

INVESTIGATION SERVICE ON IMPACT OF OIST TO THE ECONOMIC SOCIETY OF OKINAWA AND JAPAN

Executive Summary **(Overview of the Survey Results)**

Table of Contents

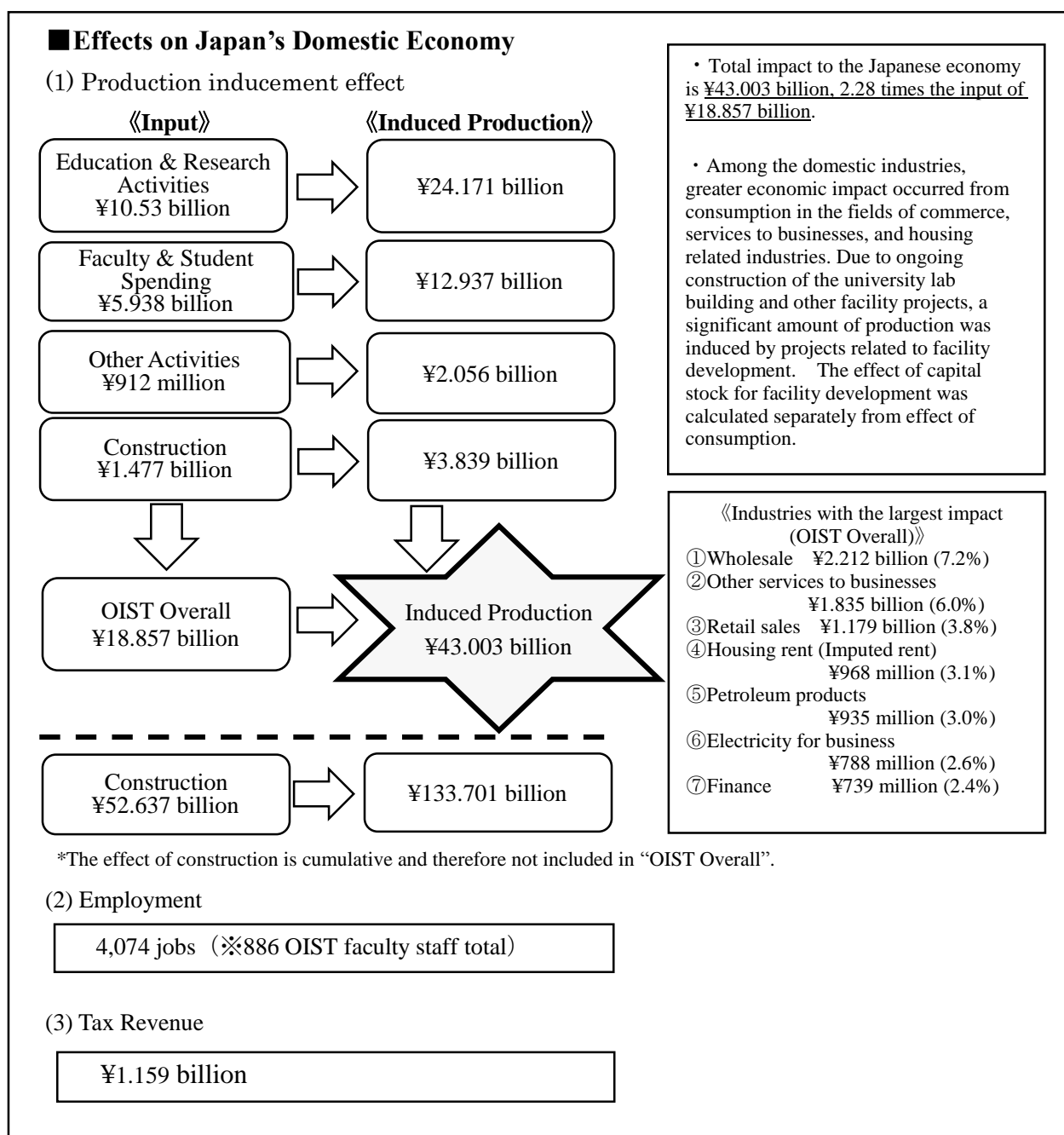
1. Estimated Economic Impact of OIST	1
■Effects on Japan's Domestic Economy	1
■Effects on the Economy of Okinawa	2
2. Expected Economic Impact When the Number of OIST Faculty Reaches 100.....	3
■Effects on Japan's Domestic Economy	3
■Effects on the Economy of Okinawa	4
3. Economic Impact of OIST Facility Construction	5
4. List of Economic Impact key indicators	6
5. Economic Impact on the Okinawa Economy and Consequential Economic Impact on the National Economy	7

1. ESTIMATED ECONOMIC IMPACT OF OIST

Economic impact of the demands created by OIST were calculated in two parts: economic impact to all of Japan, and to Okinawa Prefecture.

Impact to the Japanese economy was estimated as follows: education and research activities generated ¥10.53 billion in input and ¥24.171 billion in induced production; faculty and student spending brought about ¥5.938 billion in input and ¥12.937 billion in induced production; other activities yielded ¥912 million in input effect and ¥2.056 billion in induced production. Input from construction of Laboratory 4, Child Development Center and other facilities was estimated to be ¥1.477 billion and ¥3.839 billion in induced production.

In sum, the demand generated from OIST-related economic activities was estimated to be ¥18.857 billion in input and ¥43.003 billion in induced production.

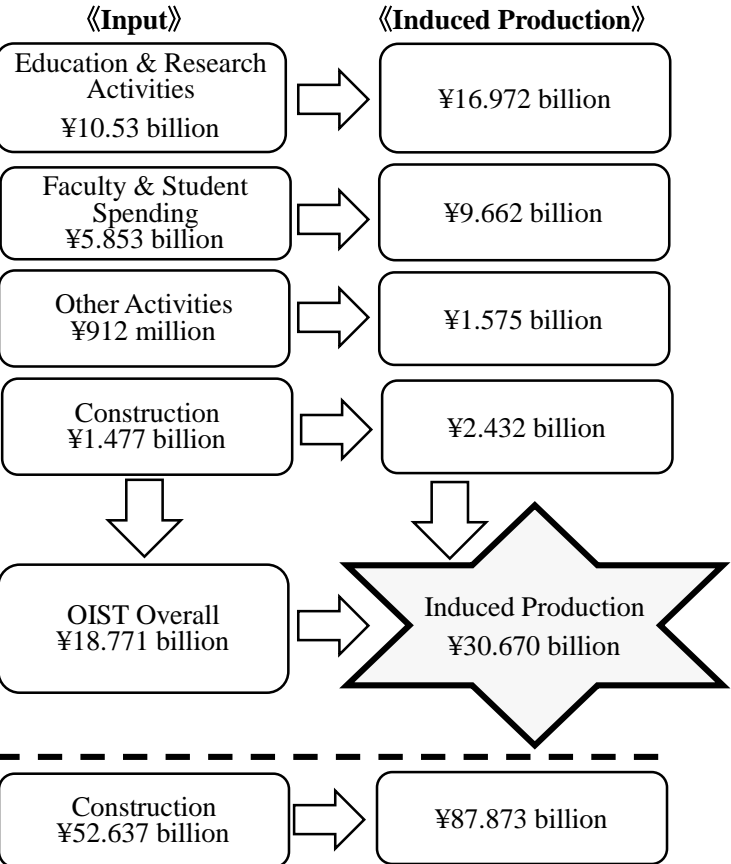


Impact to the Okinawa economy was estimated as follows: education and research activities generated ¥10.53 billion in input and ¥16.972 billion in induced production; faculty and student spending brought about ¥5.852 billion in input and ¥9.662 billion in induced production; other activities yielded ¥912 million in input and ¥1.575 billion in induced production. Input from construction of Laboratory 4, Child Development Center and other facilities was estimated to be ¥1.477 billion and ¥2.432 billion in induced production.

In sum, the demand generated from OIST-related economic activities was estimated to be ¥18.771 billion in input and ¥30.670 billion in induced production.

■ Effects on the Economy of Okinawa

(1) Production inducement effect



- Total impact to the Okinawa economy is ¥30.670 billion, 1.63 times the input of ¥18.771 billion.
- Among the domestic industries, greater economic impact occurred from consumption in the fields of services to businesses and commerce. Due to ongoing construction of the university lab building and other facility projects, a significant amount of production is induced by projects related to facility development. The effect of capital stock for facility development was calculated separately from the effect of consumption.

- «Industries with the largest impact (OIST Overall)»
- ① Wholesale ¥1.575 billion (7.6%)
 - ② Other services to businesses ¥1.226 billion (5.9%)
 - ③ Electricity for business ¥843 million (4.1%)
 - ④ Retail sales ¥838 million (4.0%)
 - ⑤ Petroleum products ¥808 million (3.9%)
 - ⑥ Housing rent (Imputed rent) ¥806 million (3.9%)
 - ⑦ Finance ¥506 million (2.4%)

*The effect of construction is a cumulative amount and therefore not included in “OIST Overall”.

(2) Employment

2,902 jobs (※881 OIST faculty staff in Okinawa)

(3) Tax Revenue

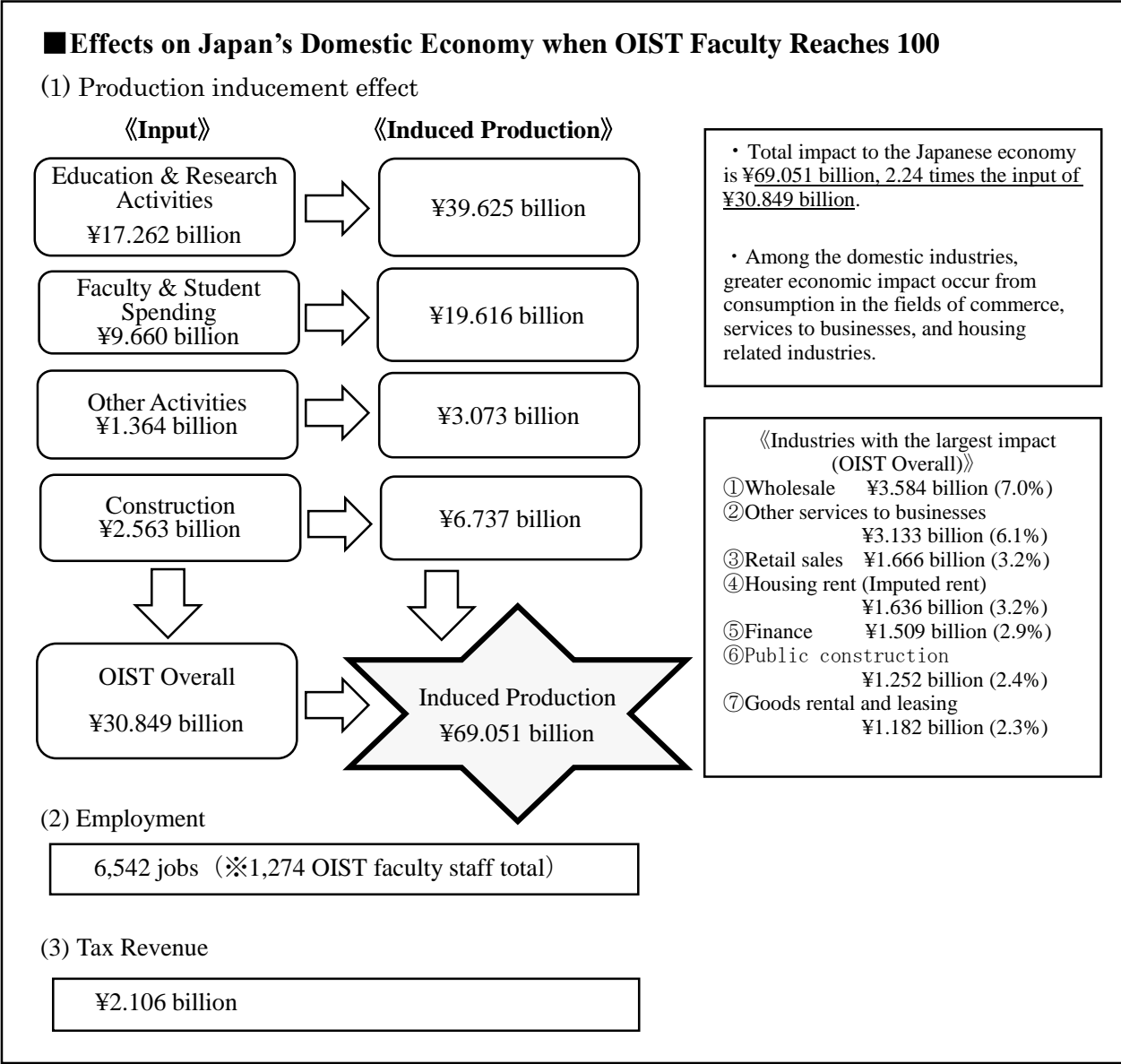
¥1.449 billion

2. Expected Economic Impact When the Number of OIST Faculty Reaches 100

The anticipated economic impact when OIST attains a faculty size of 100 were estimated based on the following factors: the number of employees, the number of students, number of visitors from elementary, middle and high schools, and the number of people expected to attend academic conferences, workshops and other events.

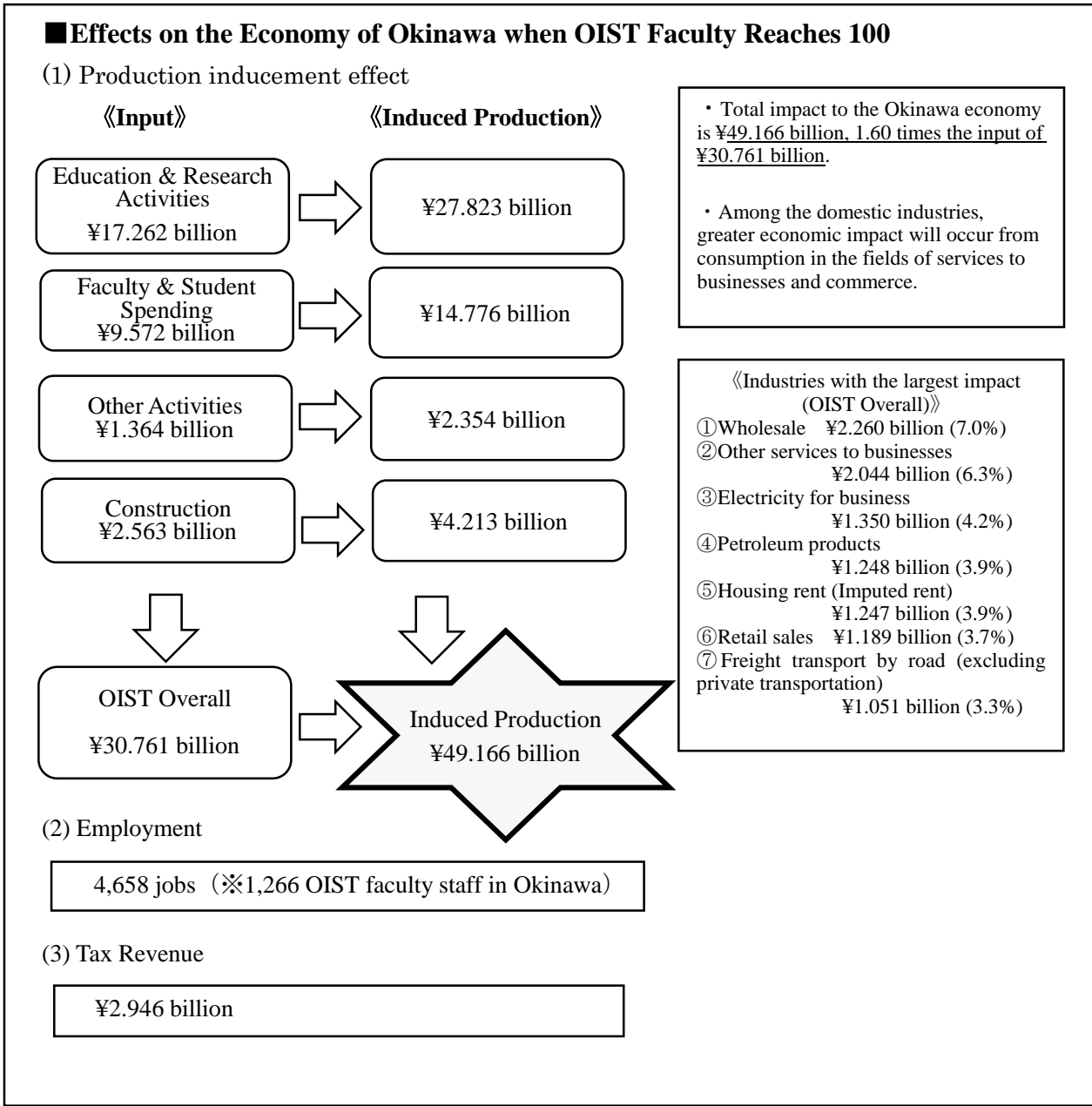
Impact to the Japanese economy was estimated as follows: education and research activities would generate ¥17.262 billion in input and ¥39.625 billion in induced production; faculty and student spending would bring about ¥9.660 billion in input and ¥19.616 billion in induced production; other activities would yield ¥1.364 billion in input and ¥3.073 billion in induced production. Input from construction results, assuming that Laboratory 5 would be built, was estimated to be ¥2.563 billion and ¥6.737 billion in induced production.

In sum, the demand generated from OIST-related economic activities was estimated to be ¥30.849 billion in input and ¥69.051 billion in induced production.



Impact to the Okinawa economy was estimated as follows: education and research activities would generate ¥17.262 billion in input and ¥27.823 billion in induced production; faculty and student spending would bring about ¥9.572 billion in input and ¥14.776 billion in induced production; other activities would yield ¥1.364 billion in input and ¥2.354 billion in induced production; Input from construction results, assuming that Laboratory 5 would be built, was estimated to be ¥2.563 billion and ¥4.213 billion in induced production.

In sum, the demand generated from OIST-related economic activities was estimated to be ¥30.761 billion in input and ¥49.166 billion in induced production.



3. Economic Impact of OIST Facility Construction

OIST's graduate program commenced in September 2012 and celebrated its inaugural graduation ceremony in February 2018. Being a relatively new institution, OIST's facility construction project was launched in 2005 and the laboratory buildings and other facilities are still being expanded. OIST's economic effect on the construction industry has a significant impact on the Okinawan economy. Therefore, the economic ripple effects of the capital stock for construction were estimated separately from the flow of university operating expenditures. The cumulative direct effect from 2005 to 2019 was estimated to be ¥52.637 billion. The total effect on the entire nation was estimated at ¥133.701 billion, while the total effect to the Okinawan economy was estimated at ¥87.873 billion.

TABLE:
ECONOMIC IMPACT OF THE CONSTRUCTION ECONOMY ON THE OVERALL JAPANESE
ECONOMY BASED ON THE IO TABLE FOR JAPAN

	Unit: billion yen		
	2005-2017	2018-2019	2005-2019
Direct Effect (Input)	47.810	4.827	52.637
Primary Indirect Impact	45.513	4.744	50.256
Secondary Indirect Impact	28.045	2.763	30.808
Total Impact	121.367	12.334	133.701

TABLE:
ECONOMIC IMPACT OF THE CONSTRUCTION ECONOMY ON THE OVERALL JAPANESE
ECONOMY BASED ON THE IO TABLE FOR OKINAWA PREFECTURE

	Unit: billion yen		
	2005-2017	2018-2019	2005-2019
Direct Effect (Input)	47.810	4.827	52.637
Primary Indirect Impact	15.001	1.566	16.567
Secondary Indirect Impact	17.043	1.627	18.669
Total Impact	79.853	8.020	87.873

4. List of Economic Impact key indicators

The main results on economic impact throughout the country and economic effects of Okinawa Prefecture and Onna village are summarized in the table below.

Production inducement effect (Unit: billion yen)

	FY2017		when number of faculty is 100	
	Production inducement	Gross added value Induced	Production inducement	Gross added value Induced
Nationwide	43.003	21.069	69.051	35.069
Okinawa prefecture	30.670	16.734	49.166	27.386
Onna village (million yen)	367.5	156.7	589.2	328.2

Employment (Unit: person)

	FY2017			when number of faculty is 100		
	Nationwide	Okinawa prefecture	Onna village	Nationwide	Okinawa prefecture	Onna village
Number of employment inductions	4,074	2,902	39.9	6,542	4,658	64.0

Tax Revenue (Unit: billion yen)

	FY2017			when number of faculty is 100		
	Nationwide	Okinawa prefecture	Onna village (million yen)	Nationwide	Okinawa prefecture	Onna village (million yen)
Tax Revenue	1.159	1.449	160.2	2.106	2.946	262.5

5. Economic Impacts on the Okinawan Economy and Consequential Economic Impacts on the National Economy

The economic effects of OIST’s presence on Okinawa and Japan were estimated as follows: new demands created within Okinawa Prefecture had the effect of increasing demand in the Okinawan economy by 1.63 times. At the same time, new demands created in Okinawa had economic impact on the national economy, increasing demand in the Japanese economy by 2.28 times and in the Okinawan economy by 1.63 times.

- (1) Expenditures for Education & Research (University’s operating expenses): $2.30 - 1.61 = 0.69$
- (2) Living Expenditures of Faculty and Staff (household consumption): $2.18 - 1.65 = 0.53$
- (3) Student Expenditures (household consumption): $2.06 - 1.68 = 0.38$
- (4) Others (visits by elementary, middle and high school students, open campuses, academic conferences, MICE, etc.) $2.25 - 1.73 = 0.52$
- (5) Facility construction expenditures (based on Construction IO Tables; cumulative expenditures through for FY2017) $2.60 - 1.65 = 0.95$
- Total of Induced Effects (1) – (5): $2.28 - 1.63 = 0.65$

