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Managing differentiation of higher education system in Japan: connecting excellence and diversity

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Abstract This article presents recent reform processes in Japanese higher education, concerning the tensions emerging within the system regarding 'excellence' and 'diversity'. The article particularly focuses on how Japanese universities have reacted to the recent 'competition' and 'differentiation' policy promoted by the government, drawing on recent survey results conducted with academic managers at Japanese universities. It is interesting to examine the case of Japan, a historically diversified and differentiated national system, which has been changing rapidly with recent national 'top-down' policy reforms, followed by more recent and new bottom-up institutional initiatives. The study shows that universities are trying to achieve *excellence*, fulfilling different functions at the same time, aspiring to be excellent in teaching, research and social contribution without having institutional capacity to meet these expectations. Appropriate internal governance and external mediation mechanisms need to be created at the institutional level to manage *diversification* of the higher education system as a whole.

Keywords University reforms · Japan · Excellence · Differentiation · Diversity

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Introduction

Higher education institutions (HEIs) are differentiated not only according to *specialisation* by functional categories (e.g., teachers' colleges, engineering colleges, nursing colleges, liberal colleges and research universities) but also such diversity is 'ordered hierarchically', from 2-year colleges and bachelor degree institutions to graduate degree institutions (universities). Consequently, each higher education system has established *a hierarchic system*, with 'a standardised rank order where all institutions are measured and positioned according to one single or a very limited set of criteria' (Bleiklie 2005). For example, in the US the higher education system consists of private top research universities like Harvard, MIT and Stanford, state systems such as California, New York or Illinois that are considered as top research universities, less exclusive state universities, and open access vocationally oriented community colleges (Bleiklie 2005, see also, Balderston 1995).

It is argued that increasing 'vertical and horizontal diversification' in any national higher education systems is 'the most likely result of growing competition for success' (Teichler 2004). Nevertheless, it also has been pointed out that diversification is only part of the result because competition might reinforce 'imitation drifts' rather than stimulating diversity (Teichler 2004). Moreover, along with the vertical and horizontal diversification, new mechanisms of 'steering and management' might have had a substantial impact on the structures of any higher education system (Bleiklie 2005). In other words, 'institutional isomorphism' (DiMaggio and Powell 1983) is at work whilst there are significant financial pressures and growing competition among HEIs in many of the OECD countries, and universities are increasingly competing internationally. In this light, 'managing strategy' is arguably the most important thing for a university, balancing core activities of teaching, research and wider social and economic service to be 'optimally achieved' (Watson 2000).

This paper presents a broad-brush picture of recent reform processes in the Japanese higher education, in light of the tensions within the system regarding 'excellence' and 'diversity'. The paper particularly focuses on how Japanese universities have reacted to the recent 'differentiation' policy promoted by the government by drawing on empirical data based on recent survey results conducted with academic managers at Japanese universities. It is interesting to examine the case of Japan, a historically diversified and differentiated national system, which has been changing rapidly with recent national 'top-down' policy reforms, followed by more recent and emerging bottom-up institutional initiatives.

What is distinctive in the Japanese higher education system is the coexistence of three higher education sectors with different legal status (national, private and local public) within the system with different marketisation forces and varying degrees of state control at work.[1] National universities are established and primarily funded by the national government, but their legal status since April 2004 is that of 'National University Corporations' (NUCs, *kokuritsu daigaku hojin*) with greater autonomy than before. Local public universities are established and primarily funded by local authorities at either the municipal or the prefectural level, with some of these institutions now changing their legal status to 'Public University Corporations' (*koritsu daigaku hojin*). Private universities are non-public educational institutions run by 'school corporations' (*gakko hojin*). The majority of government expenditure for higher education is distributed to national universities, whereas a relatively small amount of money is provided to private universities in spite of their larger number of students. According to Akabayashi and Naoi (2004), national

[1] As of 2008, there are 589 private universities, 86 national universities and 90 local public (municipal and prefectural) universities with degree awarding power (MEXT 2008).

universities offer far higher quality education, at least in terms of expenditure, than private universities.[2]

Since the inception of the modern higher education system in the nineteenth century Japanese universities have been stratified according to their status, history, reputation and other factors. Traditionally, the national universities have as a whole constituted the core of the elite sector in the Japanese higher education system, and have been protected by the state. However, the national university sector itself consists of diverse institutions whose functions and components are significantly different based essentially on their history, even though they all have the same legal status after World War II. There were seven imperial universities which were historically treated as 'elite institutions' by the government. Official recognition of these institutions as elite 'imperial universities' ceased in 1949. Since then the Japanese government, at least officially, has treated national universities equally, while they have sought to protect top research universities from the 'massification' of higher education (Yonezawa 2007). These differences have been considered 'discriminatory' primarily by the national universities which were founded in the post-war period. The government has been concerned with how these differences could be justified (Amano 2008). These seven, along with a small number of other distinguished national universities and a few research-intensive prestigious private universities, constitute what are currently referred to as the 'top research universities' (c.f. Teichler 1988).

The Japanese higher education system today is considered to be in the 'post-massification'[3] stage, having moved from *elite* to *mass* and now moving towards a *universal* system. The series of legal, institutional and financial reforms which have affected national universities in the last decade have changed the higher education system radically. Recent reforms have fundamentally transformed the 'state-university relation' (Kaneko 2005). National universities, since becoming corporate organisations in 2004, cannot rely on government protection and supervision to the extent they used to; they have to plan and manage their finances, human resource policies, be 'entrepreneurial' to receive more external funding, and they have to compete nationally and internationally.

There are a number of growing tensions within Japanese post-mass higher education at the system level. The government is encouraging further 'functional differentiation' of universities according to their specialisation. National universities have accumulated knowledge and experience throughout the decade's reform processes, whilst many private universities and local public universities are on a precipice with a declining youth population[4] and financial constraints. There are increasing tensions between prestigious and less prestigious private universities. There is also a very strong sense of crisis among 'non-elite' national universities in peripheral areas, and the perception of a growing gap between institutions in urban and rural areas both in terms of student enrolment and research capacity.

[2] Furthermore, several for-profit universities have recently been approved on a trial basis by the government. For-profit universities mainly target the adult professional education market, such as legal professionals, business executives, and creative industry professionals.

[3] Trow (1974, 2006) illustrates the transformation of higher education systems in three stages: elite, mass and universal. Higher education in Japan today is facing financial as well as demographic constraints, which may be indicative of a 'post-massification' stage. Arimoto (1996) introduced the concept of 'post-massification stage' to explain the specific transformation from a mass to universal higher education system in Japan.

[4] The 18-year-population has fallen from 2.05 million in 1992 to 1.24 million in 2008.

Drawing on data based on survey results conducted with 'academic managers' in 2006 by Research Institute for Higher Education (RIHE), Hiroshima University, the paper asks the following questions:

1. How do Japanese universities perceive these differentiated roles in the system?
2. How are they actually playing these differentiated roles and in what ways are the universities managed and governed to play these roles?
3. What is the mismatch within the system regarding *excellence* and *diversity* and what is the role of policy in reducing this mismatch?

These questions need to be located in the specific structural and policy contexts in which the current Japanese higher education system is embedded. At the institutional level it should be remembered that specific mechanisms to implement effectively the missions of each university must change by taking into account various factors that surround the university.

The rest of the paper is structured as follows: Following the "Introduction", "Japanese university reform and the idea of research excellence and system diversity" provides an account of recent higher education reforms in Japan, especially policy initiatives that aim to create research-intensive top universities, such as a series of policy programmes to establish Centres of Research Excellence. The paper identifies intended and unintended consequences of these policy measures, to the system as a whole, as well as individual institutions. "New differentiation of universities in Japan—analysis from the RIHE Survey" provides a preliminary analysis of the questionnaire survey results conducted by RIHE on the differentiation of HEIs. The concluding section sums up the discussion, critically examines tensions within the system and problems caused by recent policy reforms, and identifies possible new directions for the Japanese higher education system.

Japanese university reform and the idea of research excellence and system diversity

The 1971 report of the Central Council for Education (CCE) (*Chukyoshin*), an advisory body to the Minister of Education, called for a categorisation and classification of universities by type, in the name of 'greater sophistication and diversity' of education and research. However, this proposal met with strong hostility from universities and was not put into practice (Osaki 1999). More than 30 years later, the 2005 report of the CCE, whilst avoiding the word 'categorisation' stresses diversification and individualisation, and calls for 'functional differentiation' of universities on the basis of their own initiatives. It suggests the following seven functions as exemplars that might be prioritised by individual universities according to their policy:

1. world-class research and education centre
2. development of highly qualified professionals
3. development of a wide spectrum of professionals
4. comprehensive liberal arts education
5. education and research in specific disciplinary areas (art, sport, etc.)
6. community-based life-long learning centre
7. service to society (service to local community, industry-academic collaboration, international exchanges, etc.)

Japanese university reform since the beginning of the 1990s had reinforced the differentiation between institutions. New types of budgetary funds and project-based research

funds established during the 1990s (Asonuma 2002) served to strengthen competition among universities by creating a mechanism for differentiated financial allocation which is justifiable to both universities and society. Rising competition with other Asian nations and their universities forced the Japanese government to place higher education high on the national policy agenda in order to maintain strategic competitiveness.

Recently, the Japanese research system has been subject to widespread reform. This includes changes to the role of key ministries, changes to the decision making structures for science and technology as well as wide ranging reforms to the governance of Japan's national universities in 2004. Reform issues have centred on changing the legal governance structures of national universities into 'corporate' entities, to promote increased independence and entrepreneurialism, as well as to foster institutional diversification and efficiency. Based on the 1995 Science and Technology Basic Law, the development of a new research system throughout the 1990s seems to have led to the emergence of new systems of innovation in which universities play more significant roles as *economic resources*. Hicks (1993) argues that the system has been evolving in directions more favourable for university research excellence. During the 1990s, the government reorganised the top national universities to strengthen graduate schools at both the doctoral and master levels (*daigakuin jutenka*). In 2003, professional graduate programmes (*senmonshoku daigakuin*)[5] were newly introduced by the Ministry of Education, Science, Culture and Sports (MEXT) to respond to changing skill needs in the so called 'knowledge-based society''(Ushiogi 1997). As a result, all former imperial universities and other top universities separated academic staff from faculties[6] and located them in graduate schools. This is seen as a way to separate the research and teaching functions at research-intensive universities, and seven former imperial universities were given priority to go through with this reorganisation.

In 2004 a radical change was introduced to Japanese national universities based on the National University Incorporation Law (2003), which granted them more autonomy from government (see Table 1 ; for details of the process and evaluation, see Oba 2005; Yamamoto 2004). This law intends to promote more active and socially engaged institutions with greater organisational diversity and distinctiveness, and may also indirectly promote inter-university competition (Woolgar 2007). Since 2004 the 89 newly established National University Corporations (NUCs) have received two types of grants from the national government: grants for operating costs and subsidies for capital expenditures.[7] NUCs have full discretion to use the grant, whilst the flexibility of the capital subsidy is constrained. The government announced in 2003 that operational grants would be reduced by 1% each year for all NUCs. Each institution has been expected to develop supplementary income sources which may or may not include increases in tuition fees, competitive research funding and income from industry. The government encourages universities to generate such external incomes.

In Japan, as in many other countries, policy makers and university managers have eagerly embraced the discourse surrounding 'entrepreneurial universities' (e.g., Clark 2001) and have sought to further promote university–industry links as a means to stimulate economic growth, and the 'service function of universities' (Cummings 1998) has received

[5] These include legal studies, accounting, medical studies, public policy, intellectual property management, technology management, public health and teachers' training.

[6] In Japanese universities, faculties constitute the basic academic units offering undergraduate courses, which consist generally of several departments.

[7] Operating grants amount to 1.2 trillion yen; subsidies for capital expenditure amount to 1 trillion yen.

Table 1 Japanese reform processes and legal-institutional frameworks towards university incorporation

1995	Enactment of the Science and Technology Basic Law
1998	The University Council report, "The Image of Universities in the 21st Century"
1999	Creation of the National Institute for Academic Degrees and University Evaluation(NIAD-UE)
2001	Introduction of reform plan for universities known as "Toyama Plan"
2002	21st COE programme (COE 21)
2003	Enactment of the National University Corporation Law
2004	Incorporation of national universities Introduction of a Certified evaluation system
2007	Global COE programme World Premier International Research Center (WPI) Initiative

growing attention. Following the 1995 S&T Basic Law, the number and scope of recent university reforms have accelerated to encourage further development of university–industry links which had hitherto been legally and structurally constrained in Japan (Woolgar 2007). Research commercialisation and income from industry through knowledge transfer activities still remain peripheral to many academic communities in Japan, where 80% of R&D is performed in industry. However, recently there has been steady growth in the commercialisation of research from universities and collaboration with industry. There has been a transfer, to a point of function from MEXT to METI (Minister of Economy, Trade and Industry), in terms of enhancing the role of universities in innovation and economic growth.

In 2001, with the Toyama Plan,[8] MEXT announced in its basic policy target to select the top 30 universities in the country for special treatment, which evolved into the '21st COE (Center of Excellence) programme'. The initial idea was to select the 'top 30' universities; however, it was widely felt that the seven former imperial universities would have 'an unfair advantage'. During implementation, a more flexible system evolved in which individual departments and research units in any university could compete equally for research incentive funds, whether national, local public or private universities (Eades 2005).

The selection for the scheme was based on performance and research potential,[9] with 274 COE units from 97 universities selected in the three consecutive fiscal years of 2002, 2003 and 2004 (MEXT 2006).[10] The main activities supported under this programme included an invitation to top foreign researchers to work in Japan, support for young researchers (doctoral and post-doctoral fellowships), collaboration with foreign research groups, symposia and workshops and for the provision of new equipment and space for research. The emphasis was on 'strategic research training' and 'competition', particularly at the graduate level in the sciences and engineering, and medical research, which played to the strengths of national universities.

[8] Three major changes were proposed by the Toyama Plan: First, the reorganisation of national universities, including the merger of some institutions; second, the introduction of putative business methods to national universities through a process of 'incorporation', and third, the introduction of competitive mechanisms into the university sector, including national, public and private universities (Yamamoto 2004).

[9] See Currie (2002) and Eades (2005) for details of evaluation and criteria.

[10] http://www.jsps.go.jp/english/e-21coe/index.html. Accessed 30 September 2007. Each programme would receive an average of around 100 million yen per year for 5 years (the annual budget ranged from 26 to 330 million yen), with the budget for the final 3 years dependent on an interim progress review after 2 years (Eades 2005).

The launch of the COE 21 programme can be seen a marked shift in Japanese higher education policy regarding the status of its elite institutions. The Japanese government's efforts to foster world-class research are accelerated by the establishment of new support programmes. In 2007 the *Global COE programme* replaced the COE 21, with the number of selected Global COE research bases now much smaller than those of COE 21, whilst the amount of grant money for each research base is expected to increase substantially. In terms of selection criterion, the potential sustainability of research beyond the programme and the emphasis on educating and training young researchers (thus 'research bases' (*kenkyu kyoten*) rather than 'project units') were highly regarded.[11] Adding to this, in September of 2007, MEXT announced the 'World Premier International Research Center (WPI) Initiative' to support five research bases for the next 10–15 years, with approximately 500 million to 2 billion JPY per base annually.[12] Four former imperial universities, namely, Tohoku, Tokyo, Kyoto and Osaka Universities, and the National Institute for Materials Science (NIMS) were selected.

The changing policy rationale to designate policies to strengthen elite universities can be summarised as follows: '*…invisible differentiation* is becoming more difficult, and justification through *visible evidence of performance* is becoming more influential' (Yonezawa 2007, emphasis added). However, one of the problems is that the Japanese competitive funding system does not have sufficient built-in management mechanisms.[13] Kneller (2007) argues that to 'understand how evaluation systems and processes function in their broader institutional context, especially the funding and control of academic systems and reward systems' is crucial.

Rankings among the top universities based on the number of selected COE research units merely reinforced the existing hierarchy of Japanese higher education institutions (Kitagawa 2008). Table 2 shows the top 10 institutions in terms of the number of COE 21 projects. These are comprised of the former seven imperial universities, the Tokyo Institute of Technology and two research-intensive private universities (Keio and Waseda). It is interesting to see how closely the ranking based on the COE projects correlates with results based on ranking by research grants and external income. Table 3 shows the top 10 Japanese universities based on the research grants (Scientific Grants in Aids as of 2005). The top 10 consist of the seven former imperial universities, the Tokyo Institute of Technology, the University of Tsukuba,[14] and Kobe University. The University of Tokyo and Kyoto University receive 20% of the total grant, the former seven imperial universities receive 43%, and the top 10 universities 49% of the total grant (Doi 2007). Table 4 shows the top 10 Japanese universities with the highest research income from external sources (joint and commissioned research[15] with industry and other organisations). Again, these consist of the seven former imperial universities, the Tokyo Institute of Technology and two private universities, Keio and Waseda.

[11] In total, 63 research bases (32 research bases from former imperial universities) from 28 universities (21 national, 4 private and 3 local public universities) have been selected. http://www.jsps.go.jp/j-globalcoe/data/shinsa/sinsakekka.pdf. Accessed 30 September 2007.

[12] 'World Premier International Research Center (WPI) Initiative' http://www.mext.go.jp/english/wpi/index.htm. Accessed 30 September 2007.

[13] For example, the number of peer reviewers per project funded by Japanese Grants in Aid is only 0.05, while with the US NSF, the number is 6.1. (Takeuchi, 2007).

[14] University of Tsukuba is a research intensive NUC, established in the 1970s and located in Tsukuba Science City, near Tokyo.

[15] Commissioned research includes contracted research by the state and local authorities, and certain research programmes contracted by Japan Science and Technology Agency.

Table 2 COE 21 University ranking by number of projects and grants received

	Institution	Total number of projects	2002	2003	2004	Grants received in total (billion yen)
1	**The University of Tokyo**	28	11	15	2	4.3
2	**Kyoto University**	23	11	11	1	3.4
3	**Osaka University**	15	7	7	1	2.5
4	**Nagoya University**	14	7	6	1	1.8
5	**Tohoku University**	13	5	7	1	2.0
6	Tokyo Institute of Technology	12	4	5	3	1.8
7	**Hokkaido University**	12	4	6	2	1.75
8	*Keio University*	12	5	7	0	1.75
9	*Waseda University*	9	5	4	0	1.0
10	**Kyushu University**	8	4	4	0	1.2

Former imperial universities—bold

Private universities—italic

Source: Eades (2005), Yonezawa (2007), compiled by authors

Table 3 Top 10 Japanese Universities in terms of the amount of scientific grants in aid received (direct costs only) in FY2005 (thousand yen)

1	**The University of Tokyo**	17,941,955
2	**Kyoto University**	11,689,900
3	**Tohoku University**	8,422,700
4	**Osaka University**	8,076,700
5	**Nagoya University**	5,806,200
6	**Kyushu University**	5,233,500
7	**Hokkaido University**	5,100,421
8	Tokyo Institute of Technology	4,064,300
9	University of Tsukuba	2,810,500
10	Kobe University	2,299,632

Source: MEXT, http://www.mext.go.jp/b_menu/houdou/17/08/05083006/005.htm. Accessed 22/06/09

It is important to be aware of the detrimental effects of the current policy emphasis on research, increasing competition for research funding, and the strengthening of graduate schools as distinct from undergraduate education. In order to complement the policy emphasis on research and competition, MEXT has introduced a number of instruments to support education and societal roles of higher education institutions. According to a senior MEXT official:

> …while declining operational grants draw much public attention, it is important to understand that many national universities are making use of Special Education and Research Grants such as COE 21 and the Good Practice in University Teaching (GP) Programmes, and manage to secure sufficient resources for teaching and research. For national university corporations, it is important to utilise incorporation, be responsible for managing the institution, activate the university, and combine competitive and non-competitive grants to secure resources. It is important to

Table 4 Top 10 Japanese Universities with Highest Income from Joint and Commissioned research in FY2004 (thousand yen)

1	**The University of Tokyo**	21,150,834
2	**Kyoto University**	9,867,907
3	**Osaka University**	9,595,433
4	**Tohoku University**	5,895,439
5	*Waseda University*	5,270,321
6	**Kyushu University**	4,952,259
7	*Keio University*	4,852,107
8	Tokyo Institute of Technology	4,076,425
9	**Hokkaido University**	4,038,130
10	**Nagoya University**	2,759,718

Former imperial universities—bold

Private universities—italic

Source: MEXT 2006, http://211.120.54.153/b_menu/houdou/17/06/05062201/001.htm. Accessed 24/08/08

> enhance healthy competition and collaboration, with a division of labour among institutions and alliances between universities.[16]

Eades (2005) points out the changing division of labour between the three sectors of HEIs: up to 1998, the tripartite division between national, local public and private universities was that 'national universities should meet the needs of the nation, local public universities should meet the needs of the local communities that established them and private universities should be mainly responsive to the market'. Arguably, such a division is becoming more complex through 'deliberate erosion' (Eades 2005) of the difference between the three sectors as the pace of university reform accelerates. While the former imperial universities and certain number of national universities have national and international orientation, many other universities have a smaller and more regional or local focus. For example, national universities in non-metropolitan areas increasingly see contributing to regional development as central to their core institutional missions. With fewer public resources available for higher education, there will be a need to place a higher priority on responsiveness to local and regional needs and on demonstrating usefulness to society in order to receive public support. Thus, universities in general increasingly see contributing to regional development as their missions, but actual institutional contexts varies substantially, conditioned by the geographical location, historical relationships the university has been building with the local actors and the relationships between national, local public and private universities in the area. Creating excellence by the concentration of research funding to a limited number of universities may have some consequences here—functional diversification may lead to spatial *hierarchical* differentiation (see Kitagawa 2005, 2009).

In sum, whilst the major driving forces for government policy for higher education have been reduction of the public sector involvement and commitments, this has coexisted with expansion of the certain public (national) university sector. Over the last decade, the allocation of traditional public research funding has shown greater concentration in a small number of 'elite' universities accelerated by the concentration of 'competitive' research funding. This may result in an increasingly differentiated *and* hierarchical higher education

[16] Comments by the Head of NUC support unit, MEXT, recorded in *Ronza* (2006, July; p. 207).

system. At the institutional level, it should be remembered that specific mechanisms to implement effectively the missions of each university are influenced by various factors. It is up to each institution to formulate their own missions and implement innovative institutional strategies. In this light, we now turn to look at how individual universities *intend to* fulfil their roles, and also, how actually they think they *are* playing their roles. It is interesting to examine the new institutional mechanisms and strategies taken by different 'types' of universities in order to achieve different objectives in the system and in the society.

New differentiation of universities in Japan—analysis from the RIHE survey

Survey methods

In March 2006 a questionnaire was sent to all universities in Japan, including national, private and local public, at three levels of senior academic managers (presidents, faculty deans and department heads (DHs)), asking views concerning the following issues:

1. differentiation of HEIs according to needs of society
2. change of internal academic organisation (chair system and others)
3. redistribution of education-research functions among academic units
4. differentiation of academic staff
5. shift of power in the governance and change in collegiality
6. change in resources and their internal allocation
7. evaluations and their effects
8. external changes and reactions of universities
9. institutional characteristics according to legal status (national, local public and private), discipline and location.

The overall response rate was 31% (2,330 respondents). The response rate for presidents was 38%, for deans 33% and for DHs 29%. The responses were classified by legal status as well as by institutional type as shown in Table 5 below. This typology was made according to the history and the organisational structure of universities.

Survey results

As mentioned above, the survey covered many aspects of the university governance. Among the survey questions, this paper draws on the responses relating to *roles* (*functions*) of universities, mainly from presidents. Responses from other academic managers have been used only for showing that there exist some non-negligible divisions of opinion about this matter in universities.

The survey asked the respondents to provide views on *ten examples of roles of universities* as listed below. This list was made based on the functions enumerated in the aforementioned 2005 CCE report. Concerning each role in the list, respondents were asked to rate both *extent of fulfilment* (*current situation*) and *intention to fulfil* (*future direction*)[17] on three-point scale (1. The university performs or should perform it. 2. The university performs or should perform it to a certain extent. 3. The university does not or need not to perform it.).

[17] In the survey, we did not specify any time scale to fulfil these roles.

Table 5 Institutional typology used in the 2006 RIHE survey

Type	Description	Number	Overall response rate (%)
Comprehensive university 1 (C1)	Former imperial university	7	43
Comprehensive university 2 (C2)	Comprehensive university, founded on the core of a university under the pre-war system	14	43
Multidisciplinary university 1 (M1)	Multidisciplinary university with a faculty of medicine, not having its origin in a university under the pre-war system	34	41
Multidisciplinary university 2 (M2)	University with at least two faculties without faculty of medicine, not having its origin in a university under the pre-war system	309	29
Multidisciplinary university 3 (M3)	Multidisciplinary university founded on the core of a university under the pre-war system, without faculty of medicine	22	27
Single-faculty institution 1 (SF1)	Single-faculty institution (medicine)	25	25
Single-faculty institution 2 (SF2)	Single-faculty institution (apart from medicine)	289	26

Source: RIHE (2007)

1. world-class research centre
2. world-class education centre
3. community-based research centre
4. community-based education centre (including life-long learning)
5. development of highly qualified professionals
6. development of a wide spectrum of professionals
7. comprehensive liberal arts education
8. specialised skill education (music, sport, etc.)
9. service to society (industry-academy collaboration)
10. service to society (international exchanges)

According to the responses of presidents, more than half of them (52%) say that universities are performing the role of 'community-based education centres' (including life-long learning) (Fig. 1). Development of 'highly qualified professionals and a wide spectrum of professionals' are secondly highly rated functions (41 and 44%, respectively). Concerning other functions, less than one-third of the respondents consider that their universities are performing them (9–32%). When it comes to future directions, 'community-based education centre' is by far the most highly rated role with 81%. Development of professionals is still considered important, but 'development of highly qualified professionals' is more highly rated than that of 'a wide spectrum of professionals' (70 against 58%). Functions such as 'community-based research centre and service to society' (both industry-academy collaboration and international exchanges) are also regarded as important (around 60% each). Concerning the functions of 'world-class education and research centres', even though the ratings are low (28 and 26%, respectively), they are more than two times higher than the ratings of the current situations. Overall, universities intend to perform more roles except for skill education of which the difference of the ratings of current situation and future direction is insignificant (17 against 20%).

Figures 2 and 3 provide breakdowns of the data shown in Fig. 1 by sector respectively and with respect to current situations and future directions. Universities in all sectors (national, local public and private) intend to significantly enhance all the functions except skill education; the gaps between current situations and future directions are around 20% on the average for all sectors together (special skill education included). However, there are some noticeable differences among sectors. Ratings of the current situations concerning functions of 'world-class research and education centres' are significantly higher for the national university sector than for the other sectors. Furthermore, in the case of future direction, national universities are more likely to enhance these functions than the other universities: nearly half of the respondents from national universities report that their universities will enhance these functions (46 and 43%, respectively). Instead, local public and private universities, particularly the former, intend to enhance community-based functions. At the same time, however, around 80% of national universities also intend to play the roles of community-based research and education centres; their ratings are closer to those of local public universities and outnumber those of private universities. This seems to be mainly because national universities have been increasingly under pressure to become more 'accountable' to society in the course of reforms described in the previous section.

Figures 4, 5, 6, and 7 show current situations and future directions relating to selected functions answered by presidents by institutional type. In relation to these functions, all the categories of universities intend to enhance their role, except for the C1 group concerning world-class research centre and the C2 group concerning community-based research centre, whose ratings remain the same respectively. The majority of C1, C2 and M3 groups—all of them have their origin in the pre-war period—intend to play the roles of world-class research and education centres, regardless of the current extent of fulfilment. The ambition of the C2 group and, to a lesser extent that of the M3 group, are noticeable; they are willing to rival the C1 universities, which claim to be already performing these roles. The M1 and M2 groups—the post-war universities—intend clearly to enhance 'community-based' roles, with nearly half the M1 universities intending to perform as 'world-class research centres' though. The SF1 and SF2 groups also intend to fulfil community-based functions, with the former showing a firm intention to play the role of world-class centres.

As a whole, the pre-war universities aim at raising or maintaining their standings by performing the roles of 'world-class research and education centres', while the post-war institutions tend to give priority to 'community-based' functions. However, these divisions are not so clear-cut, with both pre-war and post-war universities intending to enhance both bunches of roles.

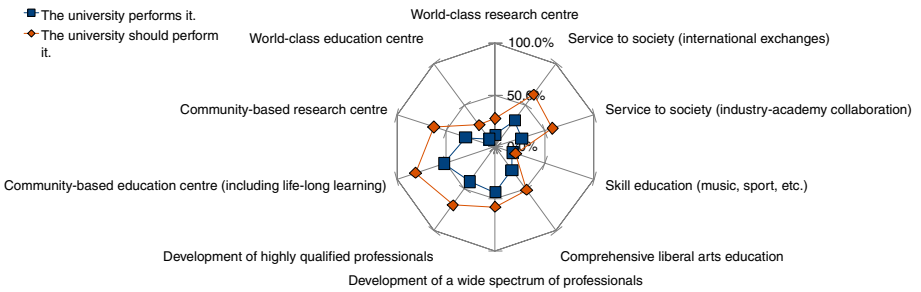

Fig. 1 Roles of universities currently performed and intended to be performed (according to Presidents. $n = 236$–263. Source: RIHE (2007)

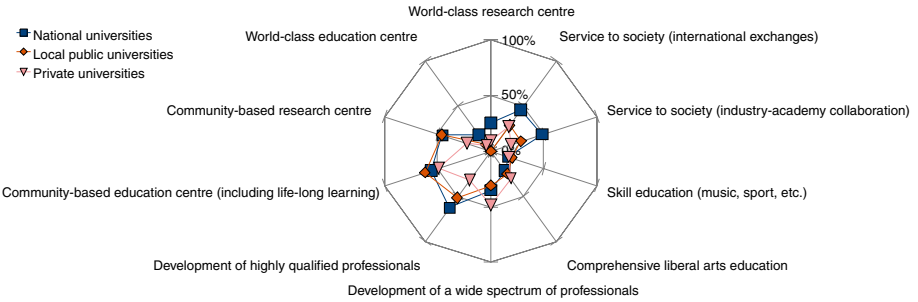

Fig. 2 Roles currently performed according to presidents by legal status. $n = 55$–59 (national universities)/25–29 (local public universities)/159–174 (private universities). Source: RIHE (2007)

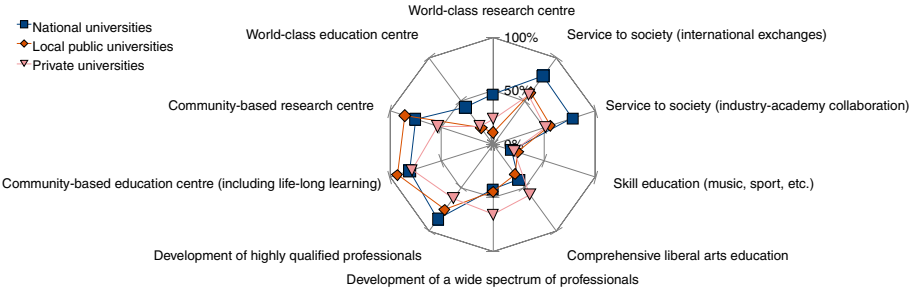

Fig. 3 Roles intended to be performed according to presidents by legal status. $n = 55$–59 (national universities)/25–29 (local public universities)/154–170 (private universities). Source: RIHE (2007)

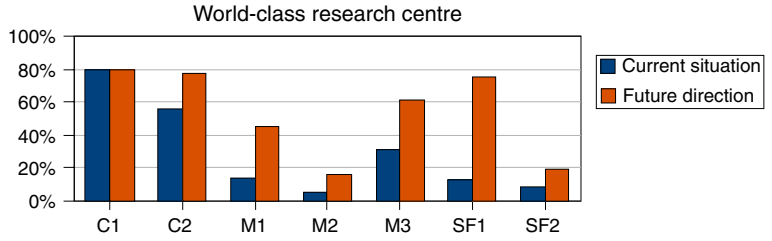

Fig. 4 Role of world-class research centre currently performed and future direction. $n = 5$(C1)/9(C2)/21–23(M1)/97–109(M2)/12–13(M3)/5–8(SF1)/81–95(SF2). Source: RIHE (2007)

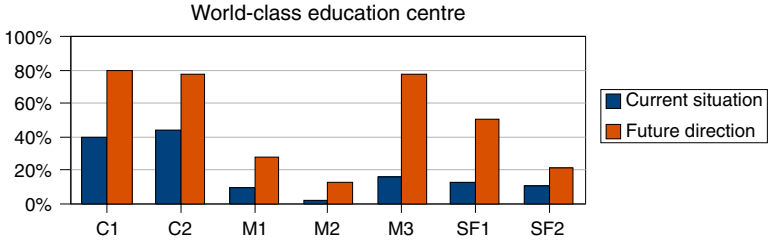

Fig. 5 Role of world-class education centre currently performed and future direction. Note: see the note of Fig. 4

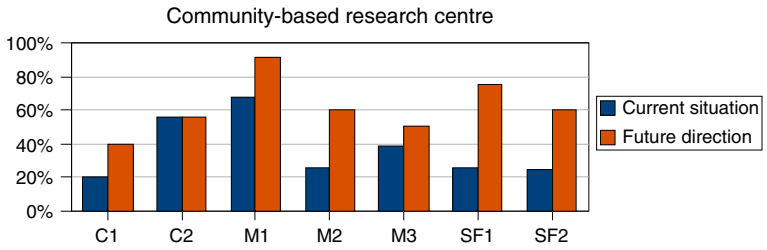

Fig. 6 Role of community-based research centre currently performed and future direction. Note: see the note of Fig. 4

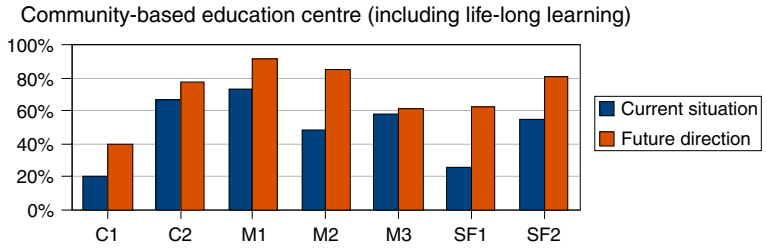

Fig. 7 Role of community-based education centre currently performed and future Direction. Note: see the note of Fig. 4

As have been shown in the above survey results, the majority of universities, regardless of the legal status (namely, national, local public, or private) or institutional type (comprehensive, multidisciplinary, or single faculty), intend to enhance more or less their roles in almost all functions studied in the survey. However, it should be noted that these policies have been envisaged by presidents and are often divergent from views within universities. In general, presidents are more likely than department heads to wish to see their universities' role enhanced (Fig. 8). Since this paper offers only a preliminary analysis of the survey results, more work needs be carried out to further elucidate issues relating to functional differentiation of universities.

There are a number of internal and external factors which induce such functional differentiation. Legal status and institutional typology condition the way universities are managed and governed in general. The effectiveness of different models of institutional

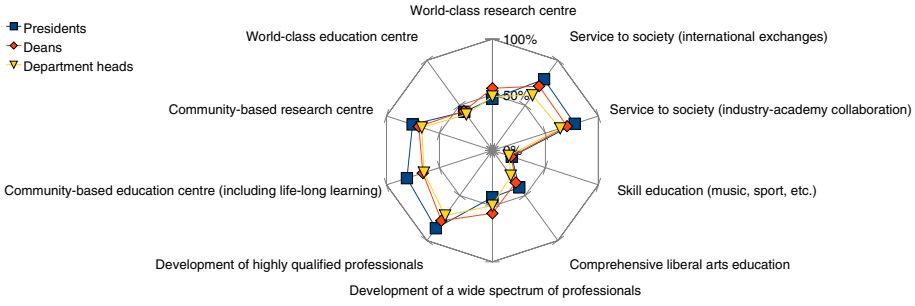

Fig. 8 Roles intended to be performed according to presidents, deans and department heads of national universities. $n = 236–259$ (presidents)/508–575 (deans)/1209–1344 (department heads)

governance and management needs to be studied more closely in order to identify processes and impacts of functional differentiation. It is interesting to find if there are different management styles for different types of excellence: for example, teaching and research excellences. In terms of external factors, functional differentiation within the system may be induced by government policies. Indeed, there seems to be a mismatch between the internal and external factors behind the ongoing functional differentiation. There also seems to be a cleavage between the ambitions of the university management and their institutional capacity for its attainment. The final section of the paper discusses this point in particular.

Discussion and conclusion

There are clearly conflicting perspectives on the current status and role of universities in many countries, reflected in a growing amount of literature over the last decade. In the current Japanese higher education system, the kinds of tensions and paradoxes outlined earlier in this article highlight both opportunities and threats for universities. There are two simultaneous forces at work: first, the 'mismatch between societal expectations and institutional capacities to deliver' and second, the extent to which 'external demands are reshaping or even undermining the very nature of the university' (Perry 2006).

"Introduction" showed the recent systematic change and tensions emerging within the higher education system of Japan. The recent government policy reforms pose challenging tasks for universities. Universities are asked to improve the quality of education, strengthen research, fulfil services to society and to meet accountability requirement, through a variety of policy instruments, such as growing number of competitive grant schemes and through the creation of new evaluation systems. As a result, universities are trying to achieve *excellence* and fulfil different functions at the same time, aspiring to be excellent in teaching, research and social contribution. This is reflected in the RIHE survey result as we discussed in the previous section. Yet, the government message has another dimension. Universities are, at the same time, pressed to choose functions and to concentrate institutional resources on the selected functions, as the CCE report illuminates (CCE 2005). Further qualitative studies would be able to reveal the actual processes of managing institutional strategies, balancing and optimising different activities, and creating the new *diversity* within the system.

The last decade has witnessed a series of higher education policy reforms, which have re-enforced the institutional differentiation within the already diverse system. As we discussed in "Japanese university reform and the idea of research excellence and system diversity", government funds distributed through the COE 21 and Global COE programmes are highly concentrated in a handful of institutions (see also, Kitagawa 2008; Oba 2008). Although the government stresses that universities should voluntarily choose appropriate functions as argued in the CCE report, in reality, the policy seems to leave little room for choice, largely due to the distribution of competitive research funding highly skewed in favour of a few elite universities. While many of the universities wish to perform the roles of world-class centres, only a limited number of universities, essentially a few elite universities which have been created throughout the history of the Japanese higher education system, have resources to do so.

Overall, one could argue that there are widening gaps between the objectives of government policy and the resources and means available for its implementation. As shown in the RIHE survey, many universities intend to perform community-based functions as well

as serving the roles of world-class research and education centres. Fulfilling these functions simultaneously, particularly those of world-class research centre and community-based education centre, is not easy in light of the possible tensions that may be generated by pursuing the two different directions (Chaffee and Tierney 1988; Pol 2007). In particular, maintaining world-class centres is a very costly operation needing continual support from the government and concentration of such efforts is limited to a small number of institutions (Altbach 2003; Baker 2007).

In the Japanese context, the current government has been building up a new higher education system based on competition and evaluation mechanisms (see Kneller 2007). The extent of concentration of national science research funding and the pattern of the research funding allocation by the government in favour of competitive funding have had major impacts, as this paper has discussed earlier. Furthermore, for national universities, the government has annually reduced the operational grants by 1%, particularly affecting smaller labour-intensive institutions and thus aggravating the gap among institutions. A concern has been expressed by authors such as Amano (2008) that the current competition may lead to the 'winner-takes-all' situation, making inter-organisational collaboration between universities more difficult, constraining collegial trust, and incurring the risk of overall degradation of education and research activities. Further investigation is needed to identify the long-term impact of these policies and the responses of universities in terms of institutional management.

Recent higher education reforms by the government seem to be reinforcing the processes of 'institutional isomorphism', making existing differences between national, local public, and private universities less substantial. Our contention is that diversified funding mechanisms in which each university may be willing to choose suitable functions within the system is a prerequisite for an effective higher education system. There must be appropriate incentive mechanisms for institutions to diversify their functions. In order to 'manage differentiation' in any higher education system, issues concerning *excellence* and *diversity* of the system need to be discussed in terms of both a university's internal governance and questions related to external governance of the system as a whole. In order to connect excellence and diversity at local, national and international level, for example, policy incentives may need to be created which fosters networks and alliances of universities across different functions, and also universities and their partners at multiple levels in society. At an institutional level, strategic resource allocation for selected functions is the key to manage differentiation of the higher education system.

Currently, there are several competitive funding to be used, for example, for the education and service to society (e.g., Good Practice (GP) Programme for University Teaching, Services to Society), but compared with the competitive funding for research, the scale and impact of such funding is limited. These programmes are not sustainable after each funding period ends. These programmes are not sufficiently and strategically connected to the core activities of a university. National policy instruments need to be matched with institutional strategies and support to activities of individual staff. Overall, the current policy, at multiple levels, seems to have failed to recognise the requirements of educational excellence. Furthermore, given the rapidly ageing population and declining youth population in Japan, universities need to consider strategically both attracting international students and building systems of life long-learning in collaboration with local communities and businesses.

One remaining issue to be investigated is the conditions which influence institutional changes. From an institutional management point of view, further work needs to be conducted to highlight the importance of trust, consensus, and vision shared by senior

managers on campus, which seems to be keys to institutional effectiveness. Institutional leadership and trust (see Kezar 2004), and appropriate governance and management structures (Birnbaum 2004; Shattock 2003) against appropriate 'value dimensions' (Balderston 1995) would be imperative in order to develop institutional capability within the differentiated system. In order to manage diversification, appropriate internal governance and mediation mechanisms would need to be created at the institutional level, for example, to manage diversification of funding resources through multiple channels. Simultaneously, a balance needs to be struck between incentives for different types of activities (teaching, research, and wider social and economic service) conducted by individual staff members. Further qualitative investigation would reveal these institutional dynamic processes of transformation.

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