-Social Rates of Return on Pharmaceutical R&D in Japan. *Research Policy*, 21, 335.
- OECD (1998). Returns on Capital. *Economic Outlook*, 64 (December), Annex Table 25.
- Schuetze, H. G., & Fujitsuka, T. (2001). Organization of Knowledge Transfers between Universities and Industry in North America, Europe and Japan. *Daigaku Ronshu*, 32, Research Institute for Higher Education, Hiroshima University, 179.
- Statistics Bureau (1996 and earlier years). *Report on the Survey of Research and Development*. Tokyo: Management and Coordination Agency, Government of Japan.

# **Academic Qualifications and Social Stratification, and their Relationship to Consciousness of Academic Qualifications: an Analysis using Data of the SSM Survey 1995 in Japan**

Masataka Murasawa\*

## **Focus on People's Recognition for Academic Qualification**

Up to now, discussions of academic qualifications seem to have been performed at three levels. The first is discussion of the ability of academic qualifications to confer social status and economic reward in the future. The second is that academic qualifications serve to satisfy ambition scarcity value in our society. The third is that academic qualifications are sought neither to obtain a higher social status nor to satisfy ambitions, but the process of seeking is itself the purpose, and such a trend or behavioral pattern is facilitated by education, placing too much importance on examination results.

On the other hand, there are also discussions paying attention to how people's recognition of academic qualifications are seen. These have focused on people's recognition structures for academic qualifications and the reasons why these recognitions are brought to mind. Thus, "If we can't get a high academic qualification, it is not possible for us to live a decent life"; or, "There is little or no relationship between academic qualification and ability"; or, "People who have high academic qualifications behave snobbishly." It is not clear that any such representations correspond to actual effects or to the facts of academic qualifications. They are generally considered as "convictions." However, from the point of view of phenomenology and phenomenological sociology, they constitute a significant reality.

This article focuses on finding coordinates of academic qualification in another's world of recognition and consciousness. What do people feel about and expect from academic qualification? What kind of value do people obtain from it? And we also sort out the reasons why such coordinates are determined. The specific analyses in this article are "Who is attaching importance to an academic qualification?" and "What kind of person in Japan thinks an academic qualification to be important?" These questions are very simple and are directed towards solving the problem of "*gakukureki shakai*" in Japan: that is, where over a long time people have placed excessive emphasis on academic records. In this article, I also want to pay attention to a unique tendency in the education-conscious society of Japan that asks whether ability corresponds to academic qualifications.<sup>1</sup> Perhaps, people's recognition of academic qualifications will be influenced by the socio-economic background, the level of education, of sex and gender. Based on the discussion above, in the following section we will focus

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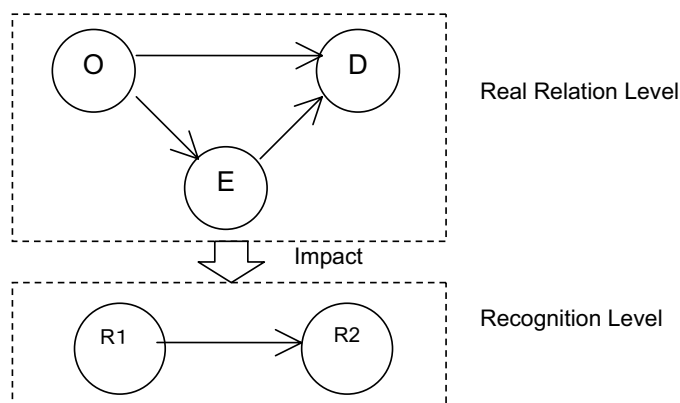
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on and analyze the relationship between recognition of academic qualifications, socio-economic background, education level and attained status.

### The Hypothesis and the Data

We use data from Questionnaire B of the National Survey on Social Stratification and Social Mobility (the SSM national survey) in Japan conducted in October and November, 1995. These data provide a representative national sample of men and women, aged 21-70 in 1995. For analysis, we use only the data for 592 men aged 40-59. Why was the targeted data for the analysis limited? When substantial effects of academic qualifications are being evaluated, the evaluator should be in a position of having reached an advanced stage of career formation. Though many current SSM analyses have used the total sample (20-69 years old), career formation is not sufficiently advanced to justify this for 20-year olds; and for senior citizens, aged 60 or more years in Japan, there is a possibility that many of them are retired and have terminated their careers. So by using the reduced data-set, a more accurate evaluation of academic qualifications will be obtained from respondents who have established their careers and are active in 1995. The data are limited to men: this is because many women in Japan are still full-time housewives, so that the numbers of women who can actually experience the relationship between academic qualifications and occupation are possibly limited.<sup>2</sup>

**Figure 1. Hypothetical Model**



Notes: O: Original Status (Father's Occupation), E: Education Level,  
 D: Destination(Attached Status),  
 Re1: Recognition for "Academic Qualification" = ability,  
 Re2: Perceived Importance for Academic Qualification

Figure 1 shows a model for the hypothesis. It is assumed that a causal relationship exists between empirical facts such as family background, academic qualification and attained social status and influences the formation of recognition in a respondent of academic qualifications. In addition, we postulate a second relationship between two aspects of recognition: "Whether an academic

qualification is considered to indicate ability or not?" influences recognition of "Whether an academic qualification is valued or not?"

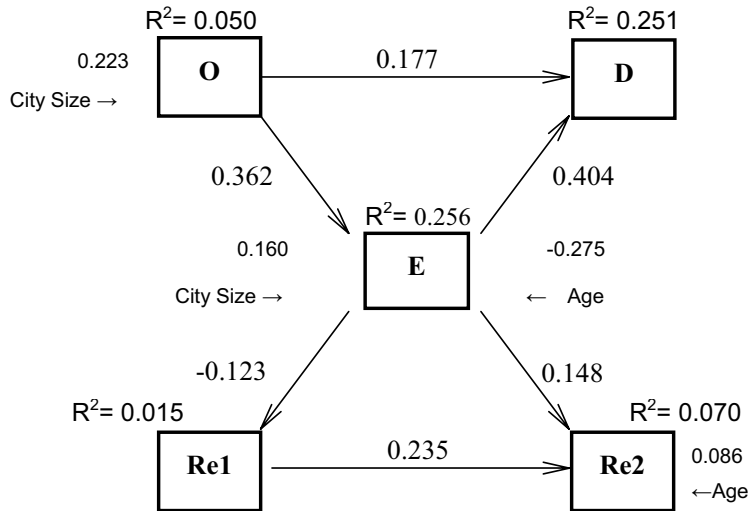
The following variables are available from the survey data.

1. [Re1] *Recognition of "Academic Qualification = Ability" (recognition for academic qualification)*. Response to the statement "Academic qualifications considerably reflect a person's ability." Answers are in 5 categories, "Disagree" (1) to "Agree" (5).
2. [Re2] *Perceived Importance of Academic Qualification (recognition for academic qualification)*. Responses to the question "How important is it for you to obtain a high academic qualification?" Answers are in 4 categories, "Not important" (1) to "Important" (4).
3. *City size*. Size of population of city where respondent lived in 1995. Data is provided for 8 categories, "Village" ( 1), "Town" (2), "City less than 50,000 people" (3), "City 50,000-99,999 people" (4), "City 100,000-199,999 people" (5), "City 200,000-499,999 people" (6), "City 500,000-999,999 people" (7), "City more than 1,000,000 people" (8).
4. [O] *Father's occupation (social class or family background)*. Prestige of father's occupation as shown by the score of 1995 occupation prestige. Occupation prestige scores fall within the range 36.7-90.1. If the score is high, it is considered that the occupation prestige is high and the family background level is also high; conversely, if the score is low, the occupation prestige is low and the family background level is also low.
5. [D] *Respondent's occupation (achieved social class or attained status)*. Prestige of respondents occupation as shown by the score of 1995 occupation prestige. Occupation prestige scores fall within the range 36.7-90.1. If the score is high, it is considered that the occupation prestige is high and the family background level is also high; conversely, if the score is low, the occupation prestige is low and the family background level is also low.
6. [E] *Level of academic qualification (Education)*. Level of academic qualification shown by number of years of formal education (6-18).
4. *Age (control variable)*. Respondent's age in years (40-59).

### **Results. The Causal Relationships between Social Background, Academic Qualifications and the Recognition of Academic Qualifications**

The result of analyzing statistically the data according to the model of Figure 1, by using the procedures of structural equation modeling, which is one of the variations of covariance structure analysis, are shown in Figure 2. The goodness-of-fit indices (values of chi-squared, p-value, CFI, RMSEA) indicate that the model fits the data well.<sup>3</sup> Indirect and Total effects are shown in Table 1.



**Figure 2. Causal Relationships between Origin, Education, Destination and Recognition**

1. Recognition of the relationship between academic qualifications and ability (*Recognition of "Academic Qualification = Ability"*) (Re1 in Figure 2) is influenced by the academic qualifications of the respondent. *Academic qualification* (E in Figure 2) has a negative direct effect on recognition of the relationship between academic qualification and ability (a path coefficient of -0.123). This indicates a tendency that the higher the level of the respondent's academic qualification is, the less he regards academic qualification as an evidence of ability; and conversely, the lower the level of the respondent's academic qualification is, the more he regards academic qualification as evidence of ability.
2. The *Perceived Importance of Academic Qualifications* (Re2 in Figure 2) is also influenced by academic qualifications of the respondent and by *Recognition of Academic Qualification = Ability*. The academic qualification of the respondent has a direct positive effect on this recognition (a path coefficient of 0.148); and *Recognition of Academic Qualification = Ability* also shows a direct effect on it (a path coefficient of 0.235). These results show the tendency that the higher the level of the respondent's academic qualification is, the more he feels it important to obtain high academic qualification; and conversely, the lower the level of the respondent's academic qualification is, the less he feels it to be important to obtain higher academic qualifications. These results also show that those who seem to regard academic qualifications as evidence of ability tend to feel it is important to obtain higher academic qualifications; while those who seem not to regard academic qualifications as evidence of ability tend to feel it is not important to obtain higher academic qualification. However, the explanatory power of the regression is low ( $R^2$  0.070).

**Table 1. Indirect and Total Effects**

		Explained Variables				
		O	E	Re1	D	Re2
Explanatory variables	<b>Indirect Effects</b>					
	City Size	—	0.081	- 0.030	0.137	0.029
	Age	—	—	0.034	- 0.111	- 0.033
	O	—	—	- 0.044	0.146	0.043
	E	—	—	—	—	- 0.029
	Re1	—	—	—	—	—
	<b>Total Effects</b>					
	City Size	0.223	0.241	- 0.030	0.137	0.029
	Age	—	- 0.275	0.034	- 0.111	0.053
	O	—	0.362	- 0.044	0.323	0.043
	E	—	—	- 0.123	0.404	0.119
Re1	—	—	—	0.000	0.235	

- In the process of developing social stratification, we can identify two paths to the formation of recognition for academic qualifications. One is the path from *Fathers Occupation* (O in Figure 2) through *Academic Qualification of Respondent* (E in Figure 2) to *Perceived Importance of Academic Qualification*. The other is the path from *Fathers Occupation* through *Academic Qualification of Respondent* and *Recognition of Academic Qualification = Ability*, to *Perceived Importance of Academic Qualification*. The former path shows that the higher are the levels of family background and of academic qualifications, the more the respondent tends to feel it important to obtain higher academic qualifications. And the converse applies similarly. The latter path shows that the higher the levels of family background and of academic qualification of the respondent, the less does he regard academic qualification as an evidence of ability, and moreover, the less does he also feel it important to obtain higher academic qualifications. Again the converse also applies
- The city scale, *City Size* has a significant, positive effect on the father's occupational prestige and also on the respondent' academic qualification. It shows negative indirect and total effects (-0.03, shown in Table 1) on the *Recognition for Academic Qualification = Ability*.

## Discussion

*Levels of Attaching Value to Academic Qualifications: Self-justification, and Sour Grapes.* The results that one's academic qualification has a significant positive effect, and that one's achieved status has no impact on the *Perceived Importance of Academic Qualifications*, mean that people do not regard an academic qualification as an avenue for conferring social status. That is, people think that acquiring an academic qualification itself is important, as a goal for themselves.

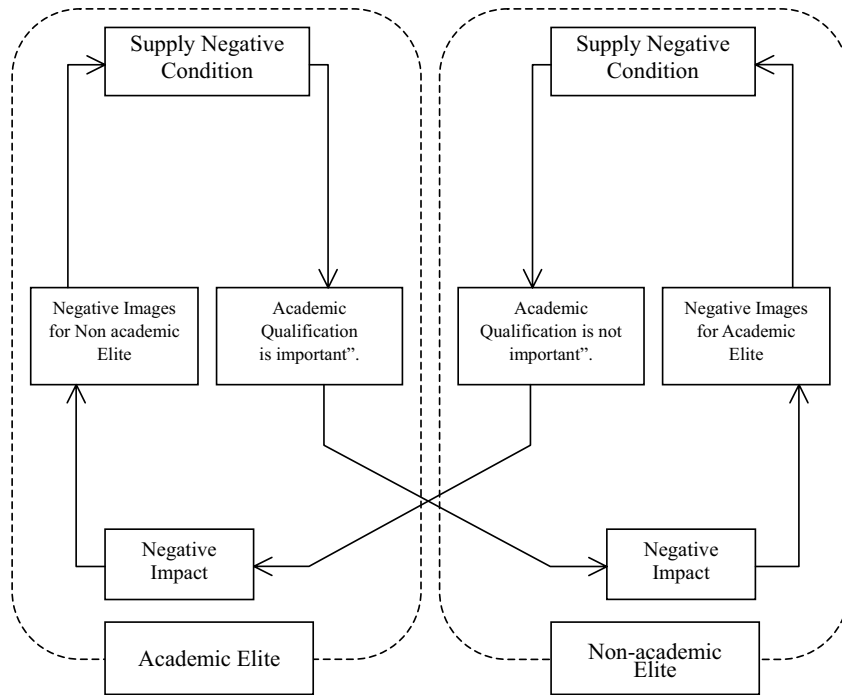
In a word, the importance of an academic qualification is more in its symbolic value than in its functional value for men in Japan in the age group of 40-69-years old. These results also mean that

those in the group of winners in the competition to acquire academic qualifications, feel that academic qualification is important. At the same time, those in the losers group feel academic qualifications are not important. Especially for the group of losers, to consider academic qualification as inconsequential seems to be merely a case of sour grapes.

However, it is necessary to note that the path from father's occupation through one's own academic qualification (a path coefficient of 0.362) to *Perceived Importance of Academic Qualification* (a path coefficient of -0.123) is significant. This result can be interpreted as follows. For the group of losers, the reason why they regard academic qualification as inconsequential would be that they are dissatisfied with their unequal circumstances. The reason for their less than equal position, with a low academic qualification, appears to be not entirely their own responsibility but also that of their low family background. On the other hand, the winner's group can obtain higher academic qualifications merely as a result of their higher family background, not by virtue of their own efforts. However, they assume that academic qualifications are important. In a word, for them, it is a case of: "If it is good as a result, all is for the best." They might detect that the education system in Japan, which is formally established to give equal opportunities virtually to all, maintains family background differentials, and is useful to them. And, so to protect them from becoming a group of losers, the system - even though it may not be equitable but which has let them acquire higher academic qualifications - is quite important for them.

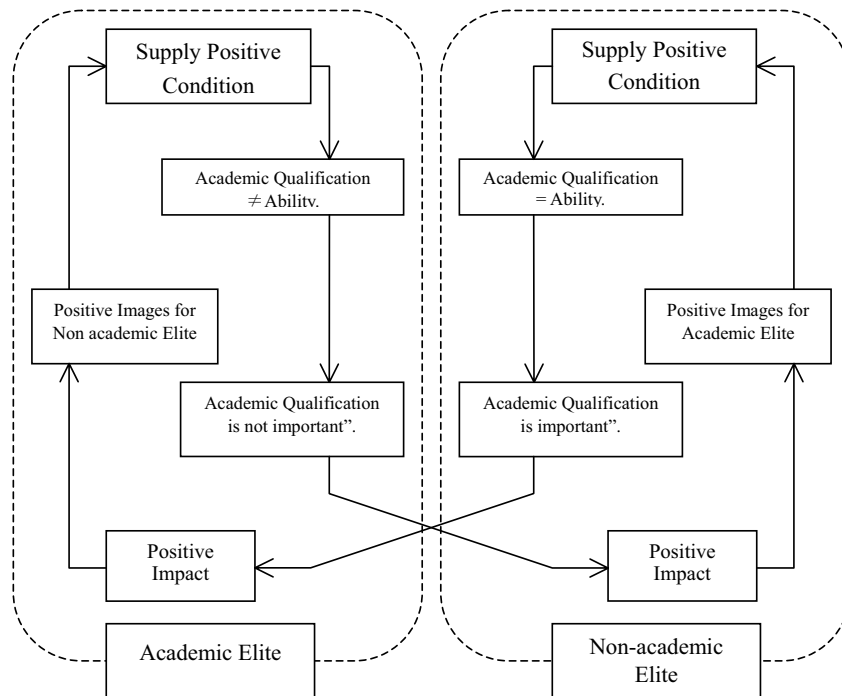
*The Social Meaning of whether Academic Qualifications Correspond with Ability* We can confirm that, for respondents, academic qualifications have a negative impact (a path coefficient of -0.123) on *Recognition of Academic Qualification = Ability*, in the significant path connection from *Fathers Occupation* through *Academic Qualifications* of the respondent and *Recognition of Academic Qualification = Ability*, to *Perceived Importance of Academic Qualification*. This implies that people with high academic qualifications do not regard them as a reflection of ability, nor do they regard them as important. The situation for people with low academic qualifications is the opposite. Thus, it is very interesting that these results suggest that people with high academic qualifications seem to be demeaning themselves. We can interpret these results as follows. People with high academic qualifications might feel guilty because they are the winners of using well an education system that is actually inequitable and that is convenient only for themselves within a society that is permeated by egalitarianism. In consequence, they affirm that academic qualifications do not really reflect ability and are not as important as is claimed by the group of losers with low academic qualifications. On the other hand, people with low academic qualifications do regard academic qualifications as indicating ability and moreover feel it important to acquire them so as to compete with people possessing high academic qualifications and become winners themselves.

Figure 3



The key lies in recognition of whether one's academic qualification is equal to one's ability. We suggest that such recognition of academic qualifications can offer a harmonious function between the two groups. A positive direct path from one's academic qualification to one's perceived importance as shown in Figure 2 may have the structure shown in Figure 3. This path might also increase tension between the groups.<sup>4</sup> For instance, if it is assumed that academic elites have heard that non-elites say: "Academic qualifications are not important," then, of course, the elites will find the remark distasteful. This will have the result that the elites come to hold a bad image of the non-elites. Moreover, they will occasionally make remarks about the non-elites to the effect that: "An academic qualification is important." In turn, hearing this the non-academic elites will find it distasteful and undervalue the importance of academic qualifications. As a result, academic elites will respond with hostility, and may themselves overvalue the importance of the academic qualifications as a reaction. Thus, a negative feedback process may be established, as shown in Figure 3, and the danger of tension between the groups may increase.

Figure 4



However, an alternative, negative direct path from academic qualification through recognition of *Academic qualification = Ability* to perceived importance, as shown in Figure 2, may have the structure shown in Figure 4. These connections would seem to have the effect of easing the tension between the groups. The implications of Figure 4 may be described as follows. Let us assume that the non-elites are aware that academic elites say that academic qualifications do not equate to ability. Such a remark may have a soothing effect on the non-academic elites. Therefore, the non-elites come to hold good images of the elites. Moreover, they will then be likely to make remarks in regard to the academic elites to the effect that “Academic qualifications do equate ability.” Hearing this, the academic elites feel good and develop good images of the non-elites. So in turn they may modestly state that academic qualifications are not a reflection of ability, and that it is not so important to acquire them. In return, the non-academic elites achieve an increasing sense of intimacy with the academic elites, and reinforce their views that academic qualifications do indeed equate to ability. Thus, a positive feedback process may be formed, and it may be easier to compromise and reduce tensions between the groups.

We may not worry what academic elites and non-elites genuinely think of the relation between academic qualification and ability, because it is not so often that we “let our back hair down” in public. It is a problem of what “consent” or convention exists between people when talking about academic qualifications in a public place.<sup>5</sup> In a public place and based on tacit agreement, academic qualifications may be talked about by academic elites as follows: “Academic qualifications are

unrelated to ability and not so important”; and by non academic elites as: “Academic qualifications are both related to ability and important.”

*Do those who live in the city have an "Academic qualification anomie"?* Though the effect of size is small, we should pay attention to the negative indirect and a negative total effect of the size of the city on recognition of whether academic qualification is related to ability. The implication is that people in cities have a tendency not to regard academic qualifications as a reflection of ability and nor do they regard it as important, in comparison with people in rural areas. As long as the result of the path analysis can be seen, the size of the city shows a positive relationship with actual academic qualifications and the achieved occupational prestige.

However, the effect of academic qualifications might be not so simple when considering people living in the city. In a populous part of the city, it is easily imaginable that there are many people who have differing life histories even if they have similar academic qualifications. In a word, in today's era, when education has been popularized, especially in the cities, developing a career or achieving status after graduation can take a wide range of variations, so there might not be any single typical model of a career process or process for achieving status. That might be the reason why people in cities have a tendency neither to regard academic qualifications as a reflection of ability, nor to regard it as important as do those who live in rural areas. However, as a matter of fact, we should note that the explanatory power of the correlations for original and achieved status and academic qualification to consciousness or recognition of academic qualifications is small.<sup>6</sup>

### **Remaining Issues**

A number of issues remain. It is necessary to see how recognition for academic qualifications change over time. In the SSM Survey, there are few questions consistently asked seeking information about recognition for academic qualifications. The limiting factor is that the data are factually cross-sectional, so we cannot separate the effects of increasing age, birth cohort and era. In this respect, we need to look for variables related to academic qualifications able to be accumulated from cross-sectional data and observation consistently and continuously in the future.

Acknowledgement: I would like to thank the 1995 SSM Survey committee for providing me with the data set.

### **Notes**

1. As Kariya (1995) pointed out, the education-conscious society arguments established by Shimbori (1966) have indicated that though academic qualification does not necessarily reflect ability, it is

usually overemphasized, is often seen as an attribute in conflict with the merit system and ability-ism, and we often think of it as an inequality in evaluation based on academic qualifications. This argument provides, in another word, a critique for a society that places excessive emphasis on academic qualifications. Kariya (1995) also stated that such arguments of education-conscious society recognition became the origin of our views nowadays for our society afterwards.

2. See Sato (1998, p. 41) for details concerning the operation of data. And see Murasawa (2000) for an analysis that synthesizes the data for men and women.
3. Because its data includes missing values, neither GFI nor AGFI are calculated in Amos.
4. Figure 4 and Figure 5 refer to the model of process loop of human interaction constructed by Miyadai (1991, p.79).
5. Note: "Consent" is paraphrased by another word, "Official (Public) interpretation diagram" (Sato, 1993).
6. The value of R-squared is 0.020, 0.062, so the explanatory power is very low.

From this result, we also should notice that the relationship between social recognition concerning academic qualification and the fact conveyed by academic qualifications are independent.

## References

- Harada, A. (1975). 'Kyoiku Ishiki' Kenkyu no Doco to Kadai (Trends and Issues of Research in Consciousness for Education), *Jinbungaku (Literature)*, 128, 57-83.
- Kano, Y. (1997). *Graphical Tahenryo Kaiseki* (Graphical Multivariate Analysis). Tokyo: Gendai Sugaku Sha Press.
- Kariya, T. (1995). *Taishu Kyoiku Shakai no Yukue – Gakureki Shugi to Byodo Shinwa no Sengo Shi- (Whereabouts of Mass Educational Society - History in Postwar Days of Diplomatism and Equal Myth -)*. Tokyo: Chuo Koron Sha Press.
- Miyadai, S. (1991). *Koi to Kaishaku* (Action and Interpretation). In Imada, T., & Tomoeda, T., (Eds.), *Shakai Gaku no Kiso* (Basics of Sociology). Tokyo: Yuhikaku Press, 57-96.
- Miyadai, S. (1991). *Seihuku Shojo Tachi no Sentaku* (The Uniform Girls' Selections), Kodan Sha Press.
- Murasawa, M. (1998). *Dare ga Gakureki ni Omoki wo Okunoka? – Gakureki Ishiki no Kanren Kozo no Bunseki* (Who attach Importance to Higher Educational Credentials?: One Analysis of Educational Consciousness). In Iwamoto, T. (Ed.), *Kyoiku Kikai no Kozo* (Structure of Educational Opportunity) (1995 SSM Research Series 9). Tokyo: SSM Research Association, 75-94.
- Murasawa, M. (2000). *Gakureki to Kaiso no Sai-Seisan to Gakureki Ishiki – 1995 Nen SSM Chosa Deta wo Mochiita Ichi Kosatsu* (Images of Meritocratic Credential Society and Consciousness

- of Needs for Educational Career: One Analysis of Educational Consciousness), *Daigaku Ronshu* (Research in Higher Education), 30, 47-59.
- Sato, T. (1993). Kindai, Soshiki, Shihonshugi – *Nihon to Seiyō ni Okeru Kindai no Chihei* – (Modern ages, Organization, and Capitalism - Horizon of Modern Ages in Japan and Western Europe). Tokyo: Mineruba Shobo Press.
- Sato, T. (1995). *Hi-Koyōsha no Shokugyō Sai-Seisan to Kaisō = Kaikyū Ishiki* (Occupation Reproduction and Consciousness of Social Stratification and Social Class of Employees), *Nihon Rodo Kenkyū Zasshi* (The Japanese Journal of Labor Studies), 455 (May), 40-49.
- Shimbori, M. (1996). *Gakureki – Jitsuryōku wo Habamu Mono* (Academic Qualification - which to prevent ability-ism). Tokyo: Diamond Sha Press.
- Takeuchi, H. (1995). *Nihon no Meritokurashi – Kozo to Shinsei* (Meritocracy in Japan – Its Structure and Mind). Tokyo: Tokyo Daigaku Shuppankai Press.
- Yamasaki, H., Shimada, H., Urata, H., Fujimura, M., & Kikui, T. (1981). *Gakureki Kenkyū no Doko* (Trends of Study for Academic Qualifications), *Kyōiku Shakaigaku Kenkyū* (The Journal of Educational Sociology), 38, 94-109.



# **An Experiment Concerning Technical Assistance in Job Hunting Assistance at the “Exit” of Higher Education**

Ikuo Kitagaki\*

## **Introduction**

An essential part of obtaining a job is the interview. To prepare students for this, it would be useful if, in advance, they could experience a simulated interview. However, experienced interviewers normally are found only in the training sections of companies, not universities. The possibility has been explored of overcoming this problem by devising a communication system linking an interviewer in a company to students in their university.

There are relatively few studies of training for interview and the methods that can be employed. This is mainly because training of this sort is not included in the university curriculum. In fact, demands for this kind of training are high and preparation for interviews with the full use of media techniques is required

Technology to achieve this is available in the form of video cameras, TV monitors and other communications facilities. As a preliminary experiment, the system was tested with a video cable link between a studio for the interviewer and an interview room for the student in the same building.

A key element in the design for interview is the line-of-sight between interviewer and interviewee (Liyanage, Tahara, Aizawa, & Hatori, 1995). Under a normal system of communication, with video camera and TV monitor, the equipment largely blocks the line of sight. To circumvent this, half-mirrors were placed between the TV monitors and their viewers. Evaluation of the effects of this, and clarification of the value of using half-mirrors as hardware, was done by comparison of the results with those from direct face-to-face interviews and of remote interviews without half-mirrors.

One aspect of this procedure is to allow both interviewer and interviewee to see each other's face through the TV monitor. In order to achieve this and to enable eye contact through the half-mirror, the eyes of the speaker should be fixed at a certain point (Shiwa, 1994). However, in practice, the head of the speaker moves up and down, turns right to left during speech. So, the experiment includes measurement of the extent to which the listener is aware of loss of eye contact.

In summary, there are two purposes for this research. One is to investigate the requirements for its successful operation; the other is to evaluate how this video-interview method employing half mirror works as a way of transmitting training information.

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If we regard this system as hardware, it is similar to part of a TV conference system. However, this simulation is performed in a different environment from a TV conference in the sense that it contains elements of “teaching” and “study”. So, if we conduct a mock interview following the method of a TV conference, its role in transmitting interview-training information needs to be evaluated by collecting data under an interviewing system that has an interactive environment. Accordingly, in this research, as well as actually conducting remote mock interviews, its effects are evaluated by responses of the interviewees to a questionnaire.

In addition, as various methods for interviewing could be employed, it is useful to identify the possibilities. In Table 1 actual or potential methods and their features are listed. While there are no clear definitions of “Beginner Level” and “Advanced Level”, arbitrary questions about a student’s subjective attributes are regarded as the former, and questions requiring logical and deep thinking are placed in the latter category.

### Methods of Mock Interview

Shown schematically in Figure 1 are the experimental interview systems. The examiner is in the studio and talks to a student in the training room.

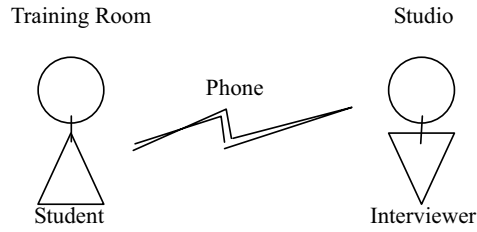
In Method A, the interview is conducted by using an ordinary domestic telephone. In Method B, TV monitors, microphones, headphones (and speaker systems), and video cameras are placed in both rooms. The TV monitor should be at least big enough to show the actual size of the head (including neck) of each person: 21 inch screens were used in the experiment. The video camera was placed close to the TV monitor so that each person will see the other’s face viewed through a video camera placed at a slight angle, next to the monitor.

**Table 1. Possible Methods for Interviews**

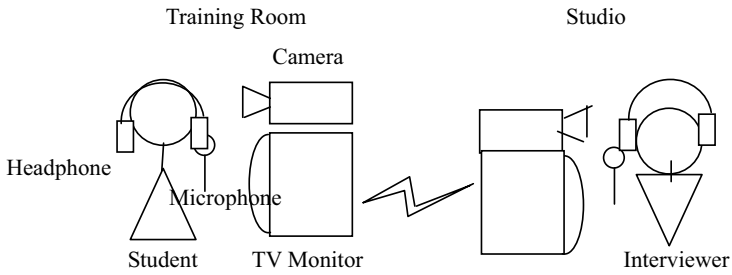
	By human interviewer				By machine	
	By student	By professor in university	By company staff responsible for interviewing		By computer	
	Direct interview		Direct	Remote Interview		Direct
			Video	Phone		
Dialogue	Yes	Yes	Yes	Yes		Few
Depth in talk	Few	Possible	Possible	Possible		No
Judgment of answer	Few	Possible	Possible	Possible		No
Tension in interview	Few	Yes	Very Big	Big		Few
Level of training	Beginner	Beginner~Middle	Beginner~Advanced	Beginner ~ Advanced		Beginner
Reality	Few	Yes	Big	Yes	Approval	Few
Frequency of training	Yes	Yes	Very few	?		Many
Cost of training	Low	Labor cost	Labor cost	Labor cost Hardware Access line	Labor cost Access line	Hardware Software

**Figure 1. Remote Mock Interview**

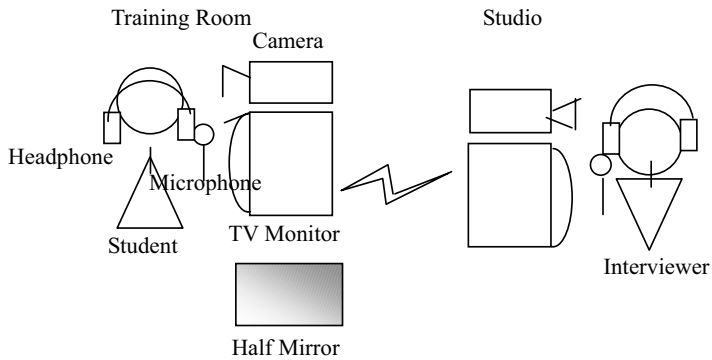
(a) Method A



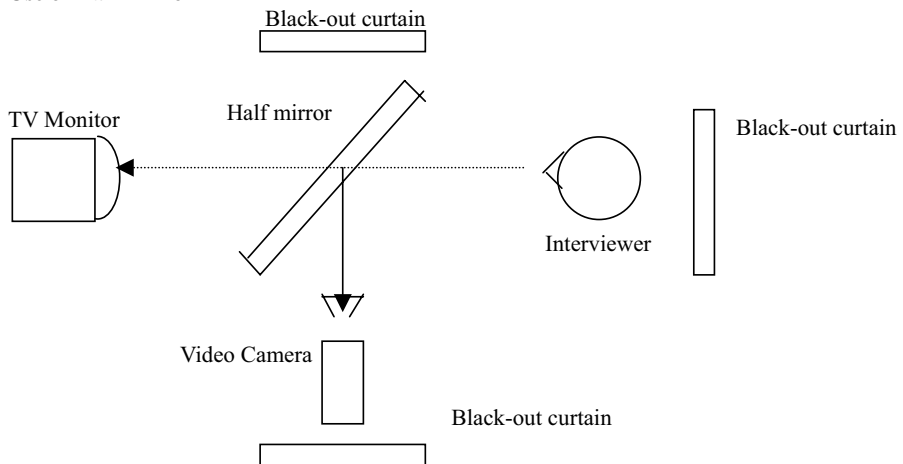
(b) Method B



(c) Method C



**Figure 2. Use of Half Mirror**



In Method C, in addition to the devices used in Method B, a half mirror is inserted between the TV monitor and interviewer as is shown in Figure 2. By use of this mirror, eye levels can be adjusted so that the student's eyes can successfully meet those of the interviewer. A similar arrangement in the training room allows the interviewer's eyes to meet the student's, even though this arrangement confers no direct benefit to the student. Its utility is discussed later.

Prior to the interview, it is necessary to adjust the positions of the various devices. In the studio for Method B and C, we first adjust the camera so that it is at the same level as the interviewer's eyes. Then we move the camera to an appropriate place such that the image on the TV monitor in the student's room is the actual size of the interviewer's head. Immediately before the interview, we adjust all the devices so that the reflected image of the camera lens on the half mirror is at the same level as the student's eyes as seen by the interviewer from the half mirror; and a chair of adjustable height is prepared for the student. Finally, we adjust heights of the TV monitor and the chair so that interviewer's and the student's eyes are at the same level when the student is sitting in position.

The effective distance between student and TV monitor was found to be 1.5m, following the results of a questionnaire that was completed by students who had experienced an actual job interview (Kitagaki, Ikoda, & Miyamoto, 1998/1999).

Ten students participated in the mock interviews; the author acted as interviewer. All students were interviewed in each of the three ways (A, B, C); none of the participating students had experienced an actual interview.

At the first session, the interviewer requested that students provide a self-introduction and an explanation of the reason for applying for a job. In order to allow them to talk about the reason, several job advertisements were prepared and students were asked to select one. Each interview took about 5 minutes. Students were required to take notes of important aspects. Each student was allowed to choose between using headphones and loud-speakers: in all cases they chose to use headphones.

### **Evaluation of Utility Gained by Remote Interview Method**

*Evaluation 1* Comparison of the Methods A, B and C was confidently expected to show that Method C would receive the highest evaluation. To make a quantitative comparison a questionnaire to assess the utility was prepared. The meaning of the word "utility" was found to be uncertain in the first place and difficult for students to answer.

If the quality of the procedure can be given a financial value, an evaluation function with a quantitative variable of money can be used. Performing pre-interview training prior to an actual interview, may offer an advantage of some sort to students who wish to get a job. So, if we identify training costs as the variable, the utility of each method can be evaluated.

Accordingly, students were asked in the questionnaire, "What is the limit of acceptable cost for each of the methods, assuming that face-to-face interview training for almost the same length of time and with similar contents would cost Yen 2,000?" The estimate of Yen 2000 was based on the time

taken by the mock training sessions of 15 minutes, and an assumption that actual interview costs are similar to those charged for legal consulting.<sup>1</sup>

If the utility of each method is denoted by  $y$ , and the training cost by  $x$ , then the formula,

$$y = k \cdot \log_{10}(x/x_0),$$

taking the St. Petersburg Paradox into consideration (Matsubara, 1977) can be used. For convenience, the constant,  $k$ , was set at 1. The value of the criterion,  $x_0$ , is set to be 50, that is the cost for a method will judged to be 50 Japanese Yen if the method is regarded by students as valueless. Average values (standardized) for each method are shown in Table 2.

**Table 2. Utility gained from each Experimental Method (Standardized Values)**

Method A: Voice over the phone  
 Method B: Video picture/ Voice (Without half mirror)  
 Method C: Video picture/ Voice (With half mirror)

Method A	Method B	Method C	Face-to-Face
0.55 (0.13)	0.74 (0.07)	0.86 (0.07)	1.0

Notes: Number in brackets is standard deviation. Results evaluated by 10 students.

According to these results, Method C, in which the half-mirror is used, got the highest evaluation with a utility of 0.8 to 0.9 times as much as a face-to-face interview.

The utility of each method is largely influenced by how easily trainees can take notes during the interview. Especially in Method A, this effect was expected to be significant because they need one hand to hold the telephone. However, in the event, it was not found to be a serious problem by the trainees because the amount of information to be noted was not large.

*Evaluation 2* A modification of the procedure placed a half mirror also in the training room.<sup>2</sup> This allows eye contact between both trainee and interviewer. The following experiment was done with this arrangement. Its purpose was evaluate whether or not students feel uncomfortable with the video interview method, and to ask which method they prefer: face-to-face or video interview.

The participants were 35 students. The questions asked during the interview were common to both a video interview and a face-to-face interview: self-introduction, daily topic, and so on. Each interview took 3 minutes per student for each method. Immediately following the video interview, they were asked to complete the questionnaire shown in Table 3. The results are also shown in Table 3.

Only in the answer to one question do a substantial minority of students register a specific dislike of the procedure. The answers to Q1.5, "I don't like it because my eyes fail to meet those of interviewer's" amounted to 34 percent. This is thought to result from movement of the student's body from its pre-interview position leading to an inconsistency in achieving eye contact.

Otherwise, according to the results of Q1.3 and Q1.4, the size of the half mirror placed in the training room seems to be appropriate. Thus, we may think that the utility of using half mirrors in both rooms is almost same as utility earned by Method C.

The results from Q2, comparing the video and Face-to-Face Methods, indicate that a video interview is willingly accepted as being less straining. However, without enough tension, the effect of training may be reduced. This suggests that the video method should be used as a preliminary training procedure in preparation for a face-to-face interview. However, it is expected that strong and weak qualities in both methods might depend on the character of each interviewer. In addition, it appeared that students were interested in participating in this sort of dialog itself simply because it was their first experience of dialog through a TV monitor and video camera.

**Table 3 Evaluation Item in the Interview Method**

Q1.What did you feel about this method after receiving interview training through a TV monitor? <Practical aspect>		
	1. Yes	2. No
1. I don't like it because it felt impersonal**	11%	89%
2. I don't like it because "it's worthless as training unless it's face-to-face."***	14%	86%
3. I don't like it because "mirror prevented me from seeing the monitor."***	6%	94%
4. I don't like it because "I can't clearly see the face of interviewer."***	9%	91%
5. I don't like it because "my eyes fail to meet those of interviewer."***	34%	66%
6. I don't like it because "I don't hear the sound very well."***	0%	100%
7. I don't like it because "the sound is too loud."***	14%	86%
<Mental aspect>		
	1. Yes	2. No
8. I don't like it because "it's tiring."***	9%	91%
9. I don't like it because "it's stiff and formal."***	9%	91%
10. I don't like it because "it's painful."***	11%	89%
11. I don't like it because "I feel awkward."***	31%	69%
Q2. Circle a, b, c, or d concerning comparison between video interview and face-to-face interview.		
a: Video	b: Video, relatively speaking	
c: Face-to-face, relatively speaking	d: Face-to-face	
0. Which method do you think is "more painful?"***	a ( 4%) b (18%) c (39%) d (39%)	
1. Which method do you think is "more awkward?"***	a (12%) b (16%) c (36%) d (36%)	
2. Which method do you think is "more stiff and formal?"***	a ( 4%) b (16%) c (29%) d (51%)	
3. Which method do you think is "more tiring?"***	a ( 7%) b ( 9%) c (33%) d (51%)	
4. Comprehensively, which method do you like?	a (39%) b (29%) c (23%) d ( 9%)	

Notes: Q1: \*\* is put to the alternative where null hypothesis, here it means "ratio of 'Yes' to 'no' will be 50 to 50", is rejected by  $p < 0.005$ . Judged by  $\chi^2$  -test.  $df=1$

Q2: \*\* is put to the alternative where null hypothesis, here it means "ratio of 'alternative a or b' to 'c to d' will be 50 to 50", is rejected by  $p < 0.005$ . Judged by  $\chi^2$  -test.  $df=1$

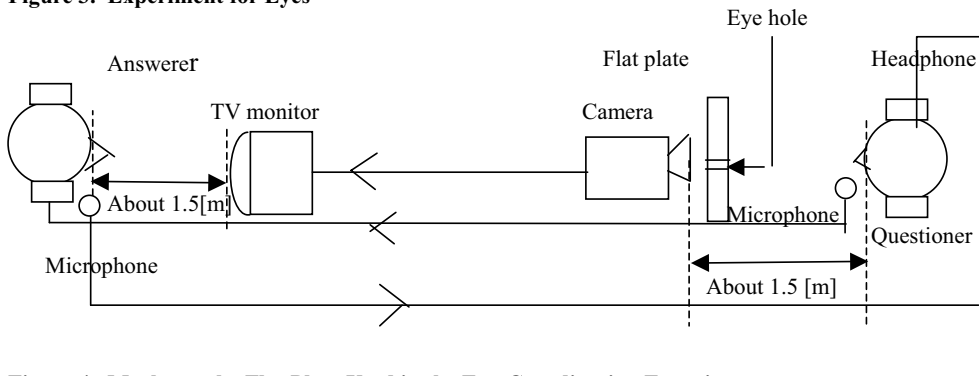
: \* in Q2 is the same as \*\* except for  $p < 0.01$

### Evaluation in Terms of Eye Contact

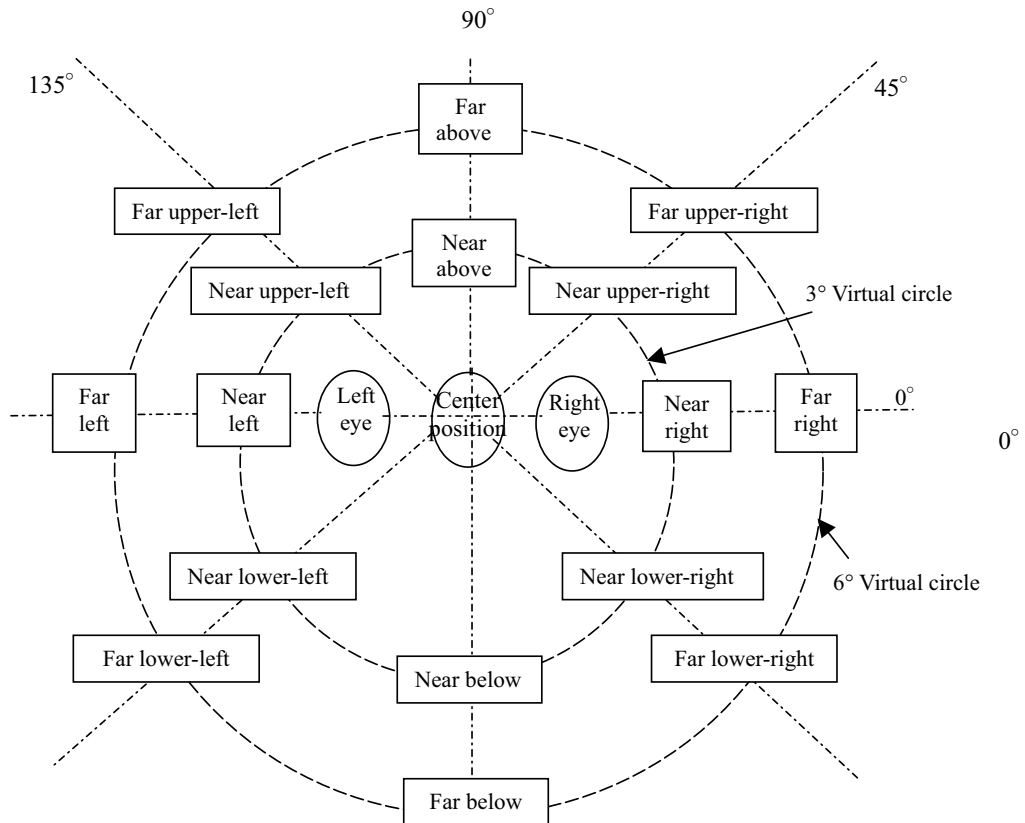
“Line-of-sight” is one of the important components of interview training (Kuriki, Arai, Uehara, & Sakai, 1994; Shiwa, 1993). If it is difficult for the student’s eyes to meet those of the interviewer, training itself will be difficult to do.

In this section, the relationship between “declination of line-of-sight” and “a feeling of being declined experienced by the partner” is explored in order to establish the requirements for this type of interview training system.

**Figure 3. Experiment for Eyes**



**Figure 4. Marks on the Flat Plate Used in the Eye-Coordination Experiment**



*Process of Experiment* In each experiment a questioner and an answerer took their positions, connected by a video camera (Figure 3). The video camera captures an image of the face of the questioner and relays it to the TV monitor at actual size. Immediately in front of the video camera is an opaque flat plate. In this square-shaped plate there is a central hole, arranged to be in front of the camera lens (see “central position” Figure 4). Under these settings, the degree to which the answerer experienced loss of eye contact when the questioner averted his eyes was examined. This was related to sets of calibrated positions on the plate (Figure 4).

Two additional small holes were made on either side of the “central position” for the left and right eye respectively, which collectively are called the “both eyes field.” Another 16 positions were marked in ink as rectangles on the questioner’s side of the plate as in Figure 4. An inner set of 8 points is located on a circle 8 cm in diameter; similarly an outer set of 8 points is located on a circle of 16 cm in diameter. As the distances between the TV monitor and answerer and between the questioner and video camera were both 1.5m, any two points on the 8 cm circle subtend an angle of  $3^\circ$  when viewed from a distance of 1.5m on an axis through the centre of the circle. Hence the 8 cm circle is designated the  $3^\circ$  virtual circle. Similarly, the 16 cm circle is designated the  $6^\circ$  virtual circle.

The questioner then asked the answerer to choose one of the following three statements, after gazing at a specified marked point as identified in Figure 4.

1. answerer’s eyes are meeting those of questioner’s.
2. indeterminate.
3. answerer’s eyes are not meeting those of questioner’s.

As there were 19 marked points or holes on the plate there was a possibility that the answers were subject to chance variation. To minimise this effect, the questioner asked 3 times about the 3 holes in the “both eyes field” but once only about other 16 points. The order of the 25 questions for each answerer was randomly determined.

*Results of Experiments* The students participating in this experiment were grouped to form 12 pairs; each served in turn as questioner and answerer to yield 24 sets of results. Two procedures were used: face-to-face and with a camera. In the face-to-face method, the answerer saw the face of the questioner through the holes marked as “left” and “right eye” on the intervening flat plate. In the video method the questioner’s face was seen on the monitor. The questioner would identify which of the 19 marked points or holes he was looking at and ask whether his eyes were meeting those of the answerer. This yielded one of the 3 standard answers. The data from the responses for the 8 points on  $6^\circ$  virtual circle were averaged; similarly the data for the  $3^\circ$  virtual circle and “both eyes field” were separately averaged. The averaged results are shown in Table 4. The responses indicate that for the “both eyes field” well over half of the answers considered that the eyes met. In contrast, for points on the  $6^\circ$  virtual circle, with either the video camera method or the face-to-face method, more than



half of the answers corresponded to the opinion that the answerer's eyes did not meet those of questioner.

The null hypothesis, that the ratio of eyes meeting/not meeting is 50/50, was examined by the  $\chi^2$  test. The results (Table 4) show that, with the video camera method, the null hypothesis is not rejected around the 3° virtual circle but is rejected around the 6° virtual circle.

**Table 4. Aggregated Data of Eye Contact Experiment**

Range	Method	Answer A (%)	Answer B (%)	X <sup>2</sup> -value
Both eyes field	Via TV monitor	69	19	10.1**
	Face-to-face	67	22	8.0*
3° virtual circle	Via TV monitor	34	50	3.5
	Face-to-face	29	63	11.6**
6° virtual circle	Via TV monitor	1	86	92.0**
	Face-to-face	6	93	54.2**

Notes: Answer A: "Answerer's eyes are meeting those of questioner's."

Answer B: "Answerer's eyes are not meeting those of questioner's"

Null hypothesis: ratio of answer A to answer B is 50: 50

\*: Null hypothesis is rejected by  $p < 0.01$

\*\*: Null hypothesis is rejected by  $p < 0.005$

According to Morii, Kishino, & Tetsutani (1993), a separation in angle of 3° from center to right and left is said to be the border between meeting and declining of eye contact. It appears that here we may say that the 3° virtual circle constitutes the borderline. Based on this experiment, we can conclude that even if the answerer's body moves, there is little feeling of loss of eye contact as long as camera lens remains to be seen within the 3° virtual circle.<sup>3</sup> As long as this state can be sustained, the student's line of sight could be useful information for training. Moreover, this could provide hardware that could be used in an interview training system—although an appropriate means of specifying a 3° virtual circle is a problem that remains to be solved.

## Conclusions

In this study a method for a remote mock interview has been developed and evaluated. From the evaluation function, it is shown quantitatively that the method involving a video camera, TV monitor and half mirror, and by which eye contact is possible, achieves a higher utility than either one without a half mirror or one using only voice contact.

An examination was also made of the training information "line of sight". The results indicate that with less than a 3° separation from the direct line of sight, which is equivalent to a position inside a 3° virtual circle, there is no substantial feeling of declination of eye contact.

In this work, "eye contact" has been regarded as a motiveless phenomenon. However, elements of dynamic feeling and information relating to movement of the body should also be considered. This will entail substantial further experimental development.

In performing this study, the author is indebted to Mr. Tomohiro Ikoda, Ms. Yuko Miyamoto and other students at Gunma Polytechnic College who shared in the research work.

### Notes

1. In analysing the results from questionnaires, an ordinal scale is often used. However, quantitative comparison of answers to questions like “How much are you satisfied?” are difficult. As interview training was sought by each individual student, so a “usage fee” was thought to provide a better criterion for students to answer.
2. In this experiment, a video camera was connected to the TV monitor by a normal video cable. For remote operation, a digital line should be used. However, video pictures generated in this study do not require rapid movement so that a 1.5M[bps] line is adequate.
3. At the outset, the reflected image of the camera lens is adjusted to appear on the half mirror at a position at which the student is looking.

### References

- Liyanage C. De Silva, Tahara, M., Aizawa, K., & Hatori, M. (1995). A Teleconferencing System Capable of Multiple Person Eye Contact (MPEC) Using Half Mirrors and Cameras Placed at Common Points of Extended Lines of Gaze. *IEEE Transactions on Circuits and Systems for Video Technology*, 5(4), 268-277.
- Shiwa, S. (1993). A Large-screen Visual Telecommunications Device Using a Liquid-crystal Screen to Provide Eye Contact. *Journal of the SID*, 1, 1.
- Morii, K., Kishino, F., & Tetsutani, N. (1993). Study on CG Eye-animation and the Feeling of a Gaze. *IEICE Technical Report, IE93-32*, 17-24.
- Kuriki, M., Arai, H., Uehara, K., & Sakai, S. (1994). Eye-contact Technique Using a Blazed Half-transparent Mirror. *IEICE Trans., E77-B2*, 226-231.
- Shiwa, S. (1994). An Eye Contact Display Using a Polymer Dispersed Liquid Crystal Screen. *Optronics*, 8, 127-133.
- Kitagaki, I., Ikoda, T., & Miyamoto, Y. (1998/1999). Development of a Tele-Oral Test Hardware System Using Video Equipments and its Evaluation. *Journal of Educational Technology Systems*, 27(1), 63-69.
- Matsubara, N. (1977). *Ishi-Kettei no Kiso* (in Japanese). Asakura-shoten.

## College to Work Transition in America

Naoyuki Ogata\*

This paper is a brief report about the college graduate employment system in America. In Japan, part of the process where a requirement of relevance of higher education to work is becoming stronger, occupationally oriented contents of higher education are recognized as useful objectives and an internship system is beginning to be introduced. It seems that one of the models to aim at is the American system. However the system of college graduate employment in America is little understood in Japan. In America the employment system and the higher education system are strongly connected with each other; the nature of the connection regulates the contents of the curriculum and the function of career services. America has a very diversified higher education system. Therefore it is difficult to generalize and that should be avoided. However, we can attempt to provide a general outline of the system in order to establish a blueprint.

The process by which students find and get jobs, and the function of career services at New York University are presented as examples. Career services are very important in America. The frequency of utilizing career services is very high and also career services are seen to be most helpful to students searching for jobs (Collins, 1998b).

### College Graduate Employment System

Internships offer a valuable link in the transition from college to work in America. So, at the outset and before presenting the processes involved in getting a job, it is useful to explain internships.

*Internships* Internships are on-the-job learning opportunities for students to link the classroom with a workplace. Many students experience internships or part-time jobs mainly during their sophomore or junior year.

Though the effects of internships in substantially improving job performance are not necessarily proved (Taylor, 1992; Scannell & Simpson, 1996), they are becoming increasingly important for both students and employers. From the students' point of view, internships help them apply for a permanent job, develop work-related skills and networking, and give them a chance to try out their chosen career. In fact, a survey of graduating students reports that those who participate in internships have a better opportunity than those who have not done so of obtaining job interviews, numbers of job offers, and better starting salaries (Kaman & Kretovics, 1999). From an employer's point of view,

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internships give them realistic information about how well the student works within the organization. That means internships provide a way to pre-screen candidates. There is no constraint or commitment between employers and interns. The primary reason why the companies offer internships is to provide a return to the students, the community, and their alma mater (Brocks & Greene, 1998). In reality, however, especially in the case of for-profit organizations, employers extend offers for full-time employment to 55% of their interns (Brocks & Greene, 1998). They clearly use internships as a recruiting source. Interns also offer fresh perspectives and complete projects for which staff members never seem to have the time.

Students get information about internships through the career services at each university, and from books, and the Internet. The kinds of information students utilize are weekly earnings, the field the job is in, duration (how many weeks and which season), and pre-requisites of schooling (undergraduate or graduate level). Because internships are work experiences before finding full-time jobs after graduation, the main qualities and skills required for interns are enthusiasm and interest, communication skills, and professional maturity (Brocks & Greene, 1998).

The way of applying for internships is similar to that for jobs after graduation. The detailed process of seeking employment is described below. Briefly the sequence is as follows. Before starting to search for internships, students do self-analyses, identifying their interests, skills, and values. After that, they send a résumé and a cover letter and have an interview. In the case of internships, the period between sending résumés and getting replies is around two weeks, shorter than for students seeking jobs after graduation. In many cases only one interview is needed.

*The Ways of Getting Information and Finding a Job* The main route to get job information is through reading and ‘networking’. Networking is different from ‘connections’ because it requires informational interviews. The purpose of networking is to get information, not to get a job. Therefore anyone—such as friends, parents, relatives, teachers, and career counselors—will be useful initially. Through networking, students access more realistic and informal valuable information that they cannot get in a formal way. The sort of information they obtain is: a more detailed description of the work, such as responsibilities of workers, the work environment, and frustrations; lifestyle considerations, such as travel, relocation, and flexibility of working hours; and future prospects, such as job training, career ladders, and income.

The resources for finding a job are varied. The most popular one is accessing the career services at the university. Of course the quality and quantity of job listings vary with the type and efficiency of the career services and the geographical location of the campus. Other resources are the use of networking, “help-wanted” advertisements in newspapers, magazines, or on the Internet, and employment agencies. Though the number is small, it does happen that some students start their own businesses.

*The Process of Job Hunting 1: Résumé and Cover Letter* Unlike Japan, in the US there is no fixed date for starting jobs after graduation. The starting time varies according to the graduating time. People who graduate in May start their careers from mid-May to August and those who graduate in December begin from January to May. The recruiting season is from fall to spring. The length of time for selection is from four weeks to six weeks and it takes longer than in the case of internships.

At first, students send a résumé and a cover letter to the company. The main purpose of a résumé is to get an opportunity of interview. Generally speaking, the length of a résumé is one page. A résumé provides a summary of the applicant's abilities, accomplishments, and experiences. Therefore the contents are as follows: name, address, phone number, education, experience, activities, skills, and interests. It is not required to give information about age and sex.

For employers the two most important pre-screening criteria are the major subjects studied and work/co-op experience (Allen, 1998). Though requirements for the major and skills vary between sectors of industry and size of organization, the important point is to write down information that is related to the job: what an employer seeks is job-relevant knowledge and skills. This means that in the case of sending a résumé for a different type of job, a different type of résumé is needed. In a survey inquiring into the importance of student participation in activities outside the classroom, employers regard job-related work experiences as the most important feature. The second most important is a leadership role in a student organization: this is seen to be more important than work experience unrelated to the job being sought (Reardon, Lenz, & Folsom, 1998).

Some specific information needs to be included in each of the sections of the résumé. The first is education. The test score is often skipped because it is rare that an employer will use it as a hiring decision, though if the GPA is above 3.0 it may be well to note it on the application. In general, students list their minor/major courses and any additional coursework taken because, especially at the undergraduate level, it is often the case that the major is not necessarily connected to the job. Next is experience. This will include paid employment, internships and volunteer work. An essential point is to note not just what the applicant did but how well it was done. What an employer deems important are the results and accomplishments of experience. The third type of specific information covers activities. Although leadership skills are required more at managerial than at entry level, if the job requires such skills, the activities of club memberships, community service, and participation on athletic teams, can be crucial points. The last point is work-related skills. The main focus is on computer skills and languages. Ordinarily, for computer skills, both the hardware and software that students can handle should be listed; and for languages, fluency is the key point.

If we compared a résumé to a tree, a cover letter would correspond to a forest. The purpose of a cover letter is to introduce students themselves to the employer, to express why they are interested in working for the organization, to emphasize how the qualifications they have acquired can contribute to the organization, and to ask for an interview. A common traditional way is to send a cover letter and a résumé at the same time. But in the case of sending a résumé on-line (i.e. through the Internet), in

some cases a cover letter isn't required.

*The Process of Job Hunting 2: Interview* If a résumé is successful, the next step is an interview. The interview is the most important part of the recruitment process. Of course it is true that those who submit a fine résumé may get interview opportunities more easily. But it is often the case that applicants with impressive résumés are rejected on the basis of a poor interview performance. Perry and Goldberg (1998) indicate interviewing skills have a greater influence than academic background or work experience on the likelihood that students will be invited for an on-site interview and get a job offer. One estimate suggests that the average proportion of candidates interviewed and who receive offers is about 20% (Allen, 1998).

Often there will be two or more interviews. The first interview is for screening and it is rare to get a job at this stage. It is said that an easy hire decision means an easy fire decision later. Therefore the time taken by a first interview is short and the questions are brief. At the first interview, usually someone in the human resources section is an interviewer. The second interview is likely to be longer, and more detailed questions will be asked. The interviewer is likely to be one of the managers. At the last stage of the interview, or at the executive level, most decisions are based on fit. After every interview an applicant should send a thank-you letter to the employer: The purpose is not only to thank the interviewer but also to show enthusiasm and interest and to give him or her a good impression.

A popular style for an interview is a one-on-one interaction. In addition, there also exist group interviews, which may take various forms: one candidate with a panel of interviewers, several candidates with one or more interviewers, and one interviewer with a group of candidates. The first one is also called the board/panel interview; the last one means that each candidate is being judged on creativity (where originality in an answer is required), leadership, and teamwork.

Though it is difficult to generalize the contents of questions, basic questions may cover the following topics: college experience, applicants themselves, work-related experience, future career prospects, lifetime objectives, and the organization itself. The format of the interview may take various forms. Tullier, Haft, Heenehan and Taub (1997) give five examples: structured, unstructured, conversational, confrontational, and sales pitch interviews. The confrontational interview is called the stress interview and this is used to check whether the candidate is able to deal with a high-pressure job. The Office of Career Services at NYU (OCS) (1998) indicates two new trends for interviews. One is a behavioral interview when the interviewer asks candidates to describe a particular situation in their past and how they learned from it. The other is a situation interview when candidates are asked how they respond to scenarios of common work situations that arise on the job.

It sometimes occurs that students take tests relating to basic or specific skills during the interview. Though psychological tests are also sometimes taken, these are usually restricted to senior level jobs that require a personality fit with the job and the corporate culture. Inquiring about salary and benefits

is also possible during the interview but it is usually recommended that this be left to the end of the interview process, namely after getting a job offer. But very little salary negotiation room is left to a recent graduate because most of them apply for entry-level jobs.

It occurs frequently that students get more than one job offer from an employer. In America this is not considered to be unethical. It occurs naturally that if a company has strong power over personnel issues, it seems sensible to select the best-fit job for applicants receiving multiple job offers. Allen (1998) reports that the average percent of offers accepted is 50-60 % and employers give job candidates an average of two weeks to accept or reject job offers. If a company were to withdraw a job offer that had been made, this would be considered unethical and a company doing this would be thought to be no longer dependable.

*On-campus Recruitment* One of the much used systems is the on-campus job recruitment system. Companies arrange to visit college campuses for the purpose of recruiting graduating seniors. There are also arranged on-campus interviews, career-fair participation and so on. Whether or not a company decides to visit a college campus depends on various factors such as the size of student body, geographic location, and academic reputation of the school. By utilizing on-campus recruiting, companies have a means of tapping into a strong pool of potential new employees. The on-campus recruitment system is also very convenient for students because most of the application processes such as contacting companies and arranging interviews are carried out through the career center. All students have to do is attend seminars about the on-campus program, seek a job among the lists of employers who register for the program, submit a résumé to the program office, and wait till the employer informs the office of the date and time of the interview. The career center sends the collected résumés to the company and the company sorts through them and pre-selects a group of students to interview.

From a survey of recruiters conducted at the University of Tennessee at Knoxville (Greenberg, 1997) the substance of the on-campus recruiting system can be summarized as follows. It is rare that students receive an offer only from on-campus interviews. A campus interview is very selective and more than 40 % of campus interviewers indicate that only 15% of the applicants are invited to visit the company for the next interview. Because the main screening process is finished at the stage of the campus interview, more than 50% of those selected get an offer; and 41% of campus interviewers indicate that they would employ more than 80% of those receiving offers. Most employers (70%) arrange individual company visits rather than group visits. Half of employers (52%) engage in testing, such as drug testing, psychological profiles and aptitude tests, during the company visits; and the majority of companies take the opportunity to discuss salary and benefits during company visits.

## The Function of Career Services: the Case of New York University

*Overview* In American higher education, the functions of the career services can be divided into two. One is to facilitate the career development of students; the other is to provide direct assistance in the placement of students into specific jobs. Historically there existed a counseling office that was responsible for career planning and a placement office that focused separately on the specific job finding skills. But as the placement role became necessary for the process of career development, the functions of counseling and placement were combined (Herr, Rayman, & Garis, 1993).

According to NACE's career service survey conducted in 1997 (Collins, 1998a), many career centers adopt the name of career services as their office title (40%), because their main function evolved from a limited placement service to a broader and comprehensive career support of students. Most of them have a centralized office (87%) and they are organizationally a part of student services or student affairs (78%). Though the number of staff or professional staff varies by enrollment size, the number of career services having only a director is few (3%) and many of them have associate or assistant directors, counselors, coordinators, technical professionals and so on. Most of the career services professionals have at least a master's degree. The average annual operating budget was \$169,586: less than 1% of the total institutional budget is allocated to the career service on average. They offer various services (Table 1) and the number of career services offering cooperative education, internship and other experiential education programs has substantially increased over the past twenty years (26% in 1975 to 73% in 1997). The use of technology in providing career services is also rising in parallel with the speed of the Internet. Two-thirds (69%) of institutions have their own web page for students and 20% of them have online registration for use of the career office's services. On average in each career office, the number of students counseled per year is 1300, the number of students participating in on-campus recruiting per year is 554, the number of interviews conducted on campus for post-graduate employment is 1714, the number of workshops presented annually is 98, and of seminars is 41. The average percentage of the graduating class that uses a career service office is 70% and almost 1 in 4 (24%) obtain a job through on-campus interviewing.

*Organization of the Office of Career Services in NYU* The Office of Career Services (OCS) in NYU was founded for the purpose of providing career counseling and placement assistance to undergraduates, graduate students and alumni. Today it has nineteen full-time staff members and all of them have master's degrees in career counseling or in some related subjects. The staff consists of one director, one associate director, two assistant directors, two senior career counselors, five career counselors, one student employment specialist, one recruitment coordinator, one assistant to the recruitment coordinator, one employer service coordinator, one systems administrator, one secretary, one administrative aide, and one receptionist. Besides these, the OCS employs two graduate assistants as part-timers.



**Table 1. Services Offered Through Career Services**

Career counseling (individual and group, combined)	Campus interviews for other than full-time employment
Career counseling (individual)	Site visits
Campus interviewing	Computerized candidate data base
Occupational and employer information library	Consortium programs
Workshops	Vocational testing
Career/job fairs	Advisory boards
Placement of graduate into full-time employment	Résumé booklets
Placement of alumni (alumni services)	Placement of undergraduates into graduate school
Campus interviews for full-time employment	Academic counseling
Résumé Referral	Consultation
Cooperative education, internship, other experiential education programs	Video interviewing
Computerization/technology	Career planning or employment readiness course for credit
Placement of students in summer or part-time employment	Career planning or employment readiness course not for credit
Job development	Internet registration
Statistics and Research	Dropout prevention and counseling
Career counseling (group)	Scholarships
Credential service	Transfer of associate degree students to four-year institution
Graduate/professional school advising	
Student employment (summer, part-time)	
Community outreach	

Source: Collins, 1998a, p. 52.

*Seminars* The OCS offers various seminars to give students a comprehensive understanding of career planning and job hunting. Seminars are conducted all through the year. For example, in January and February in 1999, 27 seminars were held. They covered more than 10 topics: “Planning Your Career”, “Résumé & Cover Letter Writing”, “Interviewing Skills”, “New Professionals in the Workplace”, “How to Choose a Major & Career”, “How to Make the Most of Your Part-Time Job”, “Careers in Focus for Liberal Arts Students”, “Job Networking Skills”, “Job Search and Internet Resources”, “On-Campus Recruitment”, “Work Abroad Orientation”, and “Job Search Strategies for International Students.”

Each seminar lasts for about an hour and a reservation is needed to participate. Most of those attending are undergraduate students. Though the style of the seminar varies according to the number of students and the topic, in general, an instructor who is a member of the OCS staff explains the point briefly at first, then each student is able to ask questions. It is common that after a seminar, individual students will seek to ask the career counselor about their specific interests.

The career counseling service for students is very important. By making an appointment, students can discuss at length their individual needs and goals with a career counselor. The OCS also offers a mentor network program. The mentors are experienced professionals, many of whom are alumni of

NYU and help students explore their careers. They serve as mentors voluntarily and receive no pay. Now there are over 400 of them.

*Employment Assistance* The OCS offers over 5000 internships and summer job opportunities to students. Students can meet employers at the part-time Job and Internship Fair held in September and the summer Job and Internship Fair held in February. Special internship résumé collections are another service and this enables employers to recruit students for internships and conduct interviews at the OCS site.

The OCS also offers an on-campus recruitment service that provides graduating students seeking full-time employment after graduation with an opportunity to be interviewed by an employer on-campus. Over 700 employers visit the OCS each year. Their target students are those graduating either in January, May, or October. From 1998-1999, on-campus recruitment has been split into fall (the fall interview season is from September 23 to December 1) and spring (the spring interview season is from January 26 to April 22) sessions because the recruitment season differs among industries. Financial, accounting, management, marketing, and technical companies tend to employ students in the spring; and communication, non-profit organizations, education, and media do so in the fall. From 35% to 40% students get their jobs through on-campus recruitment. These functions are mainly carried out by the Student Employment and Internship Center.

In addition, employment bulletins which list over 20,000 full-time employment opportunities (fees required) are mailed to second semester seniors, graduate students, and alumni.

Another important and recently most powerful employment assistance for students is NYU Career-Net. This is an on-line system and allows students to search for on- and off-campus jobs and internships. In the case of searching for part-time jobs and internships, users can select items from a large number of categories: 17 part-time categories, 26 kinds of computer skills, 5 types of hours per week, 6 job types, 13 company locations, 132 major/minor options, 3 pay-per-hour rates, 3 time-of-day/week options, 3 time-of-year options, 5 typing speeds, and 6 levels of required experience.

In the case of searching for full-time jobs, users can utilize categories as follows; 9 full-time categories, 26 kinds of computer skills, 4 levels of required experience, 13 company locations, 123 major/minor options, and 8 annual salary ranges. And students can get company information drawn by selected keywords: the information available is generally the company name including URL, job starting date, application deadline date, required qualification and job responsibilities, and the procedure for submitting a résumé (Table 2).

*Graduates' Survey: Employment Conditions of NYU Students* The OCS has conducted a graduates' survey since 1992. The target population is bachelor's degree recipients in either January or May in the surveyed year. An outline of the results from the surveys for the 1997 and 1998 years is given below.

**Table 2. The Contents of NYU Career Net: Full-time Jobs**

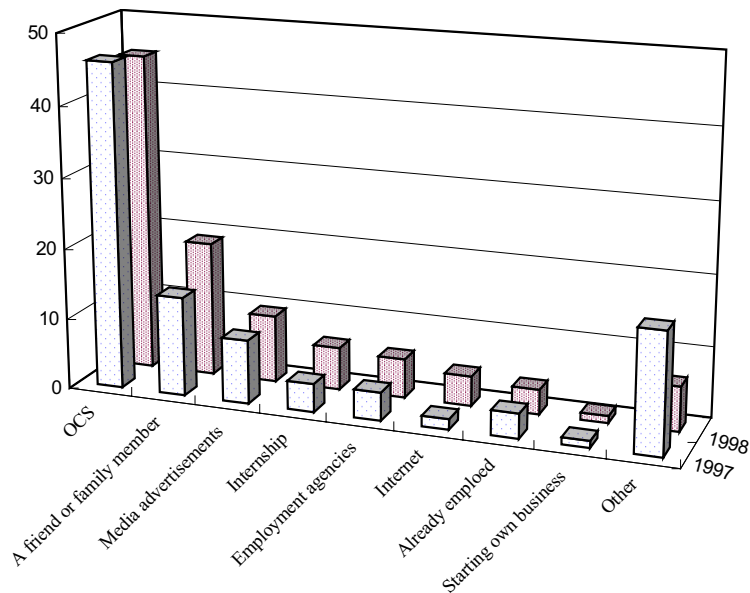
<b>Full Time Categories (9 items)</b>		
Business Related		Human Services
Health & Science		Social Science
Computer Science/Info Systems		Teaching
Education Administration		International
Arts & Communications		
<b>Computer Skills (26 items)</b>		
Windows 95	DBASE	Macintosh
Perl	Access	IBM
Oracle	Word Perfect	PL/SQL
XBase	C + +	Solaris
Visual Basic	C	FileMaker
Windows NT	HTML	Photoshop
Java	Lotus 1-2-3	PageMaker
Quark	Excel	SunOS
4th Dimension	Microsoft Word	
<b>Experience (4 items)</b>		
4-6 years	Entry Level	
1-3 years	7 years +	
<b>Location (13 items)</b>		
Brooklyn	Tribeca	
Long Island	Upstate NY	
Manhattan	Various locations	
New Jersey	Westchester	
Queens	White Plains	
Staten Island	Bronx	
Tri-State		
<b>Salary (8 items)</b>		
> \$50,000	\$34,000-\$37,000	
\$46,000-\$49,000	\$30,000-\$33,000	
\$42,000-\$45,000	\$26,000-\$29,000	
\$38,000-\$41,000	< \$25,000	

Source: NYU Career Net

In NYU, the OCS is seen to have a very important function for graduates' employment. Over 80% of those surveyed answered that they utilized the OCS's programs and services. In addition, about half of the recipients answered that they obtained their job position directly through the resources of the OCS; this makes it the biggest means of finding employment (Figure 1). The rate of locating jobs from the Internet is still low, but is getting higher gradually. A majority of students, 56% in 1997 and 71% in 1998, received at least two or more job offers and had a choice of positions.

The rate of full-time employment for those who completed bachelor's degrees is 87% in both years; the number proceeding directly to a graduate program is not so large. Most of the bachelor's degree recipients seek first to establish their careers. However this does not mean a low demand for graduate education. Of those not currently enrolled in post-graduate academic programs, more than 80% are planning to pursue a graduate degree in the next few years. This suggests that graduate education has established a firm place as a system of continuing education. After they get a first job,

Figure 1. Means of Finding Employment



Source: NYU OCS, Placement Survey in 1997 and 1998.

they utilize part-time or full-time post-graduate academic programs, upgrade their skills or get new work related knowledge and then use these new qualifications and skills to change their occupation or career.

Recently, one of the major concerns for students and their parents has become the employment value of university from a cost-beneficial point of view. The OCS's survey also reflects this situation. It shows NYU students earn among the highest starting salaries in the country—an additional \$6,375 in 1997 and \$5,985 in 1998 above the national average annual salary for new graduates. It also reports which fields offer the best prospects for employment and which jobs pay the highest salaries (Table 3).

**Table 3. The Relationship Between Major and Salary**

Major	Mean Salary			
	NYU Graduates		National Average	
	997	1998	1997	1998
Finance	\$41,000	\$44,000	\$31,500	\$38,700
Psychology	\$28,000	\$31,000	\$23,430	\$25,499
Accounting	\$40,000	\$40,000	\$32,100	\$32,872
Economics	-	\$42,000	-	\$34,043
Marketing	\$31,000	\$37,000	\$28,950	\$29,148
Politics	\$31,000	\$33,000	\$28,170	\$28,736
Nursing	\$43,000	\$46,000	\$32,985	\$33,077
English	\$27,000	\$30,000	\$24,150	\$27,608
Journalism	\$26,000	\$26,000	\$23,625	\$24,616
Communications	-	\$29,000	-	\$25,938
Biology	-	\$34,000	-	\$26,885
Computer Science	\$42,300	-	\$37,335	-
Information Systems	\$42,000	-	\$36,040	-

Source: NYU OCS, Placement Survey in 1997 and 1998

## Conclusion

The resources available for writing this paper were limited. It is based largely on interviews with faculty and career counselors at New York University. Moreover, it lacks detailed statistical data at the national level about the process of college to work transition. Therefore it cannot provide sufficient information to give a full picture of the college graduate employment system in America. However it may at least be able to indicate some of the important aspects.

There are two indispensable points to establish with regard to the relevance of higher education to work. One is to clarify what kind of knowledge and skills are required in the world of work. The other is to know which type of job-related knowledge and skills students acquire through higher education. However neither of these two points has been fully explored in detail. In practical terms, two important functions in this situation are internships and the career services.

College students are able to obtain work-related experience through internships. A further important function that should not be overlooked is that this also allows college students to experience, in advance of graduation, the process of finding and applying for jobs. At the same time employers benefit from learning which type of college students can execute what kind of job, and through internships they have a powerful means of pre-screening candidates for employment.

The career services support various kinds of students' job-hunting process. In addition to giving job information, they have two important functions. One is arranging on-campus opportunities for students and employers to meet with each other and arrange interviews. The other is career counseling. Many career services have professional career counselors who advise students about job prospects.

In comparison with the Japanese case, we may conclude that the contents of higher education in America are more occupationally oriented and that companies also employ college graduates on the basis of professional knowledge and skills. But what we should never overlook is that the relation between higher education and employment system in America is powerfully supported through the functions of internships and career services.

## References

- Allen, C. (1998). Learning from Each Other's Experience: Employers Benchmark Recruitment Activities. *Journal of Career Planning and Employment*, LVIII (3), 25-30.
- Brocks, J. E., & Greene, J. C. (1998). Benchmarking Internship Practices: Employers Report on Objectives and Outcomes of Experiential Programs. *Journal of Career Planning and Employment*, LIX (1), 37-39, 52-60.
- Center for Career Services, Columbia University (1998). *1998-99 Job Search Planner*.
- Ciofalo, A. (Ed.) (1992). *Internships; Perspectives on Experiential Learning*. Krieger Publishing Company.

- Collins, M. (1998a). Snapshot of the Profession. *Journal of Career Planning and Employment*, LVIII (2), 32-36, 51-55.
- Collins, M. (1998b). Great Expectations: What Students Have to Say about the Process and Practice of Launching a Career. *Journal of Career Planning and Employment*, LVIII (3), 41-47.
- Greenberg, R. (1997). The Company Visit: A Survey of Employers on Conducting Company Visits for College Recruits. *Journal of Career Planning and Employment*, LVIII (1), 26-28, 61-63.
- Herr, E. L., Rayman, J. R., & Garis, J. W. (1993). *Handbook for the College and University Career Center*. Greenwood Press.
- Kaman, V. S., & Kretovics, M. A. (1999). Experience and Career Focus: A Framework for Advising and Placing Business Interns. *Journal of Career Planning and Employment*, LIX (2), 32-35, 42-43.
- Oldman, M., & Hamadeh, S. (1998). *America's Top Internships: 1999 (Annual)*. The Princeton Review.
- Page, N. R., Wiseman, R., & Crary, D. R. (1982). Predicting Students' Benefits from Cooperative Education. *The Journal of Cooperative Education*, XVIII (2), 31-43.
- Perry, A., & Goldberg, C. (1998). Who Gets Hired: Interviewing Skills are a Pre-hire Variable. *Journal of Career Planning and Employment*, LVIII (2), 47-50.
- Phythian, E. (1998). *Student's Guide to On-Campus Job Recruiting*. Kaplan Books.
- Reardon, R., Lenz, J., & Folsom, B. (1998). Employer Ratings of Student Participation in Non-Classroom-Based Activities: Findings from a Campus Survey. *Journal of Career Planning and Employment*, LVIII (4), 36-39.
- Scannel, J., & Simpson, K. (1996). *Shaping the College Experience Outside the Classroom*. University of Rochester Press.
- Taylor, M. S. (1992). Effects of college internships on individual participants. *Internships: Perspectives on Experiential Learning*. Krieger Publishing Company, 52-74.
- The Office of Career Services, New York University (1998). *1998-99 Career Guidebook*.
- Tullier, M., Haft, T., Heenehan, M., & Taub, M. (1997). *Job Smart*. The Princeton Review.
- Wendleton, K. (1997). *Job-Search Secrets*. Five O'Clock Books.

# Higher Education Research in Japan

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