



The Japan Association of
National Universities

***Japan – France Symposium
in Higher Education
December 7, 2018***

University Reform in Japan

***Dr. Kyosuke Nagata, Vice President of the Japan Association of
National Universities (JANU), President of University of Tsukuba***



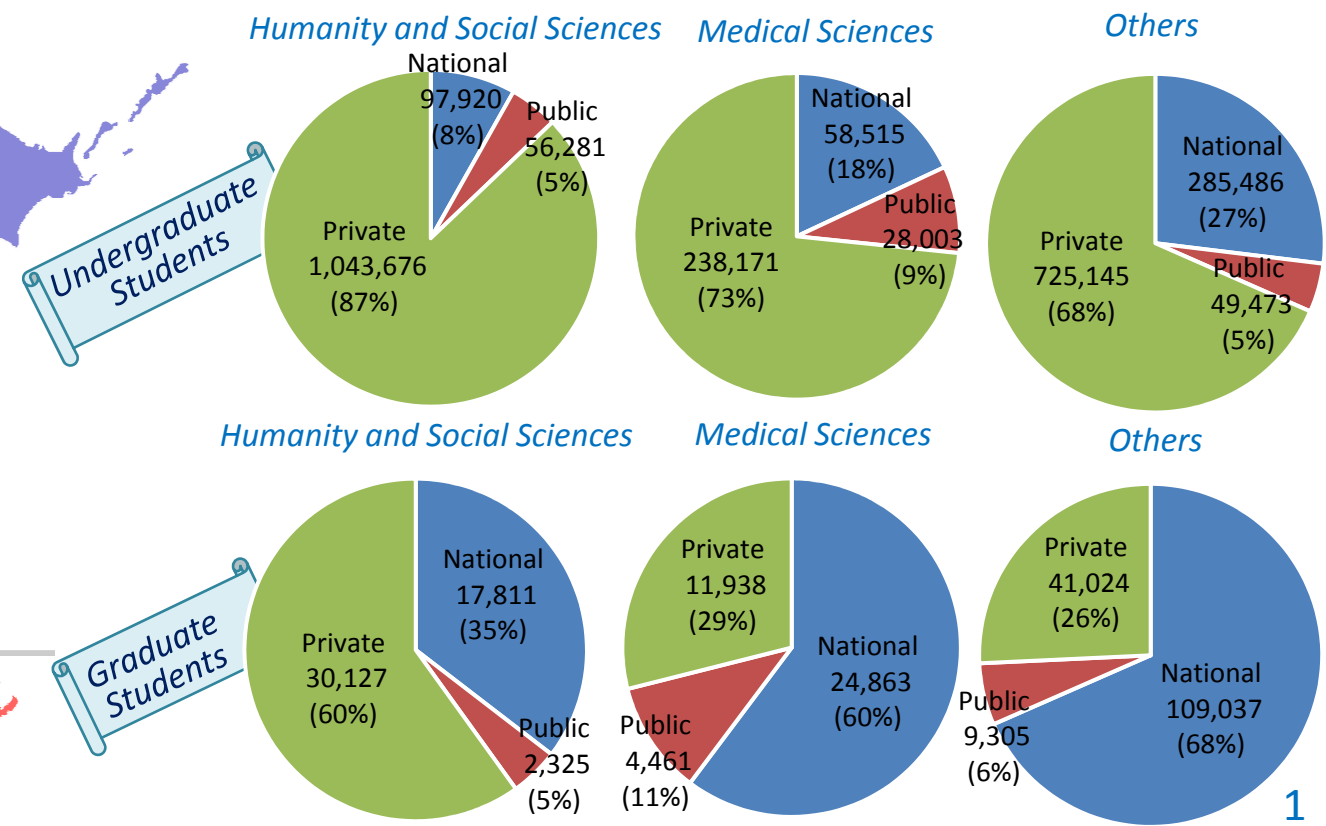
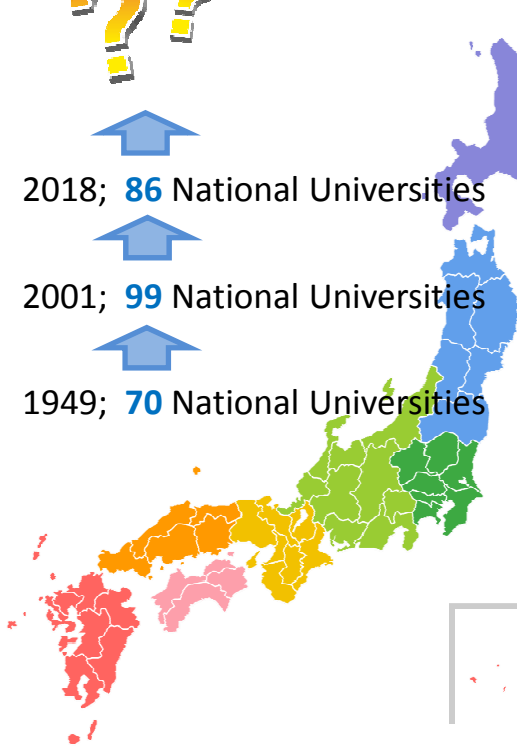
Universities in Japan

(As of May 1, 2017)

	Universities	Undergraduate Students	Graduate Students
National	86 (11.0%)	441,921 (17.1%)	145,273 (62.0%)
Public	90 (11.5%)	133,757 (5.2%)	15,359 (6.6%)
Private	604 (77.5%)	2,006,992 (77.7%)	73,664 (31.4%)
Total	780 (100%)	2,582,670 (100%)	234,296 (100%)



2018; **86** National Universities
 2001; **99** National Universities
 1949; **70** National Universities





About JANU



The Japan Association of National Universities

➤ History

Founded in 1950

➤ Member

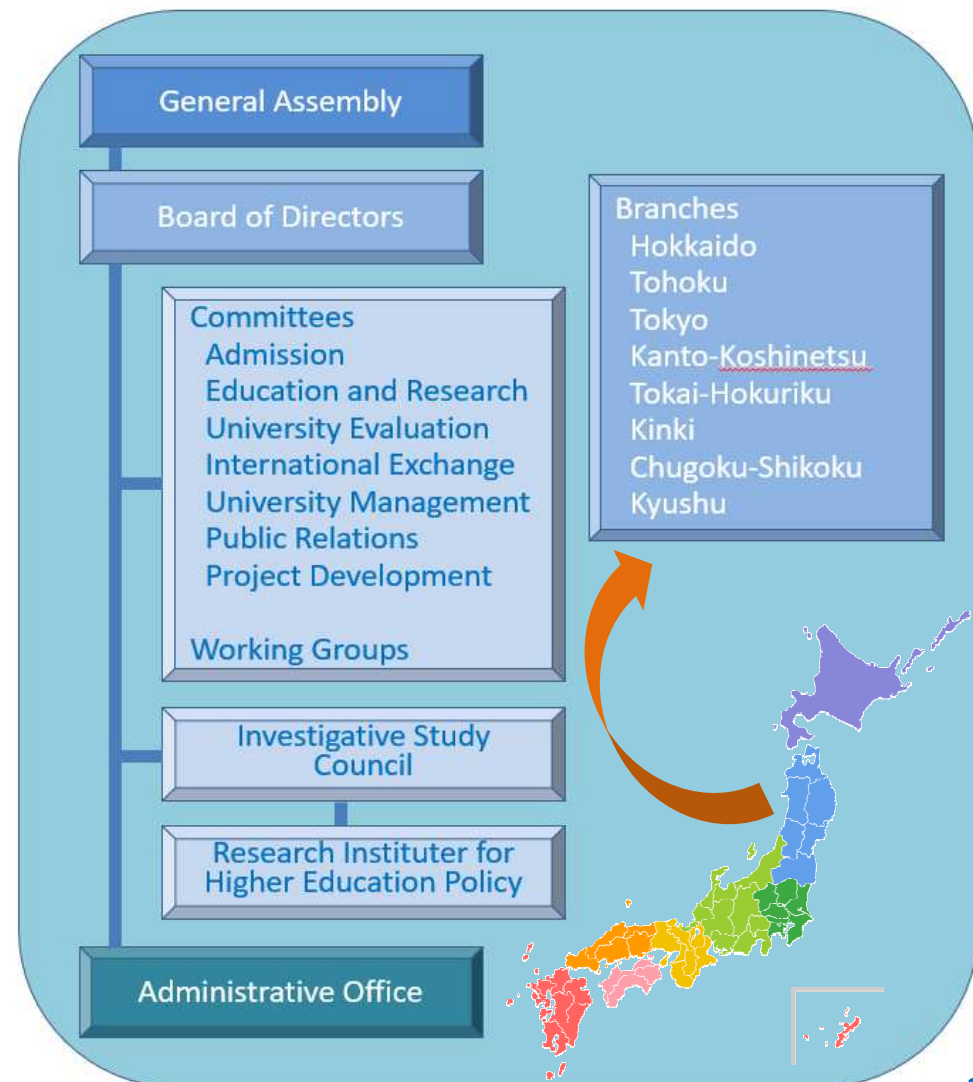
All national universities; 86

➤ Activities

Studying on various higher education policy issues; education, research, admission, quality assurance, international exchange, finance etc.)

Expressing the views of national universities on various higher education policy issues to the government and to the general public

Supporting for the management and human resource development of national universities, etc.





International Strategy and Recent Activities

➤ JANU's Goal by 2020 for Internationalization

Items	Goal in 2020
International Students (%)	10%
Japanese Study Abroad Students (%)	5%
International Faculty Members (%)	Double (%)
Lectures in English (number)	Double (number)



Start (2012)	Current (2017)	Goal (2020)
5.8%	7.4%	10%
2.2%	4.7%	5%
3.2%	4.4%	6.4%
11,779	28,549	23,678

➤ Collaboration with University Associations Overseas

- ☆ France : MOU with CPU and CDEFI (2014), Joint Symposium (2015,2016, and **Dec. 2018**)
- ☆ Germany : MOU with HRK (2015), Presidents Meeting (2016, and **Apr. 2018**)
- ☆ Australia : MOU with UA (2015), Joint Symposium (**Oct. 2018**)
- ☆ Taiwan : MOU with FICHET (2016), Presidents Meeting (2016, and **Jun. 2018**)
- ☆ UK : MOU with UUK (2016), Round-table Discussion (**Oct. 2018**)
- ☆ ASEAN : MOU with SEAMEO RIHED (2018)
- ☆ US : MOU with ACE (2018), Round-table Discussion (**Mar. 2018**)



CPU; Conférence des Présidents d'Université
CDEFI; Conférence des Directeurs des Ecoles Françaises d'Ingénieurs
HRK; Hochschulrektorenkonferenz (the German Rectors' Conference)
UA; Universities Australia
FICHET; Foundation for International Cooperation in Higher Education of Taiwan
UUK; Universities UK
SEAMEO RIHED; Southeast Asian Ministers of Education Organization, Regional Centre for Higher Education and Development
ACE; American Council on Education



Cooperation between CPU, CDEFI and JANU

➤ Concluded MOU with CPU and CDEFI in Paris(2014)

➤ Forums and President Meeting

● Workshop in Tokyo (2015)

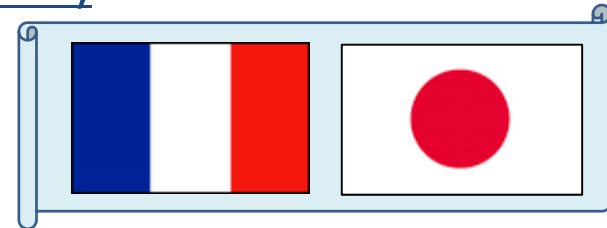
Theme : *Trends and challenges a year after the signing of the agreement for mutual recognition of studies, diplomas and credits*

● Symposium in Paris (2016)

Theme : *France-Japan Symposium on Innovation in Higher Education*

● Symposium in Tokyo (2018)

Theme : *The universities' roles and internationalization in the regional development*



JANU President and signatories from the French parties (CPU and CDEFI) (2014)



Workshop in Tokyo (2015)



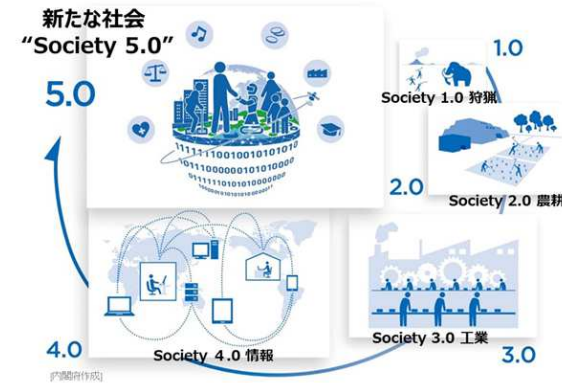
Symposium in Paris (2016)



Background and Problem Awareness Surrounding Universities

➤ The Form of Society Depicted in Society 5.0

Achieving a super-smart society is key to solving issues, such as declining birthrates, greying populations, shrinking labor force, and regional revitalization.



➤ Issues Accompanying Social Development and their Solutions

It is quite necessary we should reaffirm that the results of research and education at universities is directly lead to new value creation and societal sustainability.



➤ Preparation for Declining Birthrates

Faced with the decline in the 18-year-old population, finding new candidates and creating infrastructure to accept them is crucial to maintain current academic standards.

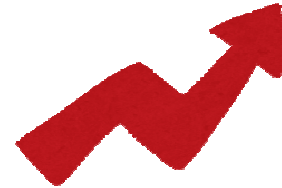




Global Changes in Higher Education & Academic Research Trends

➤ Positioning as a National Strategy

- Governmental investment has been focusing on higher education, science and technology as a national growth strategy
- Governmental financial support has been on an upward trend
- The US, EU, China, ASEAN has developed specific policy initiatives



➤ Globalization of Higher Education and Intensifying Competition

- Fierce competition to attract excellent international students and connect them with national growth

*Number of international students worldwide
1990: 1.3 million → 2012: 4.5 million*



➤ Responding to Common Challenges in the World and International Collaboration

- Further actualization of global problems in accordance with increasing population
→ Enhancing academic research through international collaboration
- Establishment of institutions for higher education and academic research in developing countries
- Building future-oriented, long-term relationship which can not be swayed by the political situation from time to time



Changes in Japanese Societal Structure Surrounding Higher Education

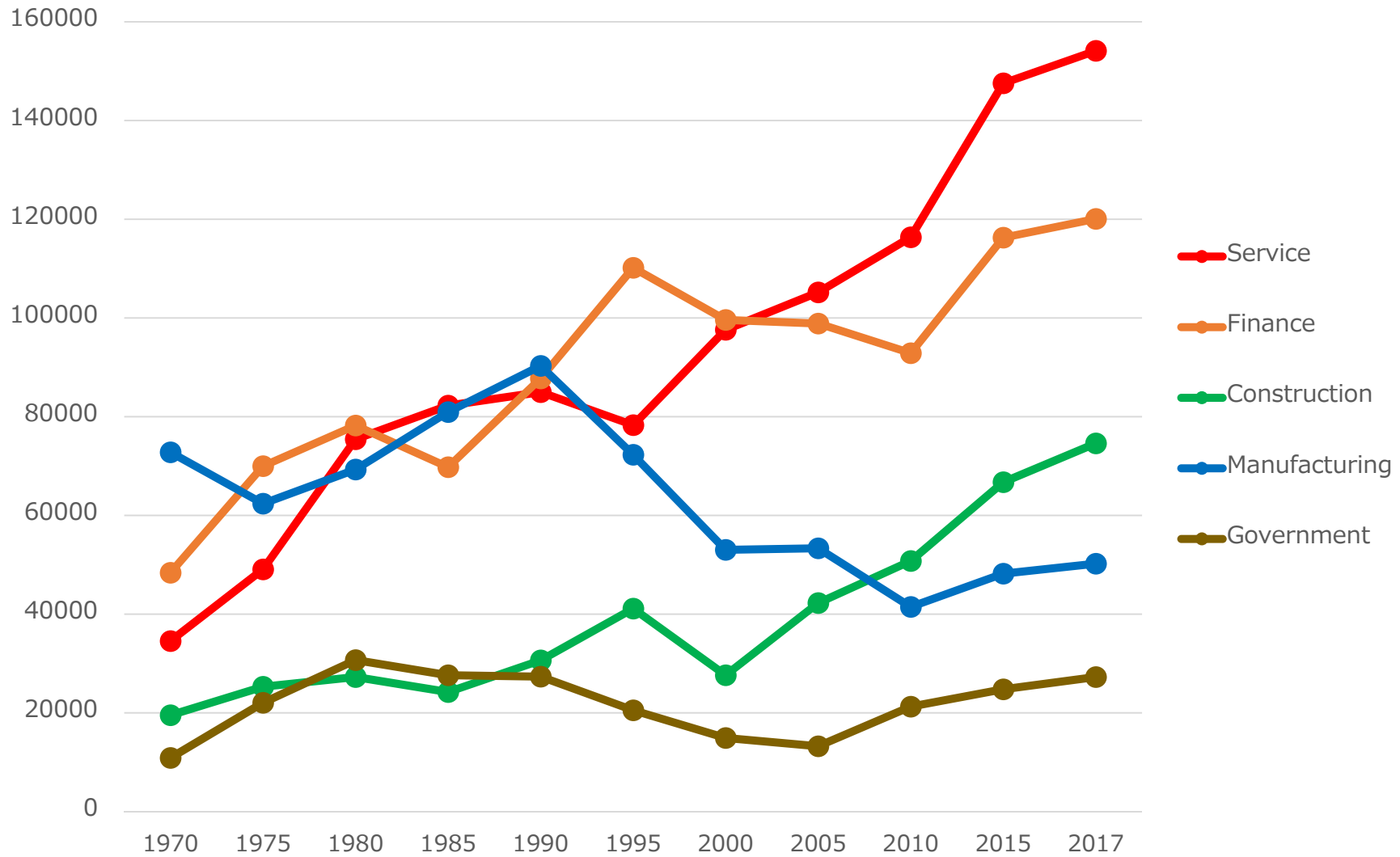
➤ Industrial Structure

- Further acceleration of **company internationalization** in accordance with shrinking domestic market
 - Increasing needs for human resources with linguistic skills and the ability to adjust to other cultures at overseas offices or factories
- Demand for expansion of female activity in the workplace to help develop the industry
- Increasing needs for developing workers in the elderly care industry to respond to coming graying society
- **Rapid development of IT and IT-related technology**
 - **Changes in the knowledge and skills required for various industrial workers**
Changes in industry/employment structure at local industry due to technological innovation

Increasing expectations for developing human resources who can create the industrial and societal innovation aiming at overcoming the above challenges



Distribution of New Graduates by Industry



Source: Basic Survey of Schools (MEXT) *Preliminary figures for 2017



Changes in Social Structure Affecting Higher Education

Demographics

Japan's population fell to 127 million (2015) ; first time since the government started taking national census - except post-WWII decline.

※*Projections :*
100 million in late-2040s; 90 million in mid-2050s

Population of 18-year olds is at 1.2 million, expected to shrink further.

※*Projections :*
1 million in 2030; 0.63 million in 2060





Changes in Social Structure Affecting Higher Education

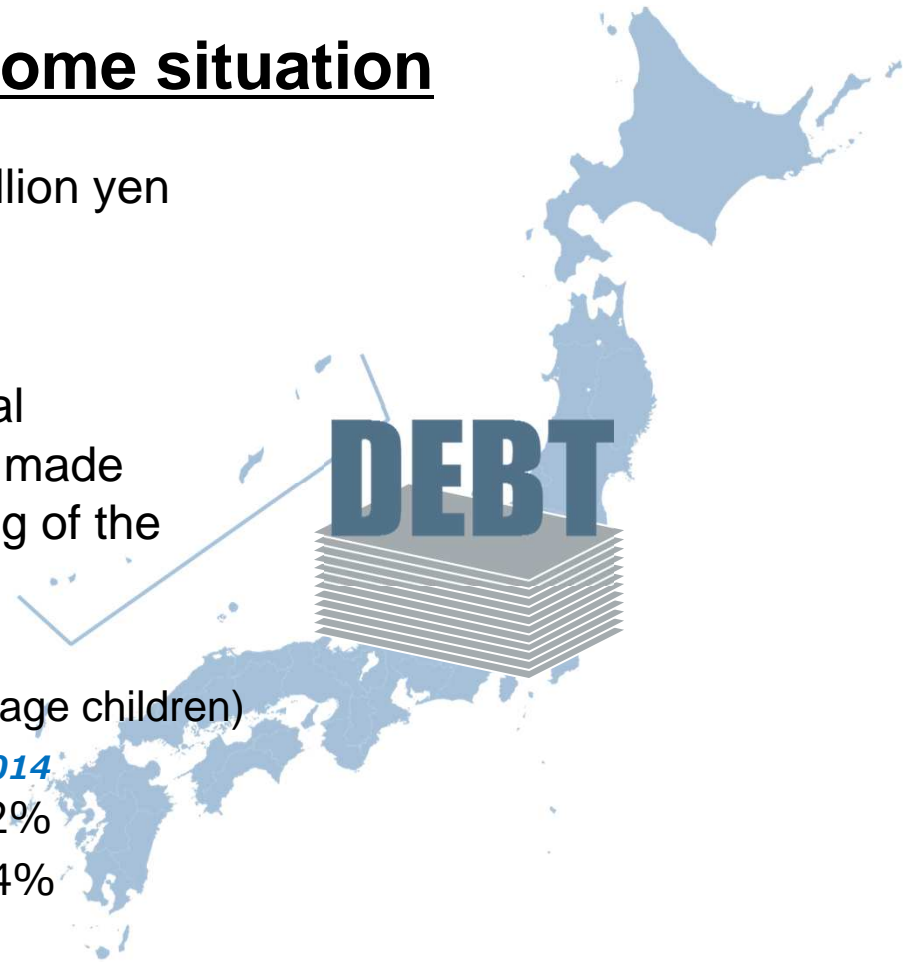
Financial and household income situation

Japan's national debt has reached 834 trillion yen (151% GDP ratio) – the highest among industrialized nations.

Japan's financial situation will further spiral downwards unless fundamental reform is made to the social security system with the aging of the population.

Household income (for families with college-age children)

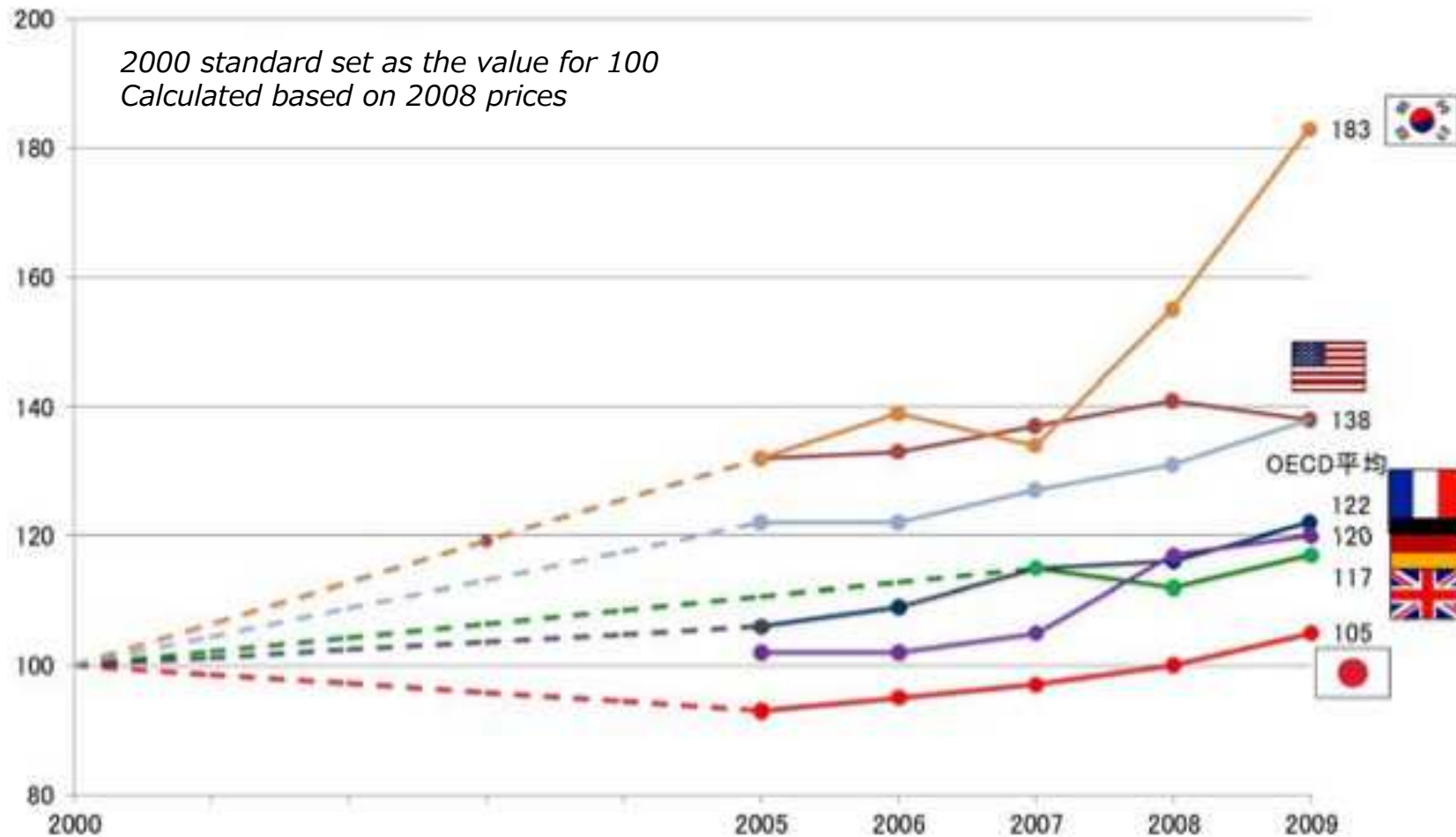
	<i>FY2006</i>	→	<i>FY2014</i>
5 million yen & below	19.2%	→	26.2%
5-9 million	50.0%	→	42.4%





Challenges in Higher Education of Japan

Growth in public financial expenditure for higher education is lower than major developed countries



Source: Education at a Glance: OECD Indicators



Future Vision of National Universities in Higher Education

We recognize the history and current conditions of higher education both in Japan and world as well as the changing social structure surrounding higher education, and consider the way of future higher education in Japan as a whole, then verify the mission required for national universities, propose own future vision as well as to take steps for actualization.

Roles and Functions National Universities Should Particularly Play in the Future

National universities should further improve and develop their functions and roles played so far, and focus on fulfilling the following tasks in the future.

Point 1 Enhancing Advanced Education and Research Functions

Core for graduate schools, Leading the world's top level research, Cultivating highly skilled human resources

Point 2 Role / Function as a Core Base for Collaboration between Public and Private Universities

Cultivating local governments / industrial leaders, Creating innovation with characteristics of region, Corresponding globalization

Point 3 Function as a Base for Collaboration and Cooperation among Universities regarding Policy-based Human Resource Development

Point 4 Maintaining and Inheriting Research in a Wide Range of Fundamental and Traditional Academic Fields

Point 5 Enhancing Academic Exchange with Foreign Universities and Research Institutes as well as Academic Support for Developing Countries

Steps for Actualization

(1) Maximize Current Function as well as Planning and Preparing for the future

- Strengthen research activity aimed at creating new knowledge and solving global problems
- Enhancing graduate schools in order to cultivate excellent human resources who inherit value creation
- To increase university enrollment rates and boost human resources who can support the further development of advanced knowledge-based society both nationally and locally.

3rd mid-term period

FY 2021

4th mid-term period

FY 2027

(2) Reform Management and Governance System for the Future

- Search for previously undiscovered candidates
- To increase adult and international students
- To develop education through demonstrating features and personality of each university, as well as cooperation and collaboration among them
- To establish mechanisms for solving problems with clear and high-value issues for industry



Future Management at National Universities

➤ Requirement & Targets

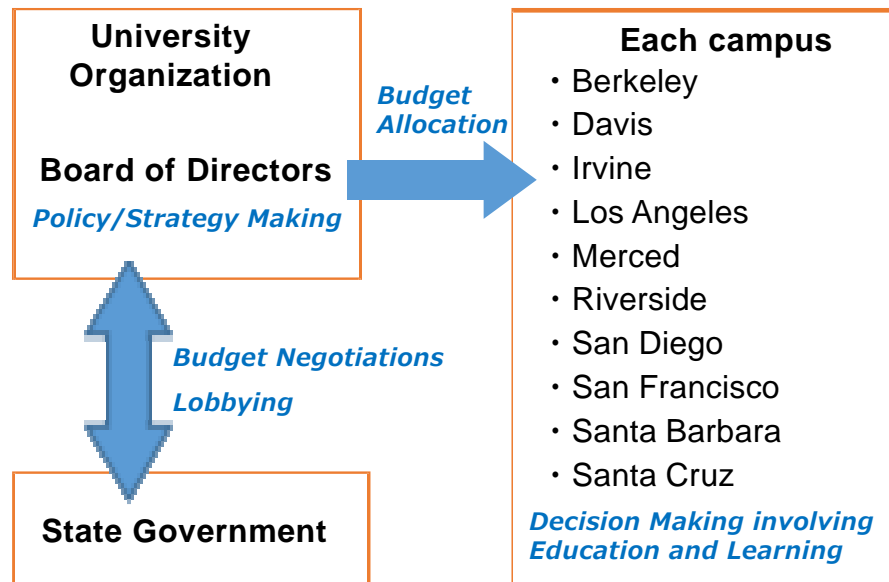
- **Maintain national universities (campuses)** with independent/autonomous management **in all prefectures in Japan**
- **Introduce management bodies** that can coordinate and decide resource allocation or role sharing from a broader perspective

➤ Reference: Examples in Foreign Countries

◆ University of California System

10 campuses are governed as one university

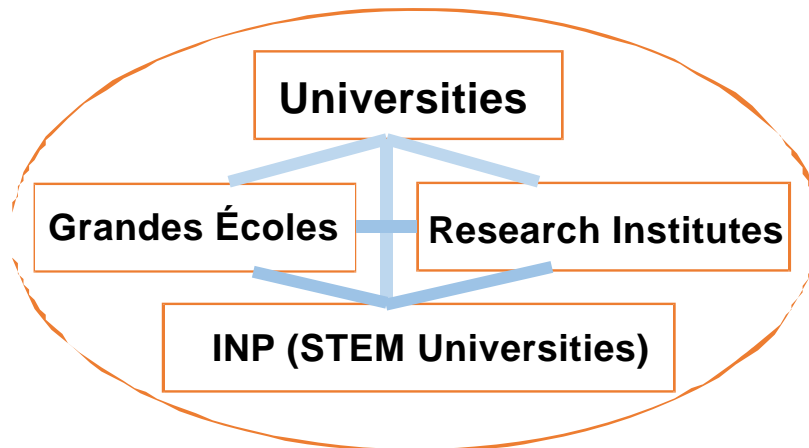
Hierarchical governance system of the organization



◆ French Associations (COMUE)

Higher education both in and out of the university in each region

Collaboration system with research institutes and other institutions



Coordinating Educational and Research Activities
Promoting Cooperation with Local Municipal Organizations



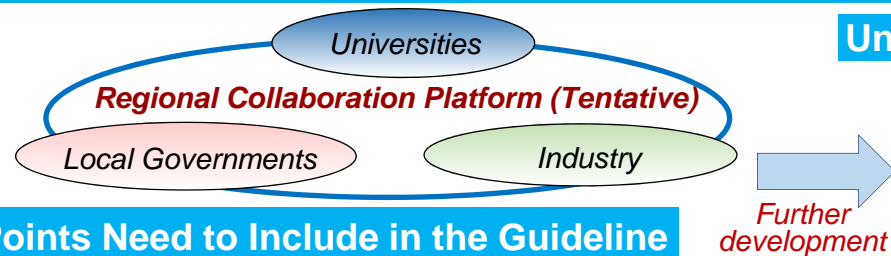
Collaboration and Integration of National, Public, and Private Universities

Recognizing Current Conditions

- The future vision surrounding higher education institution has not been discussed by involving industry and local governments in each region.
- University collaboration that goes beyond the framework of national, public, and private has not progressed.

Direction for Consideration

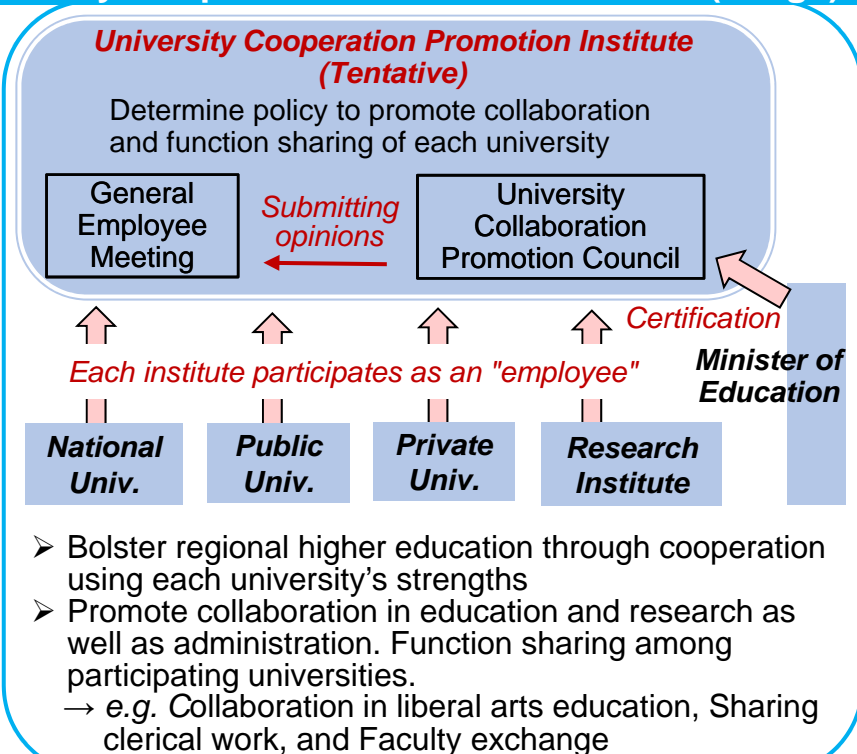
- We need to consider creating guidelines regarding matters that should be discussed by **Regional Collaboration Platform (Tentative)**
- One of the main missions of **Regional Collaboration Platform (Tentative)** is to consider creating **University Collaboration Promotion Institute (Tentative)** that enables collaboration that goes beyond the framework of national, public, and private. (Be careful so that it does not turn into relieve for universities in the red and quota shortages.)



Points Need to Include in the Guideline

- Future estimation of university enrollment by region
- Outlook on the needs of future human resource based on regional characteristics and industrial structure
- Considering university scale, academic disciplines, and arrangement to meet the needs of future human resource
- Possibility of collaboration and integration that goes beyond the national, public, and private framework
- Establishment of educational programs aiming at encouraging graduates to stay region, as well as enhancing industrial matching
- Enhancing to accept a diversity of students, not just 18 year olds
- Role as a core of regional education, research, and culture

University Cooperation Promotion Institute (Image)





Hokkaido area



Obihiro University of Agriculture and Veterinary Medicine



Otaru University of Commerce



Kitami Institute of Technology

- **Recurrent Education Across Hokkaido** *“Commerce”*
 - ✓ Accepting adult learners living in the Obihiro-Kitami area through a remote lecture system connecting 3 bases, re-education centered on business administration
- **Enriching interdisciplinary collaborative projects at universities**
 - ✓ Developing the livestock industry the internationalized era *“Commerce”*
 - ✓ Revitalizing tourism in the Okhotsk area
- **Creating R&D bases for winter sports** *“Engineering”*
 - ✓ For all areas in Hokkaido, contribute to the promotion of the manufacturing, food, and sightseeing industries with winter sports at the core while collaborating with industry and local government
- **Promotion of optics to support primary industries** *“Engineering”*
 - ✓ Using robots in agriculture and dairy
 - ✓ Using bio-optics in the food industry
 - ✓ Market development and expansion of sales channels for the above
- **Promote symbiosis of human resources for further development in leading agricultural regions** *“Agriculture”*
- **Enrichment of liberal arts education** *“Common Between 3 Universities”*
 - ✓ Distinctive liberal arts courses offered by three universities shared through a remote learning system
 - ✓ Short-term residency studies through exchange of students across three regions



Shizuoka area



Shizuoka University



Hamamatsu University School of Medicine

- **Future concept of universities in Shizuoka Prefecture aimed at bolstering function as a local knowledge base**
- **Collaboration with local communities through strengthened functions (international competitiveness, regional revitalization, human resource training) based on restructuring**
 - Local Governments, Local Community, Local SMEs, Global Enterprises
 - Medical, Optics, Electronics, Medical Engineering, Next-generation vehicles, Big Data,

➤ **New National Universities** **3 Years Later**

In order to bolster its function as a local knowledge base, a university centered on the Shizuoka University Shizuoka Campus (Shizuoka City) and a university centered on the Shizuoka University Hamamatsu Campus and Hamamatsu School of Medicine (Hamamatsu City) will be established under the New National University Institute based on the umbrella system and encourage strengthening of international competitiveness



➤ **University Cooperation Promotion Institute** **5 Years Later**

The New National University, regional public universities, and incorporate schools participate in planning, aiming to strengthen collaboration as the true base of knowledge in the Shizuoka area



Tokai area



Nagoya University



Gifu University

- **Toward a regional version of Society 5.0 based on the Tokai National University Structure**
 - ✓ Next generation industrial training
 - ✓ Acquiring talent and bolstering competitiveness (in Japan and abroad)
 - ✓ Bolstering overseas expansion
 - ✓ Industrial-academia collaboration in earnest
 - ✓ Support for start-ups and venture companies
- **Cultivation of human resources, education co-created by industry-academia, recurrent education**
 - ✓ Achieve new forms of education using huge amounts of learning data
- **Building models of Society 5.0**
 - ✓ Build regional models by achieving new medical treatments using enormous amounts of medical data
- **Making the Tokai Region the world's leading tech innovation smart society**

Next generation aircraft materials/gallium nitride, Next generation mobility (automatic vehicles, 3D maps, connected cars, etc.), Green environmental technology (low-carbon society), Health, medical, food (smart hospitals, e-healthcare, agriculture, etc.), Next-generation manufacturing (smart molds, precision machining, plasma nanotechnology, etc.)



Nara
area



Nara University of Education



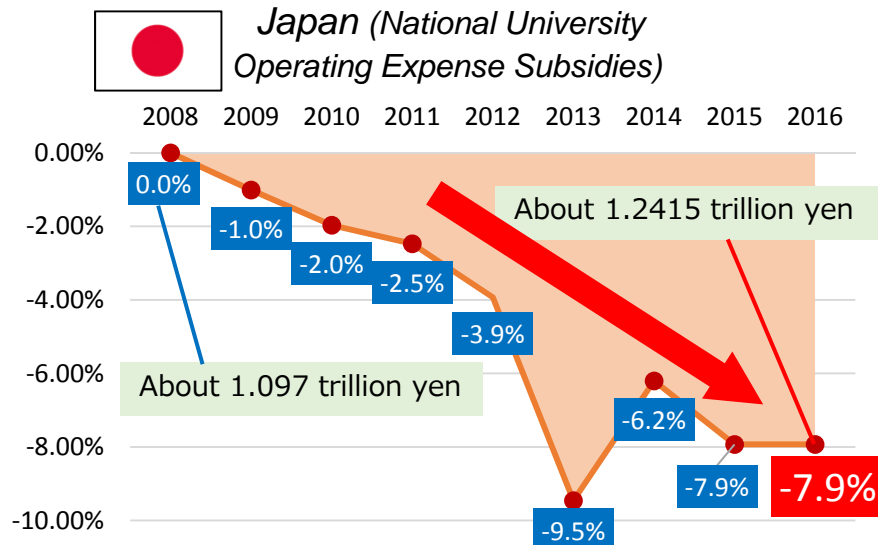
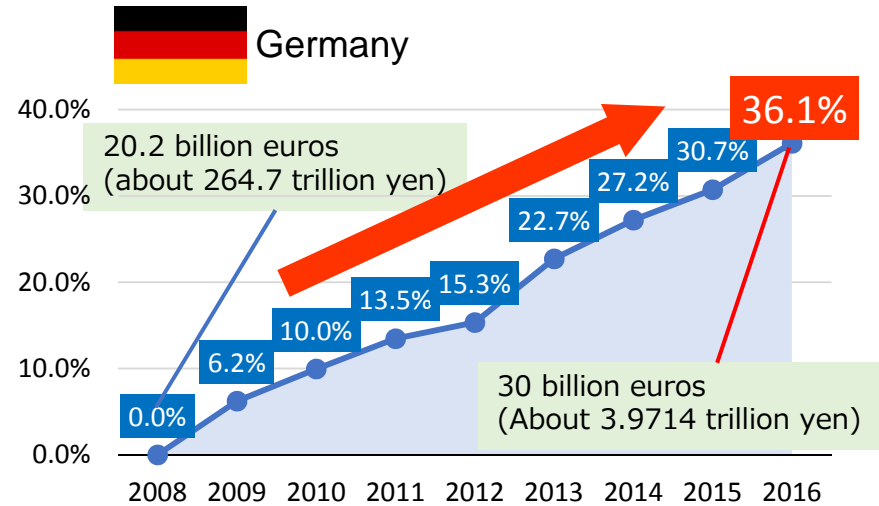
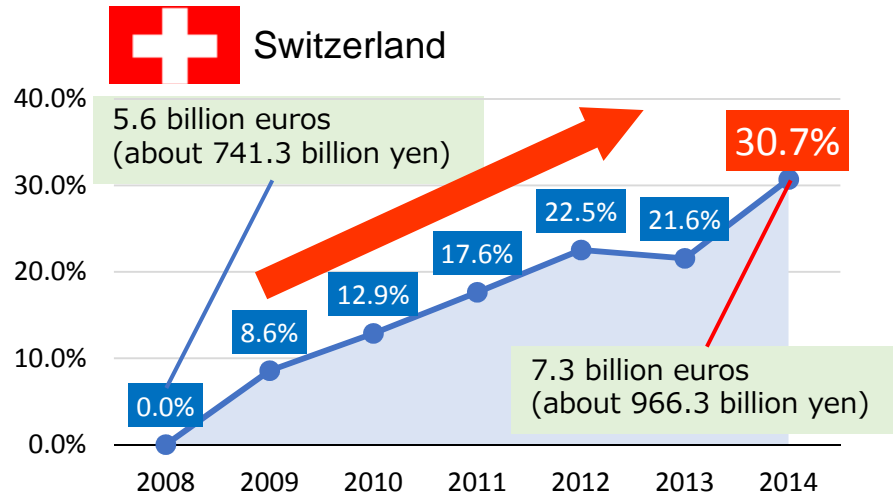
Nara Women's University

- **Two universities in one institute: National University Institute of Nara Goal for 2022**
 - ✓ Attempt new university integration that meets societal demands by using both universities' resources efficiently and in an integrated manner and taking advantage of their respective strengths
- **Establish a collaborative educational development organization (liberal arts department, teacher education department) and consider the three pillars**
 - ✓ Enrichment and enhancement of liberal arts education
 - ✓ Advancement of teacher training
 - ✓ Produce engineering talent in the Nara area
- **Human resources who will create a sustainable future society**
 - ✓ Utilize both universities' resources efficiently and in an integrated manner to meet societal demands
- **Constructing next-generation models of teacher training systems**
 - ✓ Construct a new, advanced teacher training system that takes advantage of both universities' strengths and utilizes their resources efficiently and in an integrated way
- **Awarding Bachelor of Engineering Degree**
 - ✓ Cultivate engineering talent using the traditions, strengths, and characteristics of both universities



Breaking the Status Quo: Securing Stable Public Funding

Public funds provision toward public universities (rate change since 2008)



In contrast to reduction in public funds for national universities (national university operating expense subsidies, etc.) in recent years, countries, such as Switzerland, Germany, France, Australia, the Netherlands, and Sweden have expanded support for universities through public funding.

- ◆ Shift in real value for both Switzerland and Germany.
- ◆ Euro value were calculated at the average rate for March 2018.
- ◆ Source; Foreign values were created by JANU Secretariat based on EUA Public Funding Observatory 2017 Country Sheets by EUA (European University Association)



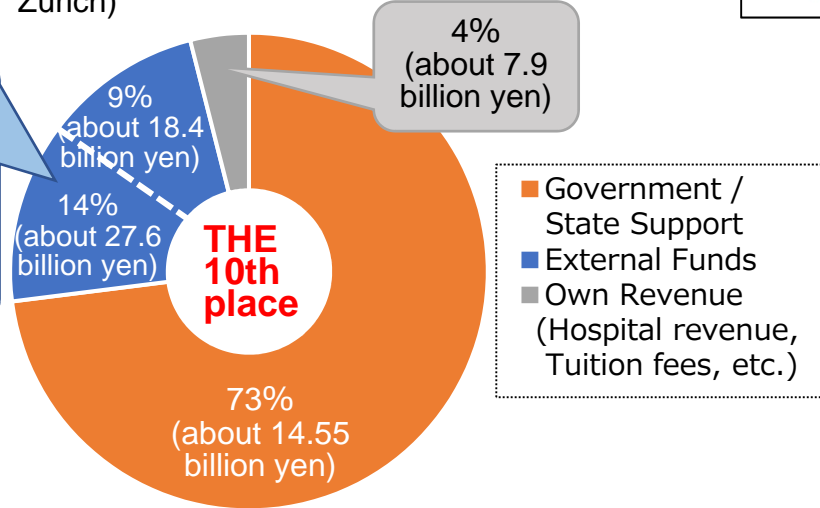
International Comparisons on Ratio of Ordinary Revenue



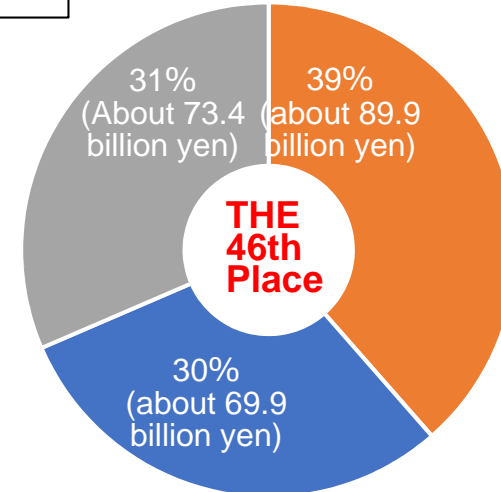
ETH (Eidgenössische Technische Hochschule Zürich)

23%
(about 46 billion yen)
Among these, public funding is **about 14%**

- Swiss National Science Foundation
- Federal Government
- EU



The University of Tokyo



Revenue (2016):

1.768 billion Swiss Francs (= about 199,677,920,000 yen)

Support for basic expenses from the Government
1.289 billion Swiss Francs
(=about 145,579,660,000 yen)

External Funds
408 million Swiss Francs
(= about 46,079,520,000 yen)

Own Revenue
70 million Swiss Francs
(= about 7,905,800,000 yen)

Public funding in external funds:
245 million Swiss Francs
(= about 2,767,030,000 yen)

- Swiss National Science Foundation (SNSF)
- Federal Government
- EU

Revenue (2016): 23,332,800,000 yen

Operating Expense Subsidies
About 8,992,700,000 yen

External Funds (Including Public Funds)
About 6,995,700,000 yen

Own Revenue
About 7,344,400,000 yen

Created by JANU Secretariat using each university's website
Ranking shows THE World University Rankings 2018
Swiss Franc and Euro value were calculated by the average rate for March 2018



Encouraging Joint Research between Industry, Academia, and Government

“Encouraging Future Joint Research through Full-fledged Collaborations between Industry, Academia, and Government (interim summary)” (6/12/2018)

I. Present Outlook

- 1 Promoting sustainable and large-scale joint research through collaboration between universities and corporate organizations
- 2 Aiming at realization of Society 5.0 based on a long-term vision for future society, and actively contribute to issues facing Japan through added value, creating business, and regional revitalization utilizing data
- 3 Cultivate diverse young / mid-career researchers including women and foreigners through industry- academia-government collaboration and joint research
- 4 Improve mobility of researchers between universities and corporate organizations through human resource and payroll management reform
- 5 Position industry-academia-government collaboration as a pillar of university financial management strategy and strengthen financial foundations

II. Environmental Improvements

- Bolstering collaborative organizational function between industry-academia-government
 - A virtuous cycle of industry-academia-government funding
 - A virtuous cycle of Japanese knowledge
 - A virtuous cycle of specialists in industry, academia, and government
-

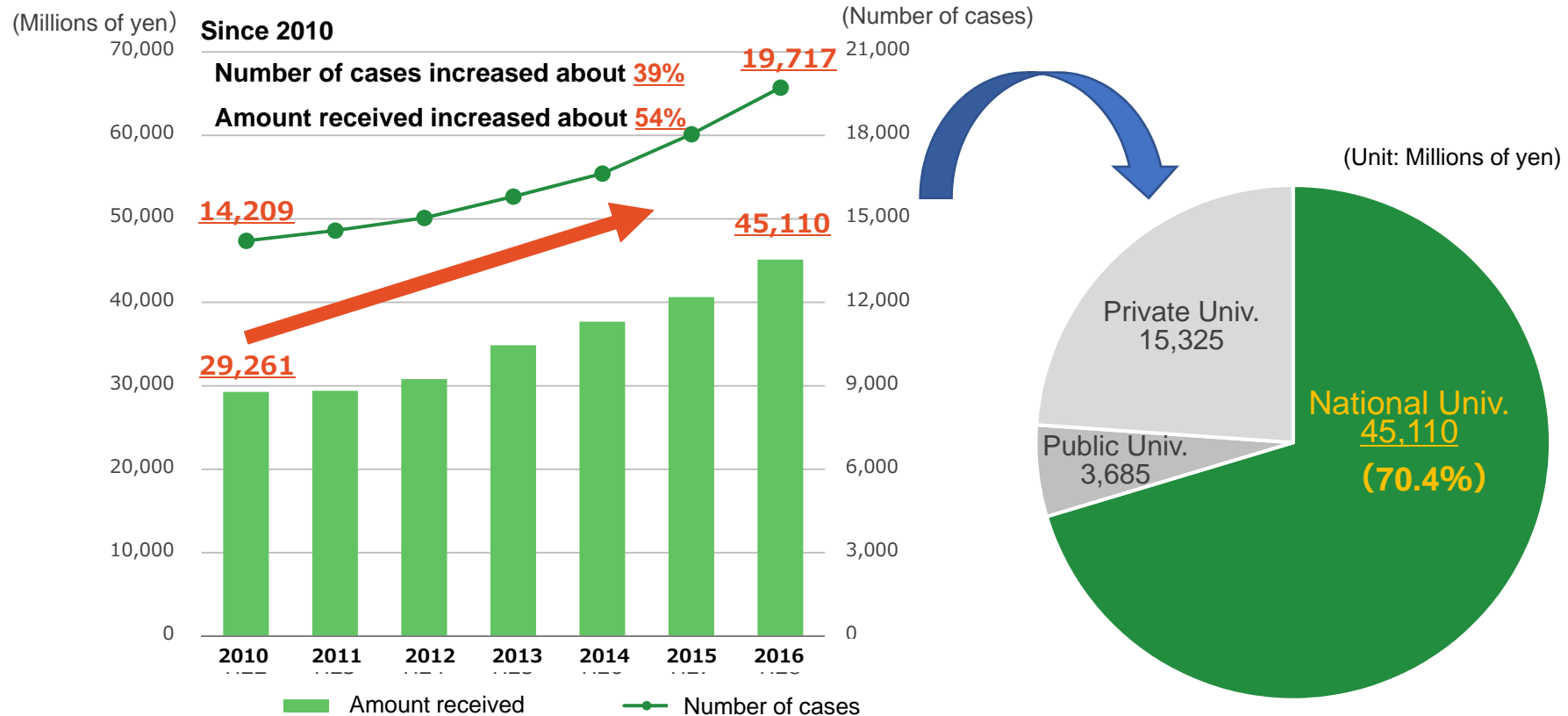
III. JANU's Efforts

- To provide opportunities for workshops, debate, and information sharing for officers in charge of industry-academia collaboration (including URA) for all universities
- Gathering good practices of each university and providing information
- Enhancing tight opinion exchange at various levels between those involved in industry, academia, and government
- Understanding various issue involved in promoting efforts at each university, and considering policies and system improvements for solving those problems



Expanding Joint Research with Private Company

Received Amount of Joint or Contract Research with Private Companies (2016)



Looking at cases of joint research or contract research with private companies at universities, as well as the amount of research grants received by universities, national universities accounted for 70% total in 2016, also, increasing by 39% for the number of cases and 54% for the amount of research grants received.

National universities includes 4 Inter-University Research Institutes

Source; Created by the JANU secretariat based on "Status of implementation of industry-university collaboration" by the Industrial Collaboration & Regional Support Division, Academic Policy Bureau at MEXT