Japan's Advanced Education: Future Strategies as a Global Industry

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Points for Consideration

- Since the start of the 21st century, universities throughout the world have been developing into a global industry. In order to consider how to confront this global competition, and also why Japan's top universities are lagging behind in this international competition, concrete analysis based on this point is essential.
- In the globalization of Japan's universities, it is vital to secure outstanding foreign educators. To this end, in addition to raising salary levels, it is also necessary to introduce a remuneration system that reflects performance.
- Furthermore, it is important to streamline social systems and environments that are essential to retain highly educated or highly skilled foreigners in general, not only researchers. In particular, it is extremely important to enhance the environment so that children can receive high-quality middle- and advanced-level education fully in English, so they can then advance to top Western universities.
- In the universities of Japan, as well as enabling the receiving of a wide range of donations from the private sector, it is essential to create an environment that allows the operation of a funding pool formed by monetary contributions, along the lines of the endowment funds in the United States.

A considerable amount of time has passed since the lagging behind in the globalization of Japan's advanced education, especially universities, was first pointed out. While recently the trend for Japanese universities to steadily drop in international rankings does not appear to be stopping, the university reform draft laws promulgated by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the government's Education Rebuilding Implementation Council both lack comprehensiveness and specificity.

In response to Japan's university reform discussion, as a current university professor, there are a great many things I wish to say. However, I'd like to mention here that Professor Takehiko Kariya of Oxford University suggests that the reform of Japanese universities led by the government and MEXT is based on "deductive thinking", which equals "inferences made from abstract ideals" (see Kariya, 2020.)[1] Below, in regard to the kinds of reform that are required to achieve the globalization of Japan's universities, I will offer some concrete, not vague, ideas, and conduct a comparison with universities in other countries.

Advanced Education in the 21st Century Has Become a Globalized Industry

Firstly, I would like people in general to understand that, since the start of the 21st century, advanced education in developed countries has rapidly been commercialized, and become a globalized industry. While the "globalization" mentioned here is of course important, of equal or even greater importance is the "industrialization".

Similar to Olympic representative teams, at the top universities of advanced countries in the 20th century, apart from at a few US universities, the percentage of researchers having the nationality of that particular country was then extremely high. However, the world's universities of the 2020s are more like rugby representative teams in that it is now the norm for such teams to include foreigners. When it comes to top US universities, as in European soccer club teams, it is now entirely natural for foreigners to be the main driving force. To this end, the global competition to acquire top-level researchers has intensified greatly, and the salaries for top researchers who might be talented enough to receive a Nobel Prize or some similar award have been experiencing extreme inflation over the last two decades. The winners in this competition are in the West, particularly some of the top universities in the US.

The global competition to obtain students is rapidly changing. As reflected by the graduation from Harvard University of the daughter of China's President Xi Jinping, the wealthy and elite classes of countries and regions that have experienced speedy economic growth during the 21st century, such as China, South Korea, Hong Kong, Singapore and the Middle East, are flocking in droves to send their children to some top universities in the US and Europe. American and European universities are resigned to this situation, believing that it is their very ability to re-allocate the large sums of money received in entrance and class fees from the children of the wealthy, diverting it into scholarships for talented top students, that is their societal role. In contrast, since it is a golden rule for Japanese universities to ensure equality in entrance exams, for good or bad, they are not even on the same playing field. As a result, in the two aspects of gaining both

1 Takehiko Kariya (2020), *Coronago no Kyoiku he, Okkusfodo kara no Teishou (Towards a Post-Corvid Education: Proposals from Oxford)*, Chuko Shinsho Rakure, Chuo Kouron Shinsha.

TABLE 1

International comparison of the ratio of foreign teachers

	Japan, nationwide	MIT	Stanford	Harvard	Caltech	Cambridge	Oxford
Total no. of teachers	382,518	2,982	4,285	4,350	953	5,490	6,750
No. of foreign teachers	21,772	1,679	2,042	1,311	350	2,278	2,964
Percentage	5.7%	56.3%	47.7%	30.1%	36.7%	41.5%	43.9%

Sources: Grand Design for Higher Education toward 2040 (Report), Central Council for Education; Ministry of Education, Culture, Sports, Science and Technology (MEXT), and as reference materials (3/11), materials related to education and research systems. The sources of the original data are the Report on School Basic Survey (2017), MEXT; and QS World University Ranking 2018, Quacquarelli Symonds (QS).
URL: https://www.mext.go.jp/b_menu/shingi/chukyo/chukyo0/toushin/1411360.htm

researchers and students, Japanese universities are clearly playing second fiddle to the world's top universities

The Need to Increase the Ratio of Foreign Teachers

To be more specific, since the start of the 2010s, as one numerical target towards the fostering of global personnel, an increase in the number of classes taught in English at Japan's universities has been advanced. However, it is clear that, in conditions in Japan where Japanese teachers, for whom English is not their native tongue, and their students conduct classes and seminars using English, but then in the evening have friendly discussions at social gatherings in Japanese, it is not possible to carry out high-quality global education.

As is the case for global corporations, in order to improve the quality of research and education at Japanese universities, there is a need to increase the percentage of foreign professors and researchers. However, as can be seen from the figures in *Table 1*, in contrast to the ratio of from 30% to in some cases over 50% of foreign teachers at top universities in the US and Europe, the average ratio for Japan as a whole is less than 6%. Even at Tokyo Industrial University, which specializes in the sciences and where the percentage of foreign instructors is considered to be relatively high, in 2021 it was no more than around 12%.[2]

However, it is not only that Japanese universities are unable to attract outstanding foreign researchers, they are also unable to call back excellent Japanese researchers who have gone to study in the US or Europe and stayed on to find work there. Also, in the case of Asian researchers who have gained a Ph.D. in the US or the United Kingdom and then seek employment at universities in the Asian region, at least in terms of the benefits aspect, top universities in Japan have been overtaken by their competitive rivals such as China, South Korea, Singapore and Hong Kong. Certainly, Japan has advantages such as good security and well-organized social infrastructure, but in addition to the definitive factor of the widely differing salary levels, as I will explain below, for foreigners with advanced skills or high-level education, on the points of an ideal working environment, and the organization of a social environment that is easy to live in, Japan is considerably behind these countries.

Why Japanese Universities Can't Attract Top Personnel: the Salary System Issue

In the US and Europe, it is normal for there to be differences in the salary level in different research fields. For example, it is considered natural for salaries of medical researchers to be higher than those of linguistics researchers. *Table 2* shows the average salary level by faculty at the University of California at Berkeley, one of the top public universities in the US, and arguably one of the world's top national universities.[3]

In comparison, to give an approximate overall picture of the annual salaries of teachers at Japan's national universities, when someone starts working in their early 30s, their annual salary is around six million to seven million yen. This gradually increases over time, with a

TABLE 2

Comparison of salaries of professors at the University of California at Berkeley, by faculty

(2015, excluding Faculty of Medicine)

Faculty	Amount of Salary (US$)	Amount of Salary (JPY, $1=110 yen)
Business School	334,916	3,684
Economics	326,230	3,589
Electronic Engineering/ Computer Science	276,223	3,038
Law School	273,794	3,012
Chemistry	221,234	2,434
Films/Media	205,526	2,261
Physics	193,944	2,133
Education	187,157	2,059
Linguistics	152,766	1,680
Gender/Women's Studies	143,484	1,578

Source: The Daily Californian, Professor Pay-Checker (database on salaries of teachers at the University of California, according to a student newspaper at the University of California, Berkeley)
URL: http://projects.dailycal.org/paychecker/#database

2 *Deta de miru Tokendai Kenkyu (Research at Tokyo Industrial University, seen by data)* https://www.titech.ac.jp/public-relations/research/data (Last viewed: July 2022).
3 All American state universities, not only those in California, publish the individual names and salaries of full-time teachers, which can be perused online by anyone.

teacher in their 50s receiving about 10 to 12 million yen.[4] Accordingly, while it may be surprising that teachers in even in the lowest-paid faculty at Berkeley are paid considerably more than the level of Japan's national universities, since this university is located in the Bay Area of San Francisco, which has extremely high living costs and real estate values even for the US, there may be little meaning in making a comparison with the absolute level of salaries in Japan. Meanwhile, even excluding medical faculties and business schools, where it is standard for payment to be high, there is an almost 200% difference between the highest- and the lowest-paying faculties. Moreover, professors in faculties such as economics and computer science, that is, those who teach subjects with high practicality or a high social demand, receive higher salaries than teachers of the physical sciences such as physics and chemistry. Also, although it is not shown here, if we look at the same public data on teachers' individual salaries, within the economic faculties, there is a tendency for researchers in international economics and finance economics to generally have higher salaries, while those of teachers of pure theory and the history of economics are relatively low.

Of course, we should not over-idealize the conditions of US universities. The differentials in the income gaps among university professors and among research fields in the US are extreme even by world standards, and there is a strong movement towards viewing the problem as related to the way that up until now the salaries of researchers have been determined on a market base. In contrast, for better or worse, in Japan all the researchers at a particular university follow the same salary system. The remuneration system of professors at Japanese universities is highly rigid compared to Japan's private corporations and even to that of bureaucrats in Japanese central ministries and agencies. Even if conditions in the US can be considered extreme, the fact that there is such a low connection between performance and salary in Japanese universities, reduces the sense of competitiveness on the part of researchers, while the work environment with that lack of a sense of competitiveness constitutes a major obstacle to attracting motivated, outstanding foreign researchers.

To resolve this problem, of course there is a need to improve the salaries and benefits of university teachers. However, the real issue is not the salary level, but rather lies in the very composition of the incentives for Japanese university staff. In Japan, as in other countries, there are basically only three staff positions at universities: professor, associate professor, and assistant professor. However, in addition, at Japanese universities, since the salary system has no relationship at all to performance or research field, with salaries being mostly determined solely on the basis of seniority, for staff that have once taken on a position there is extremely little motivation in terms of remuneration for outstanding research results to be improved. Also, in the event that a researcher who has achieved excellent results is head-hunted by another university, although it is an everyday occurrence at universities in the US and the UK to add to the attraction by increasing salaries and improving benefits (such as research payment being provided by the university, or in regard to the number of classes to be taught, a place to do research, housing provided by the university, etc.), at universities in Japan there is almost no flexibility at all in such matters. Accordingly, even for Japanese people in Japan, if they are head-hunted by universities in China, South Korea, Singapore or Hong Kong, there is almost no opportunity for the Japan side to stop them leaving by means of the salary aspect.

Why Japanese Universities Are Unable to Attract Global Personnel: Issue of Social Environment Surrounding Universities

Apart from the issue of the salary system in regard to getting foreign researchers to work in Japan, there is a more serious problem: the environment in which the researchers and their families will live in Japan. In particular, the question of the educational environment for children is extremely important. An important policy issue not just for foreigners, but also within Japan is the enhancement of good-quality babysitters and kindergartens. In addition, for the elite class in the US and Europe and Asian countries, getting their children into top Western universities is an extremely important objective. In actuality, putting aside the question of whether the children themselves actually hope for this, in order for this goal to be achieved, whether or not there are opportunities in place to obtain good-quality middle school or high school education in English (and if possible also in French and German), is an extremely important key in whether or not it is possible to entice foreigners to Japan.

Furthermore, in daily life also, it is necessary to streamline an environment in which it is possible to get by to an appreciable extent with English only. Having experienced streamlining the environment for the inbound demand and for preparations for the Tokyo Olympics, conditions have gradually improved considerably, as happened in the area around Tokyo's Yamanote Line, such as in regard to offices in public local government bodies in the centers of big cities, public transport organs, taxis, and so on. However, in various procedures such as for financial institutions and real estate-related matters, there are numerous local rules, which may be unclear even to Japanese people. If one brings to mind the difficulties involved in making a rental agreement for accommodation, or in signing an agreement for a mobile phone, one can very easily imagine the frustration experienced by foreigners having to do this in a language other than their mother tongue. Further, if workers with advanced skills who have foreign nationality increase more in the future, there needs to be a more flexible response to differing religions and cultures.

We must develop the environment so that more flexible responses to matters such as the handling of religious facilities and religion-based holidays, and dietary issues such as vegetarian, vegan, and halal requirements are facilitated, and it is necessary that such measures be implemented not only in specified companies and workplaces, but

4 On advancing to professor level and reaching one's mid-40s, the amount of pay rise decreases year by year. In addition, since Japan has high progressivity on income tax, on occasion the amount of salary actually received hardly increases at all.

rather in Japanese society as a whole. This kind of streamlining of the social environment is, at the same time, an important factor in order for not only university staff but also for private companies to recruit excellent foreigners who have high-level education or advanced skills.

We should keep in mind here not the CEOs or star players of major corporations who earn hundreds of millions of yen per year, but neither on the other hand are we referring to those who have decided to move to Japan because they are attracted by *manga*, *anime*, Japanese food or other aspects of Japanese culture. The question is, how can we create a social environment that would persuade experts who earn from around seven to 50 million yen in annual income and have skills that are marketable all around the world, and a high level of education and advanced skills, to consciously choose Japan as their workplace? In order to accomplish reform to this end, since there is a limit to leaving the necessary changes only to private-sector self-help efforts and the natural trends of society, government-led policies must be implemented. We should establish very large-scale "special districts" and streamlining environmental and systemic reform so that highly skilled foreign workers can settle there must be advanced on a considerably large scale and in a timely fashion.

How Can University Reform Be Achieved?

As explained above, to reform Japanese universities themselves, and to increase international competitiveness, it goes without saying that there is a need to broadly strengthen the financial foundations However, especially if we speak in regard to advanced countries, even for universities in the US and the UK, their current high competitiveness position was not gained as a result of large-scale government budget support. In regard to British universities, at a time when government subsidies were being reduced, a strong driving factor was that they had no choice but to introduce funds from outside sources and become globalized, and to advance with business (see Kariya, 2020, Introduction).

As someone who is currently employed as a university teacher, naturally I would sincerely be most grateful if the government budget allocated for advanced education were to be greatly increased. However, considering the tight financial conditions of Japan, I can clearly see that it is difficult to place any hope on that happening. Accordingly, the universities of Japan also are forced to follow in the direction of becoming more business-oriented to a certain extent, and there is a need to enable the kind of fund-raising that is undertaken by Western universities. To this end, it is essential to streamline the handling of taxation systems related to financial contributions to universities, in particular, tax exemptions. However, more important than this is to thoroughly organize the system for implementing fund-raising on the university side. The most important work of the presidents of top Western universities is fund-raising, and the funds so gathered are pooled as "endowment funds". Taking Harvard University as an example, in 2021 the activity funds of the university as a whole were about five billion dollars (or, at the rate of $1=110 yen, 550 billion yen), and 40% of this came from the university's endowment fund.[5] Even at business schools and medical schools, where class fees are high, a quarter of the annual operating costs is provided from their endowment funds, and when it comes to the usual faculties and graduate schools (faculties of arts and sciences), that figure rises to 55%.

Therefore, at the top private universities in the US, such as Harvard and Yale, the role handling the operation of university endowment funds is an important position in which the salary is higher than that of the university president. Of course, the idea that in one step Japan's universities could all suddenly gather funds in the same way that top universities in the US do, is a completely unrealistic pipe dream. Indeed, we do not even know whether the society or people of Japan see the style of US universities as something desirable. However, at the least, we should see it as inevitable to reform the extreme dependence of universities on the state for funding, and to turn the rudder towards private-sector donations and fund-gathering. To that purpose, there is a need to substantially change both the selection process of university economic staff and the governance structure. Further, we need to employ and foster different types of experts from those that have existed up until now, including specialists in the management of university endowment funds

But the greatest difficulty is in how to reform the relationship between MEXT and universities, in particular, national universities. The shift in the economic base of universities to depend more on private-sector funding means that it is essential that government and MEXT control recede, and that there is a substantial decrease in the number of positions assigned to bureaucrats that currently exist in major national universities. No bureaucratic organization wishes to shrink the territory of its own sphere of influence. At Japan's universities, to conduct a drastic, fundamental reform along the lines of the privatization of the Japanese National Railways in the 1980s, the government must take the initiative.

Ongoing Issues for Further Consideration

So far, in regard to the direction of reform for the purpose of strengthening the competitiveness of universities in Japan as a global industry, my discussion has focused on making comparisons with top universities of the US and the UK. However, as I have already mentioned, in this too lies the pitfall of possibly over-idealizing the realities of universities in the US and the UK. I would like to conclude this discussion by mentioning three important issues for ongoing consideration.

Firstly, although the top universities of the UK and the US have achieved high international competitiveness of advanced education as a global industry, universities in other countries, including those in the various nations of Europe, continue to face the problem of how to achieve a balance between research and education activities in their own countries, and global competition. In particular, as in the case of economics and some aspects of medicine (such as medical

5 Harvard University's Financial Results for Fiscal 2021. URL: https://finance.harvard.edu/annual-report.

economics and epidemiology, such as responses to Covid-19), there are many cases where one's own nation is made the subject of analysis, while in areas of scholarship for which it is hoped that an important social role will be played in one's own country, this is an extremely serious and complicated issue. For example, in places like China, Singapore, and Hong Kong, of the roles expected to be played by economic researchers affiliated with universities, the weight of international competitiveness in research is overwhelmingly strong, while contributions such as the utilization of statements and knowledge related to domestic socio-economic issues are not considered all that important.

Perhaps it might be more accurate to say that, in these places there exists a definite separation between the kind of personnel who emphasize international competitiveness and those who are focused on domestic issues. South Korea is not as extreme as that, but compared to Japan and the countries of Europe there is a definite tendency to favor international competitiveness. Moreover, if too much stress is placed on international competitiveness, in countries where English is not widely spoken, making it harder to submit papers to international academic journals, this means that outstanding personnel will concentrate in fields where there is comparatively low importance placed on the ability to express oneself in English.

Looking at the example of economics, there is a trend for personnel to gather in theoretical research areas such as theoretical model analysis and planned economics, whereas in fields with high social importance such as public economics, labor and finance, the layer of researchers is thinner. Furthermore, in fields such as computer science, comparing text mining of texts written in English and text mining of those in Japanese, the number of researchers who are more interested in the former is overwhelmingly larger. However, the social importance of the latter must also be fully valued within Japan. How to achieve a balance between international competitiveness in research and the social role of universities in one's own country is now and will continue to be an important theme in a large number of academic fields.

Secondly, in the industrialization of advanced education, of course there is a negative aspect. In particular, in regard to US universities, as a result of the advance of commercialization, the academic fees of faculty students have soared since the start of the present century. Currently, almost one-third of US students have taken out loans in order to graduate from university, while the figures for 2020 show that the average amount owed in debt on student loans is as high as $38,792 (around 4.25 million yen) per person. According to estimates of the Federal Reserve Bank of New York, the US household sector bears a total of almost $1.6 trillion in student loan liabilities, which is greater than credit card and car loans combined.

Furthermore, as a result of the increase in the rate of advancing to university education, naturally the overall quality of students is declining. Looking at the US as a whole, about 40% of students are able to graduate in four years (at the University of California at Berkeley, the top school of state universities, it is 90%), while even taking six years only 60% are able to graduate. This lengthening of the time taken to graduation is in itself a big problem, but it also exacerbates the enlarging of the burden of student loan debt mentioned above.

Thirdly, since the start of the 21st century, in the world as a whole online education has developed and been enhanced. Large-scale lectures that anyone can attend for free via the Internet are known as Massive Open Online Courses (MOOC) and have increased explosively. Examples of representative platforms include Coursera, which was founded by researchers from Stanford U, and edX, which was developed by the Massachusetts Institute of Technology (MIT) and Harvard University. In particular, since 2020, when the Covid-19 pandemic meant there was often no choice but to hold classes online, the trend for university education to be conducted at least partially online has become definitive. Since a vastly larger number of students can attend an online class at once compared to face-to-face classes, the number of teachers that require lecture-centered subjects such as introduction to economics as a general education class decreases dramatically. The emerging of a situation where all universities in a country share several extremely high-quality online classes, while each individual university conducts only question-and-answer sessions with students, and marks their homework and exams, is also no longer necessarily just a dream story.

Clayton Christensen, the US economist who is famous for his book *The Innovator's Dilemma*, focused at an early stage on this kind of innovation in university education, and has said, "As a result of the spread of online education, and other factors, in 10 or 15 years from now, 50% of American universities will go bankrupt."[6, 7] On the other side of the coin, we can say that the quality of education in areas such as students' motivation to study, and instruction on individual topics towards their graduation theses, which cannot be addressed online, have come to be given greater significance than before.

In the current environment in which new technologies and platforms such as online education are rapidly expanding, the ways in which competition related to global higher education will change, and how the universities of Japan will respond to these changes, are extremely interesting topics for consideration. JS

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6 Clayton M. Christensen, Michael B. Horn, Curtis W. Johnson, *Disrupting Class: How Disruptive Innovation will Change the Way the World Learns*, McGraw-Hill, 2008. Translated by Yuko Sakurai,"Kyoiku×Hakaiteki Innovation — Kyoikugenba wo Bapponteki ni Henkakusuru" (Shoeisha, 2008)

7 Abigail Johnson Hess, "Harvard Business School professor: Half of American colleges will be bankrupt in 10 to 15 years," CNBC (2018/08/30). URL: https://www.cnbc.com/2018/08/30/hbs-prof-says-half-of-us-colleges-will-be-bankrupt-in-10-to-15-years.html