Current State and Problems of Japanese Higher Education

Jun Oba (oba@hiroshima-u.ac.jp)
Research Institute for Higher Education, Hiroshima University, Japan

Introduction

Japan is a newly developed country, although its development was not so recent as some new members of the OECD (Organisation for Economic Co-operation and Development). For several decades after the World War II, Japan enjoyed economic growth driven by well-configured Industry-Government-Education collaboration. The mission and role of education, being regarded as a vital factor in achieving the general aims of society, were as a rule defined to serve to society in this framework.

The framework came to an end in the period following the fall of the Berlin Wall in 1989. In 1990, the "bubble economy" collapsed and the Japanese economy has been stagnant ever since. The recession forced structural changes to industry, followed by governmental administrative reform up to ministerial level. Under such circumstances, as the key to progress, it is increasingly demanded that universities should contribute to society – education of students with skills, development of mission-oriented research, participation in joint research projects with industry and government, etc. University reform progressed rapidly in the 1990s.

On the other hand, Japan is an ageing country. Japanese society will experience a decrease in the number of its younger population, which is supposed to cause divers problems including notably the lack of workforce and the reorganisation of the pension scheme. For universities, students' enrolment number is expected to plunge over the next decade, and they will be faced with enhanced competition to attract increasingly diversified students.

I Education system in Japan

1. Development of the modern education system

Throughout its history, Japan has attached great importance to education. Even before the Meiji\textsuperscript{1} era (1868-1912), under the feudal régime (the Edo period), Japan had number of schools called Terakoya, open to children of commoners and samurai (warriors). At the end of the Edo period, there were around ten thousand terakoya, and according to an estimation, the literacy rate was 40%.

The Japanese modern education system was introduced immediately after the Meiji Restoration. In 1872, the Government promulgated the Education System Order (\textit{Gakusei}) with the objective of generalisation of school education and others. Since then, first elementary schools, then secondary schools were rapidly set up throughout the country, generally based on the existing system. At the beginning of the twentieth century, ele-

\textsuperscript{1} From the name of the reigning Emperor Meiji. The Meiji era began with a revolution called the Meiji Restoration which marked the opening of modernisation of Japanese society.
mentary education became universal both for boys and girls (Figure 1).

Nowadays, with very few exceptions, all school-aged children (from 6 to 15 years) attend elementary and lower secondary schools (junior high schools) which are compulsory; and almost all the lower secondary school graduates attend upper secondary schools (senior high schools). In 2004, the upper high school attendance rate was 97.5% of the lower secondary school graduates and 96.3% of the age cohort. Slightly less than half of the age cohort goes on to higher education institutions (excluding non-university institutions). In 2004, the percentage of students enrolling in universities or junior colleges rose to 49.9%.

2. Organisation of the school system
Since the introduction of a modern educational system through the promulgation of the Education System Order in 1872, the Japanese school system has undergone a number
of amendments and revisions. Ultimately, the pre-war school system was characterised by a relatively short period of compulsory education, common to all, and also by a multiple track system after that period. During wartime, under extraordinary circumstances, the school system became very complicated (Figure 3).

After World War II, the Japanese education system was entirely revised under the occupation. The school system, from kindergartens to universities, was structurally rationalised and unified into a single track format. The duration of compulsory education was extended from six years to nine years. The varying types of higher educational institutions were consolidated into a single four-year university system constituting the last part the new 6-3-3-4 education system. Under the new system, any graduate of an upper secondary school was entitled to apply for entrance to a university. The doors of the universities were opened much wider than in the pre-war period.

As a rule, the school system established in the post-war period has been maintained until today, although some new structures were created, including college of technology (1961), special training schools (1975) and secondary education schools (1998).

Under the post-war education system, Japanese primary and secondary schools displayed a very good performance. According to a survey by the OECD in 2000 (PISA 2000), which assessed 15-year old students in 43 countries in the world concerning their attainments in mathematics, science and reading, Japan was classed in the first group for

2 Although the junior college system offering two-year higher education was set up alongside universities, the system was considered as provisional at that time. After its perpetuation in 1964 by a revision of the School Education Law, it would considerably develop throughout the country.
mathematics and science and the second group for reading. However, since educational programmes in schools, from pre-school level to higher education, have been gradually diversified and are now offering a range of options, it is becoming more difficult to assess students' academic ability with an achievement test\(^3\).

![Organisation of the present school system](image)

**Figure 4** Organisation of the present school system

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Schools in Japan as of 1(^{st}) May 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of schools</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>14,061</td>
</tr>
<tr>
<td>Elementary school</td>
<td>23,420</td>
</tr>
<tr>
<td>Lower secondary school</td>
<td>11,102</td>
</tr>
<tr>
<td>Upper secondary school</td>
<td>5,429</td>
</tr>
<tr>
<td>Secondary education school</td>
<td>5</td>
</tr>
<tr>
<td>Special education schools (for handicapped children)</td>
<td>999</td>
</tr>
<tr>
<td>College of technology</td>
<td>63</td>
</tr>
<tr>
<td>Junior college</td>
<td>508</td>
</tr>
<tr>
<td>University</td>
<td>709</td>
</tr>
<tr>
<td>Special training school</td>
<td>3,443</td>
</tr>
<tr>
<td>Miscellaneous schools</td>
<td>1,878</td>
</tr>
</tbody>
</table>

* Full-time only.

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\(^3\) In fact, according to the results from PISA 2003 which had assessed the attainments in reading and mathematics as well as the problem-solving ability, Japan lowered its ranking in terms of reading literacy and mathematics in comparison with the PISA 2000 ranking.
II Higher education in Japan

1. Foundation of modern higher education institutions

The modern higher education system began in the late 19th century in Japan when the University of Tokyo (later Tokyo Imperial University) was founded in 1887 by the Meiji government through the merger of two existing higher education institutions. Other imperial universities were subsequently established in several major cities in Japan, resulting in a total of 7 imperial universities (Tokyo, Kyoto, Tohoku, Kyushu, Hokkaido, Osaka and Nagoya), apart from those located in overseas territories. All these were comprehensive universities and were organised on the continental European model (especially Germanic), which led to a bureaucratic system with quasi-autonomous academic units (faculties).

Apart from the imperial universities, a number of governmental, local public and private higher education institutions were founded in the same period. In 1903, the Government enacted the Specialised School Order to codify the establishment and activities of institutions previously classed as miscellaneous schools. Specialised schools increased remarkably since then. They were later given, with single-faculty institutions in special cases, the opportunity to seek the status of university by the promulgation of the University Order in 1918 (implemented the following year).

The pre-war Japanese higher education system was thus characterised (but not exhaustively so) by the well-organised bureaucratic administration system in governmental institutions and also by the coexistence of the three sectors of higher education institutions – governmental (national), local public and private, with massive investment in the national sector by the Government. Although they were not many in number (Table 2), governmental institutions, especially the imperial universities, enjoyed the prerogative of acquiring abundant staff, facilities and prioritisation in other parts of budget distribution in comparison with institutions of the other sectors.

<table>
<thead>
<tr>
<th>Universities [imperial universities]</th>
<th>Specialised Schools</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governmental (national) 19 [7]</td>
<td>58</td>
<td>77</td>
</tr>
<tr>
<td>Local public                      2</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>Private                            28</td>
<td>134</td>
<td>162</td>
</tr>
<tr>
<td>Total                              49 [7]</td>
<td>216</td>
<td>275</td>
</tr>
</tbody>
</table>

After the war, in 1949, 70 institutions opened their doors as national universities. A number of national universities started either from old normal schools or as branch schools responsible for two-year courses. The imperial universities and other governmental universities were integrated into the newly created university system without difference in terms of legal status. However, in contrast to the former imperial universities and other former governmental universities, these new national universities would remain weak for a long time in terms of prestige, staffing, facilities, budget allocation and management ability. In addition, 17 local public universities and 81 private universities also began teaching in 1949. Some of the older specialised schools reopened as
2. The expansion of higher education and its decline

After the reorganisation during the occupation period, the 1960s and early 1970s witnessed the most rapid growth of the higher education system. Numerically, whereas there had been 245 universities and 280 junior colleges in 1960, there came to be 420 universities (Figure 5) and 513 junior colleges by 1975 (Figure 6). In terms of student numbers, by 1975 the population attending universities (including graduate schools) increased to 1,734,082, or 2.77 times the 1960 student population (Figure 7), and in junior colleges to 348,922, or 4.28 times the 1960 figure. The percentage of school students continuing to university or junior college by 1975 increased from 10.3% to 38.4% of the corresponding age group (Figure 8).

During the growth period, it was private universities that developed very rapidly. Their development was well illustrated by the sharp increase in the percentage of their enrolled students out of the total student population: students enrolment in private universities and junior colleges rose from 64.4% for universities and 78.7% for junior colleges in 1960 to 76.4% for universities and 91.2% for junior colleges in 1975.

The second rapid expansion of higher education occurred in the 1980s and early 1990s. The number of universities increased from 446 (93 national, 34 public and 319 private) in 1980 to 565 (98 national, 52 public and 415 private) in 1995, and 709 (87 national, 80 public and 542 private) in 2004. However, the number of 18-year-olds reached its peak in 1992, and has been decreasing ever since. Although the number of universities is still increasing, the number of junior colleges reached its peak (596 in number) in 1996 and is now gradually decreasing (Figure 6). In addition, the proportion of the age group advancing to universities and junior colleges reached 49.1% in 1999, and has been stagnant at around 49% since then (Figure 8).
Figure 6 Number of junior colleges by sector

Figure 7 Student enrolment in universities (including graduate students) by sector

Figure 8 Trends in 18-year-old population and access to higher education
III Recent developments in higher education reform

1. Incorporation of national universities\(^4\)

National universities were until March 2004 a part of the national government, and are directly operated by the latter. By acquiring the status of "national university corporations", they were given legal personality and became more autonomous from the government. This reform was regarded as one of the most significant reforms of Japanese university since the Meiji era.

a. Progress towards incorporation

The idea of incorporating national universities is not a new one. The earliest appearance of the idea can be found in the proposal *Teikokudaigaku dokuritsuan shiko* [Private study on independence of the Imperial University] in 1899 where academics suggested placing the Imperial University under the patronage of the Emperor conferring legal personality on it. In the 1960s, a certain number of proposals were made by academics, such as Michio Nagai's *Daigakukosya* [university corporation] in 1962. In 1971, the Central Council for Education proposed, as one alternative, incorporating national universities to help self-development by giving them more institutional autonomy.

In the late 1980s, the National Council on Educational Reform vehemently discussed the possibility of incorporating national and public universities. At the same time, the incorporation of national universities came to be studied as part of governmental administrative reform. In the 1990s, some governmental advisory bodies suggested the incorporation of national universities as one option, but national universities and the Monbusho\(^5\) unanimously rejected the suggestion.

Meanwhile, a new administrative system called the "Independent Administrative Institution (IAI)" was set up in 1999, which was to separate some organisations from the central government, giving them autonomy to enhance the effectiveness and efficiency of their operation in providing administrative services\(^6\). In April 2001, 57 new autonomous governmental corporations were created. The incorporation of national universities came then to be studied as part of this organisational reform in the Government.

The study on incorporation of national universities came to be officially undertaken by the Monbusho in September 1999. In 2001, a study group composed of academics and non-university people was set up in the Ministry and proceeded with the study on the

\(^{4}\) As for the details of the incorporation of national universities, refer to Oba (2003).

\(^{5}\) The official appellation of the ministry was "Ministry of Education, Science, Sports and Cultur" ("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".

\(^{6}\) Article 2 of the Law concerning the General Rules of the Independent Administrative Institutions defines independent administrative institutions as "legal entities established pursuant to this Law or other specific laws enacted for the purpose of efficiently and effectively providing services or businesses that may not necessarily be offered by private entities or that need to be exclusively offered by a single entity, from among those services or businesses that must be reliably implemented for the public benefit, such as for the stability of socio-economic or national life, but that need not necessarily be directly implemented by the Government on its own."
incorporation of national universities in close consultation with the Association of National Universities (ANU). The study group put forth the final report in March 2002 on a framework of the incorporation of national universities. In July 2003, the National University Corporation Law and other related five laws were legislated. Finally, all the national universities were incorporated on 1st April 2004.

b. The national university corporation system

(1) Goals/plan and evaluation

Each national university was individually given a legal personality and became a national university corporation. This policy – individually incorporating national universities – aimed at extending individuality by enhancing the institutional autonomy of each institution.

The budget is now being allotted by the Government to each university as a lump sum (operational grant) without earmarking, based on the medium-term plan prepared by each university according to the medium-term goals and approved by the MEXT. The medium-term goals are presented by the MEXT, which are elaborated on the basis of the views of each university. The duration of medium-term goals/plan is six years. In addition, the allocation of the budget for the next period will come to vary according to the results of the evaluation.

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7 More precisely, each national university was founded by a national university corporation.

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Figure 9 Evaluation system of national university corporations

Prior to the definition of the medium-term goals by the MEXT, the Ministry should 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 is to receive 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 universities. The evaluation committee was, prior to the foundation of national university corporations, set up on 1st October 2003. It held its first general meeting on 31 October, and selected Ryoji Noyori (2001 Nobel laureate in chemistry) as its chairman.

(2) Governance and management

Each national university corporation has the president of the university and executives in its governing body. In contrast to the former national universities having the sole deliberative organisation (council), three deliberative organisations are set up in each corporation: (1) board of directors, the highest deliberative organisation before the final decision by the president, (2) administrative council, to deliberate on important matters concerning the administration of the national university corporation, and (3) education and research council, to deliberate on important matters concerning education and research. The governance is shared by these three organisations. In addition, the structure of the secretariat is now at the discretion of each university.

The president of the university are appointed by the Minister of Education based on the proposal by the relevant national university corporation. The aforesaid proposal is elaborated on by a president selection committee consisting of members both from the administrative council and from the education and research council. Both groups of members from the two councils are equal in number.

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

(3) Personnel

National university teachers and other staff members are no longer public servants. The non-public servant status was adopted in order to allow new national universities to practise more flexible forms of recruitment, salary structures and other conditions con-
cerning personnel affairs. Differences between both types are shown in the Table 3.

<table>
<thead>
<tr>
<th></th>
<th>Public servant type</th>
<th>Non-public servant type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Guarantee of status</strong></td>
<td>Stipulated by law</td>
<td>Stipulated by rules of employment of each corporation</td>
</tr>
<tr>
<td><strong>Rights of labour</strong></td>
<td>Disputes are prohibited.</td>
<td>Disputes are not prohibited.</td>
</tr>
<tr>
<td><strong>Recruitment of administrative staff</strong></td>
<td>Selection among successful candidates in the national public service examination</td>
<td>According to the criteria defined by each corporation</td>
</tr>
<tr>
<td><strong>Dual employment, side business, and political activities</strong></td>
<td>Restricted by the National Public Service Law</td>
<td>Stipulated in the employment rules of each corporation</td>
</tr>
<tr>
<td><strong>Foreigners</strong></td>
<td>Impossible to appoint them to management positions</td>
<td>Possible to appoint them to management positions</td>
</tr>
<tr>
<td><strong>Salaries and working hours</strong></td>
<td>Determined by each corporation (idem)</td>
<td></td>
</tr>
<tr>
<td><strong>Medical insurance and pensions</strong></td>
<td>Similar to the national public servants (idem)</td>
<td></td>
</tr>
<tr>
<td><strong>Provisions of the penal code such as bribes</strong></td>
<td>Similar to the national public servants (idem)</td>
<td></td>
</tr>
</tbody>
</table>

(4) Students' payment

Each national university corporation is allowed to raise tuition and entrance fees by up to 10% from the standards set by the MEXT. For the fiscal year 2004, the standards are the same as the amounts of tuition and entrance fees of the previous year, which are 520,800 yen and 282,000 yen respectively. All the national universities set fees of the same amount as the standards for the fiscal 2004.

c. After incorporation – what has happened and problems

One could say that 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 pointed to in the light of the objectives of incorporation.

(1) Financial stability of national universities

The fiscal year 2004 budget allotted to national universities (operational grant) is equivalent in amount to the budget of the fiscal 2003. However, as a result of the negotiation between the Ministry of Finance and the MEXT in the winter 2003-2004, it was agreed that the operational grants would be reduced by 1% every year except the salary of the faculty members.

Apart from the operational grant, major source of income for national universities is tuition fees. In December 2004, the MEXT revised the standard of tuition fees for the FY2005 and raised 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 the level of tuition fees of the FY2004. If they succeed in doing so, for the first time their history, tuition fees of 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 get out of it, they should rationalise their administration and multiply resources.

(2) Improvement of the university governance

Former national universities' governance 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, which are composed of academic and administrative staff members (Figure 11).

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

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

(3) Participation of external people in university administration

As mentioned before, people from outside the universities are 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, external members of the administrative council of Hiroshima University are shown in the Table 4 below.

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

Until now, the commitment of external people in university administration has been limited, and the way of their participation is still to be much more studies so that national universities may make most of their participation to be responsive to society.

(4) The evaluation

Increase in autonomy goes hand in hand with rigorous evaluation. However, evaluation methods have not been sufficiently developed yet, and much more study should be done. In addition, evaluation practices are very time consuming. Fair and efficient evaluation methods are still to be developed.

(5) Blurred distinction between public and private sectors

National universities and private universities are increasingly competing for the same resources and some of the latter rival the best national universities. The incorporation of national universities will blur furthermore the distinction between two sectors.

2. The University Council and the deregulation in higher education

a. The University Council and its recommendations
The National Council on Educational Reform (Rinjikyoikushingikai), established in 1984 as an advisory body to the Prime Minister, submitted reports on a wide range of issues, including the improvement and individualisation of university education, the enhancement of graduate schools, fiscal policies relating to higher education, the organisation and management of universities, and the establishment of a "University Council", which would be inaugurated in 1987 as an advisory body for the Minister of Education to deliberate on basic aspects of higher education in Japan. Immediately after its inauguration, the council was asked to study specific measures for university reform in the light of the following social change.

1. Progress in scientific research and changes in human resources;
2. Rise in the percentage of students continuing to higher education and diversification of students; and
3. Growing need for lifelong learning and rising social expectations of universities.

Ever since the establishment of the council, measures such as quantitative and qualitative improvement of graduate schools as well as deregulation and improvement of university administration have been taking place. One of the most important recommendations was the abolition of subject areas to enable universities to structure curricula reflecting their own educational ideals and objectives, which resulted in 1991 amendment of the Standards for the Establishment of Universities. It was decided that there should be no definition of subject areas, such as general education and specialised education. It was also decided to discontinue the practice of requiring students to obtain a certain number of credits in each subject area as a prerequisite for graduation and to make the acquisition of a minimum total number of credits the only requirement.

In 1998, the University Council submitted a report, A Vision for the University of the 21st Century and Future Reform Measures : Distinctive Universities in a Competitive Environment, which built upon the progress of university reform at that time. The report presented the basic policies of university reform in the perspective of the 21st century as follows:

1. Improve the quality of education and research with the purpose of nurturing the ability to investigate issues;
2. Secure university autonomy by making the educational and research system structure more flexible;
3. Establish university administration and management with responsible decision-making and implementation; and
4. Individualise universities and continuously improve their education and research by establishing multiple evaluation systems.

In 2002, the School Education Law was revised and provided more flexibility to institutions for a reorganisation of faculties and departments, while a continual third-party evaluation system was introduced. Under the revised law, only notification to the ministry is required of the institution in cases of reorganisation without change in the kinds and fields of degrees awarded by that institution, and ministerial authorisation itself is no longer necessary.

8 The council existed until the governmental reorganisation in 2001 (mentioned before) and was integrated into the Central Council for Education (the Subdivision on Universities).
b. Diversification of higher education institutions and their programmes

Towards the end of 20th century, one could finally conclude that Japanese higher education reached the universal phase when the enrolment ratio of the age cohort of 18 years attained 49.1% in 1999. If the non-university sector is included, the enrolment ratio had already reached over 50% in 1987. According to Trow’s model, with a much more diversified student body, universities and other higher education institutions of universal access9 should now offer courses that are less structured and more vocational or problem solution oriented in diversified components.

The 1998 report of the University Council (mentioned before) recommended the definite abandonment of the planned higher education policy and the acceleration of diversification of higher education institutions, in order to respond to increasingly changing societal needs and a more diverse student body’s demands. The deregulation on the curriculum organisation in 1991 and the incorporation of national universities in 2004 were both decided in accordance with the policy towards the diversification of higher education, although the latter was achieved in the process of governmental administrative reform.

After the aforesaid deregulation, curriculum reform has been implemented in almost all universities. Various types of curriculum reform have been attempted (Figure 12). Most of these reforms, in principle, placed importance on general education and aimed to realise a systematic study of a subject over four years (Ministry of Education, 2004), often to the detriment of the former however.

![Figure 12 Implementation of curriculum reform in universities (2001)](Note) "Wedge-formed curriculum" refers to curricula under which specialised and general education can be studied over four years.

- Review of subject classification
- Wedge-formed curriculum
- Review of compulsory and elective subjects system
- Review of credits calculation
- Introduction of course system
- Review of the number of credits required for graduation

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of subject classification</td>
<td>475</td>
</tr>
<tr>
<td>Wedge-formed curriculum</td>
<td>329</td>
</tr>
<tr>
<td>Review of compulsory and elective subjects system</td>
<td>365</td>
</tr>
<tr>
<td>Review of credits calculation</td>
<td>321</td>
</tr>
<tr>
<td>Introduction of course system</td>
<td>204</td>
</tr>
<tr>
<td>Review of the number of credits required for graduation</td>
<td>353</td>
</tr>
</tbody>
</table>

(204, 353)

- 15 -

c. Development of human resources in knowledge-based society

Today, knowledge is regarded as the most important asset for social development (knowledge-based society), and knowledge creation and its inheritance is the key to the development. In such an environment, the principal role of higher education is not only to provide learning opportunities to those having just finished secondary education, but also to offer higher learning to all people in need of knowledge and skills required by

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9 It should be noted that Trow did not mean that the forms of the prior phase would disappear after the transition from one phase to another but that each phase would survive in some institutions.
their career planning.

Due to the unprecedented advancement of science and technology in recent years, Japan has witnessed important changes in the demand for human resources. In particular, an increasingly borderless economy and progression of information technology have brought about a fundamental change in the abilities that employers are seeking in their human resources (Figure 13, Figure 14). The appearance of new vocational courses in universities is principally due to such a shift in the employment market.

From a research perspective, industry-academia co-operation has become a very important issue. Universities are increasingly required to engage in full-fledged co-operation with industry. The number of co-operative research cases by national universities and that of TLO (technology licensing office) have rapidly increased in recent years (Figure 15). The incorporation of national universities is expected to boost such co-operation.

![Figure 13 Japan's foreign production ratio by industry](image1)

**Figure 13** Japan's foreign production ratio by industry  
Source: Ministry of Education, 2004

![Figure 14 Number of employees by occupational classification](image2)

**Figure 14** Number of employees by occupational classification  
Source: Ministry of Education, 2004
3. University financing – increasing competition between public and private sectors

a. The spiral of tuition fees

In the FY2003, whereas 97 national universities (including junior colleges) and other national educational institutions received 1,525,606\textsuperscript{10} million yen, 989\textsuperscript{11} private institutions received only 321,750 million yen for current expenditures. Private universities have long questioned this financial gap between both sectors, while the private sector assuming three-fourths students, and have demanded the revision of the Government policy on higher education financing in favour of private institutions.

\textbf{Figure 15} Number of cases of co-operative research implemented between national universities and the industry / Number of TLO recognised by the Government

\textbf{Figure 16} Tuition fees (entrance fees included) by sector

\textsuperscript{10} This amount is equal to the transfers from the general account budget to the Special Account for National Educational Institutions (therefore it includes the budget for non-university institutions such as inter-university research institutes). As for the Special Account for National Educational Institutions, refer to Oba (2003).

\textsuperscript{11} This number includes all the private universities and junior colleges comprising those not receiving national subsidies.
The amount of private universities’ tuition fees is the mean value of all the private universities’ tuition fees. The amount of local public universities’ tuition fees is the mean value of all the local public universities’ tuition fees applied to entrants from outside the prefecture.

The questioning by private universities has resulted in a sharp rise in the tuition fees (including entrance fees) of national universities, but has never worked towards the reduction of the gap of fees of both sectors, since the tuition fees of private universities have paralleled the progress of the tuition fees of national universities (Figure 16). The ratio of tuition fees of private universities to those of national universities decreased from 3.24 in 1975 to 1.40 in 2001\(^\text{12}\).

b. Poor public expenditure on higher education

With the aid of the questioning by private institutions on the one hand, and due to the stringent financial situation of the Government on the other, the Ministry of Finance has pressed the Ministry of Education to raise the tuition fees of national universities. In November 2003, the Financial System Council reported to the Minister of Finance and recommended the adoption of a system that would enable each national university to revise tuition fees, in light of the gap between national and private universities and thorough implementation of the beneficiary-payment principle. This recommendation was confirmed by the council’s recommendation to the Minister of Finance on 17 May 2004 concerning the orientation of the FY2005 budget-making, which reiterated the application of the benefit principle to higher education.

As a result of the stagnation of the subsidies to private institutions and of the rise in tuition fees of national universities, the share of the costs of higher education borne by governments (national and local) is obviously low in comparison with other OECD countries (Figure 17), which signifies that the cost of higher education is largely borne by students or their family.

\[\text{Figure 17 Public expenditure on higher education (2000) in OECD countries}\]

Source: OECD 2003, p. 227

c. Increase in competitive funds open to public and private institutions

The Government has concentrated its budget allocation for universities on competitive

\(^{12}\) In general, apart from tuition fees, private universities collect extra charges such as a charge for facilities.
funds, which have been likely to be indifferently open to public and private institutions, whereas such programmes used to be limited to national universities.

For example, in 2002, the MEXT initiated a new funding scheme called "The 21st Century COE Programme". It subsidises programmes proposed by universities (not limited to national universities) to found world-class research/education centres. The proposals are to be screened by a committee composed of specialists from various disciplines. Besides national universities’ projects, a certain number of private and public universities’ projects were also selected for this programme (Figure 18).

![Figure 18 Number of COE projects adopted by the MEXT, by sector](image)

Nowadays, some private universities compete fully with national universities for research funds provided by the Government (Figure 19). Furthermore, in 2003, the Government decided to open up the Grants-in-Aid for Scientific Research, which accounted for about 50% of the Government competitive research funds, to research institutes belonging to private companies (including for-profit ones).

![Figure 19 Top 15 universities ranked by the amount of competitive research funds awarded by the Government (million yen)](image)

Source: Council for Science and Technology Policy

(note) TITech: Tokyo Institute of Technology / TMDU: Tokyo Medical and Dental University.
4. Internationalisation of higher education

In 1983, the Government planned to raise the number of international students from just over 10,000 at that time to 100,000 by the beginning of the 21st century (Nakasone Plan). Ever since, the number of international students has grown, particularly from 1999 after a slowdown for a few years (Figure 20). The goal was estimated to have been reached in 2002-2003, and the number of international students rose to 109,508 on 1st May 2003.

As seen in the figure above, most of international students are self-financed (90% in 2004). The number of international students financed by the Japanese government have gradually grown, but very limited. As of 1st May 2004, there were 117,302 international students in Japanese higher education institutions. The great majority (109,520 / 93.4%) come from Asian countries. Chinese students alone account for 77,713 (66.3%), followed by South Korean students (15,533 / 13.2%) and Taiwanese students (4,096 / 3.5%) (Figure 21)

In answer to this increase, a number of universities opened branch offices in foreign

13 Prime Minister from 1982 to 1987. He set up the National Council on Educational Reform in 1984 and had it study a full-scale revision of the nation's educational system.
countries, particularly in China. In addition, the Japanese Government offers a wide range of information on international education through Japan Student Services Organisation14.

On the other hand, in 2004, the Government revised the legislation governing the recognition of foreign universities on the territory. Graduates of branch schools of foreign universities recognised by the MEXT will be entitled to apply for Japanese graduate schools.

Closing remarks

Various factors have underlined the necessity for higher education reform. Among them, three major factors should be noted (Ministry of Education, 2004). The first is the diversification in students, due to popularisation of higher education, increase in adult and international students, etc. The second is changes in the demand for human resources, due to the advent of the knowledge-based society in particular. And the third is the increased reliance of industry on academic research activities. All of these factors led to deregulation of higher education, followed by diversification of institutions and their increased autonomy.

Consequently, whereas functional differentiation becoming more important, the role of the Government should be more supportive to universities, rather than co-ordinating the interest of institutions or evaluating their institutional performance. The role of the Government will be required to be redefined in this context.

For Japan, in order to overcome current economic and societal difficulties, it is critical to prepare well-educated citizens with talents and abilities, by producing and transmitting knowledge in an excellent environment. Such a condition will be realised only through continual university reform initiated by people in universities.

14 http://www.jasso.go.jp/index_e.html
References


The author's papers cited above are available on his Web site (home.hiroshima-u.ac.jp/oba/index-e.html).

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15 In the references list, for simplification purpose, the term "Ministry of Education" has been employed to designate the ministry in charge of education policy.