

Research Material 156

# Survey on Postdoctoral Fellows and Research Assistants (FY2006 Data)

August 2008

Keiji SAITO, Toshiyuki MISU, Hideyuki TSUNODA  
1st Policy-Oriented Research Group  
National Institute of Science and Technology Policy (NISTEP)

in cooperation with

Knowledge Infrastructure Policy Division Science and Technology Policy Bureau  
Ministry of Education, Culture, Sports, Science and Technology (MEXT) JAPAN

“Survey on Postdoctoral Fellows and  
Research Assistants (FY2006 Data)”

August 2008

Keiji SAITO, Toshiyuki MISU, Hideyuki TSUNODA  
1st Policy-Oriented Research Group  
National Institute of Science and Technology Policy (NISTEP)

in cooperation with

Knowledge Infrastructure Policy Division Science and Technology Policy Bureau  
Ministry of Education, Culture, Sports, Science and Technology (MEXT) JAPAN

# Survey on Postdoctoral Fellows and Research Assistants (FY2006 Data)

## -Table of Contents-

### [Summary]

### [Preface]

### [Main Body]

<b>1 Objective and Methods of Survey .....</b>	<b>1</b>
1.1 Objectives .....	1
1.2. Methods, Period, and Organizations Surveyed.....	1
1.3. Subjects of Survey.....	2
<b>2. Survey Results.....</b>	<b>3</b>
2.1. Overview.....	3
2.2. Employment of Postdoctoral Fellows.....	4
[1] Overview of Postdoctoral Fellows.....	4
[2] Postdoctoral Fellows by Research Field.....	9
[3] Proportion of New Doctorates in Postdoctoral Fellows (New Survey Item) .....	13
2.3. Financially Supported Doctoral Students.....	16
[1] Overview of Financially Supported Doctoral Students.....	16
[2] Financially Supported Doctoral Students by Research Field.....	20
[3] Pay-scale breakdown of Financially Supported Doctoral Students.....	24
<b>3. Conclusions.....</b>	<b>27</b>
3.1. Employment of Postdoctoral Fellows.....	27
3.2. Financially Supported Doctoral Students.....	29
Summary Table (Results of FY2006).....	31
Acknowledgement.....	32
Division of Roles in Survey Work.....	32

### [Appendix]

#### Appendix 1: Questionnaire

#### Appendix 2: Entry Guide

## List of Tables and Figures

Table 1-2-1	Number of Organizations Surveyed and Response Rate (2007 Survey for Results of FY2006).....	1
Figure 2-1-1	Transition of Persons in Employment.....	3
Figure 2-2-1	Breakdown of Postdoctoral Fellows by Type of Organization (Results of FY2006).....	4
Table 2-2-1	Transition of Breakdown of Postdoctoral Fellows by Type of Organization.....	4
Figure 2-2-2	Breakdown of Postdoctoral Fellows by Source of Funding (Results of FY2006).....	5
Table 2-2-2	Transition of Postdoctoral Fellows by Source of Funding.....	5
Figure 2-2-3	Age Distribution of Postdoctoral Fellows (Results of FY2006).....	6
Table 2-2-3	Transition of Age Distribution of Postdoctoral Fellows.....	6
Figure 2-2-4	Male-Female Ratio of Postdoctoral Fellows (Results of FY2006) .....	7
Table 2-2-4	Transition of Male-Female Ratio of Postdoctoral Fellows.....	7
Figure 2-2-5	Postdoctoral Fellows Covered by Social Insurance [Paid by Employer]by Type of Organization (Results of FY2006).....	8
Table 2-2-5	Transition of Postdoctoral Fellows Covered by Social Insurance (Paid by Employer) by Type of Organization.....	8
Figure 2-2-6	Number of Postdoctoral Fellows by Research Field (Results of FY2006).....	9
Table 2-2-6	Transition of Postdoctoral Fellows by Research Field.....	9
Figure 2-2-7	Age Distribution of Postdoctoral Fellows by Research Field (Results of FY2006).....	10
Table 2-2-7	Transition of Age Distribution of Postdoctoral Fellows by Research Field.....	10
Figure 2-2-8	Male-Female Ratio of Postdoctoral Fellows by Research Field (Results of FY2006) .....	11
Table 2-2-8	Transition of Male-Female Ratio of Postdoctoral Fellows by Research Field.....	11
Figure 2-2-9	Proportion of Foreign Postdoctoral Fellows by Research Field (Results of FY2006) .....	12
Table 2-2-9	Transition of Proportion of Foreign Postdoctoral Fellows by Research Field.....	12
Figure 2-2-10	Proportion of New Doctorates in Postdoctoral Fellows by Type of Organization (Results of FY2006).....	13
Figure 2-2-11	Proportion of New Doctorates in Postdoctoral Fellows by Source of Funding (Results of FY2006).....	14
Figure 2-2-12	Proportion of New Doctorates in Postdoctoral Fellows by Research Field (Results of FY2006).....	15
Figure 2-3-1	Breakdown of Financially Supported Doctoral Students by Type of Organization (Results of FY2006).....	16
Table 2-3-1	Transition of Breakdown of Financially Supported Doctoral Students by Type of Organization.....	16
Figure 2-3-2	Breakdown of Financially Supported Doctoral Students by Source of Funding (Results of FY2006).....	17
Table 2-3-2	Transition of Breakdown of Financially Supported Doctoral Students by Source of Funding .....	17
Figure 2-3-3	Age Distribution of Financially Supported Doctoral Students (Results of FY2006) .....	18
Table 2-3-3	Transition of Age Distribution by Financially Supported Doctoral Students.....	18
Figure 2-3-4	Male-Female Ratio of Financially Supported Doctoral Students (Results of FY2006).....	19
Table 2-3-4	Transition of Male-Female Ratio of Financially Supported Doctoral Students.....	19
Figure 2-3-5	Breakdown of Financially Supported Doctoral Students by Research Field (Results of FY2006).....	20
Table 2-3-5	Transition of Breakdown of Financially Supported Doctoral Students by Research Field.....	20
Figure 2-3-6	Age Distribution of Financially Supported Doctoral Students by Research Field (Results of FY2006).....	21
Table 2-3-6	Transition of Age Distribution of Financially Supported Doctoral Students by Research Field.....	21
Figure 2-3-7	Male-Female Ratio of Financially Supported Doctoral Students by Research Field (Results of FY2006).....	22
Table 2-3-7	Transition of Male-Female Ratio of Financially Supported Doctoral Students by Research Field.....	22
Figure 2-3-8	Proportion of Financially Supported Foreign Doctoral Students by Research Field (Results of FY2006).....	23
Table 2-3-8	Transition of Proportion of Financially Supported Foreign Doctoral Students by Research Field.....	23
Figure 2-3-9	Breakdown of Pay Scales of Financially Supported Doctoral Students (Results of FY2006).....	24
Table 2-3-9	Transition of Breakdown of Pay Scales of Financially Supported Doctoral Students.....	24
Figure 2-3-10	Pay Scale of Financially Supported Doctoral Students by Source of Funding (Results of FY2006) .....	25
Table 2-3-10	Transition of Pay Scale of Financially Supported Doctoral Students by Source of Funding.....	25
Figure 2-3-11	Pay Scale of Financially Supported Doctoral Students by Research Field (Results of FY2006).....	26
Table 2-3-11	Transition of Pay Scale of Financially Supported Doctoral Students by Research Field.....	26

# Summary

This survey investigated the total number\* of persons (Postdoctoral Fellows, Financially Supported Doctoral Students, and Others) who were employed for a fixed period in fiscal year 2006 (from April 2006 to March 2007) by external/internal funds and were engaged in research activities. In October 2007, questionnaires were sent to 1,211 universities and colleges and other research organizations, of which replies were received from 1,041 organizations (response rate: 86%).

The main results in this report are summarized below.

## (1) Overview

- The total number of Postdoctoral Fellows was 16,394 persons. This represented an increase of 5.8% from the 15,496 persons in the results of FY2005.
- The total number of Financially Supported Doctoral Students was 38,563 persons. This represented an increase of 6.7% from the 36,154 persons in the results of FY2005.

## (2) Condition of employment/support by source of funding

- Postdoctoral Fellows, the largest number, 46%, were employed using Competitive Funds and Other External Funds, followed by 31% who were employed using the subsidies and other internal funds.
- Financially Supported Doctoral Students, the largest number, 58%, were supported using Subsidies and Other Internal Funds.

## (3) Employment/support by field

- Postdoctoral Fellows, the largest percentage (39%) was in the Life Sciences field.
- Financially Supported Doctoral Students, the largest percentage (33%) was in the Life Sciences field, followed by Humanities and Social Science (20%).

## (4) Male/female ratio

- The percentage of female Postdoctoral Fellows was 23%. This percentage of 40 years and older is 31%.
- The percentage of female Financially Supported Doctoral Students was 26%. The percentage tended to increase with age, and was 50% for persons 40 years and older.

## (5) Proportion of foreigners

- The percentage of foreign Postdoctoral Fellows was 24%.
- The percentage of foreign Financially Supported Doctoral Students was 22%.

## (6) New Doctorates among Postdoctoral Fellows

- New Doctorates (completed in FY2005) accounted for 15% of Postdoctoral Fellows.

## (7) Pay-scale breakdown of Financially Supported Doctoral Students

- Excluding persons whose pay scale was unknown, the percentage of persons receiving less than ¥50,000/month from one financial source was 53%. The percentage of persons receiving less than ¥150,000 was 80%.

---

\* Because this survey investigated the total number of persons during the reference year, there is a possibility of overlapping counts in some cases. For example, when subjects received support from more than one source or changed institutes in FY2006.

## Preface

In order to promote the development of science and technology in Japan and maintain and strengthen the country's international competitiveness in the future, it is important to secure and train creative/original human resources in the sciences and technology. To this end, Japan has endeavored to expand the class of young researchers through support policies for Postdoctoral Fellows under the First and Second Science and Technology Basic Plans, and to provide a research environment in which it is possible for outstanding young researchers to demonstrate their capabilities to the fullest extent. As a result of the implementation of these support programs, the number of Postdoctoral Fellows and other young researchers has increased steadily, making a substantial contribution to the development of research activities in Japan.

On the other hand, it has also been pointed out that the career paths after postdoctoral fellows are unclear. Therefore, the Third Science and Technology Basic Plan recommended "to consider Postdoctoral Fellows as persons in a preparatory stage for becoming researchers who are capable of conducting research independently, and to bring transparency to the process of hiring young researchers and provide support for their independence," and "to promote career support for Postdoctoral Fellows including advancement outside of academic research positions."

For implementation of programs to support independence and promote diverse career paths for Postdoctoral Fellows as proposed in the Third Science and Technology Basic Plan, it is important to understand the actual status of Postdoctoral Fellows. Therefore, 1<sup>st</sup> Policy-Oriented Research Group of the National Institute of Science and Technology Policy (NISTEP), which is part of the Ministry of Education, Culture, Sports, Science and Technology (MEXT), in cooperation with the Knowledge Infrastructure Policy Division of the Science and Technology Policy Bureau in MEXT, has conducted the surveys of the actual number of Postdoctoral Fellows in universities and colleges, public research institutes, and other organizations.

In addition to the past survey items, this year's survey investigated the number of persons who had newly completed doctoral degrees (including those who withdrew upon completing the required number of years for the doctoral degree). As a result, it is now possible to assess the inflow of new human resources to the population of Postdoctoral Fellows in Japan.

# 1. Objective and Methods of Survey

## 1.1. Objective

The objective of this survey is to provide information for designing support programs for researchers in the future by determining the total number of Postdoctoral Fellows engaged in research at universities and colleges, public research institutes, and other organizations, and the total number of persons receiving employment-type financial support and other types of support (Financially Supported Doctoral Students) among persons registered in doctoral courses.

To this end, the survey investigated the numbers and attributes of Postdoctoral Fellows employed under fixed term contracts with support using Competitive Funds and Other External Funds, subsidies, or other internal funds of the institution concerned, at universities and colleges, public research institutes, etc., and Financially Supported Doctoral Students who received support in the form of benefits based on employment, etc.

## 1.2. Methods, Period, and Organizations Surveyed

Questionnaires<sup>1</sup> (see Reference 1) were sent to universities and colleges and research institutes (including designated private corporations for Grants-in-Aid for Academic Research), which were asked to indicate the numbers of persons supported by competitive funds or other sources, classified as (1) Postdoctoral Fellows<sup>2</sup>, (2) Financially Supported Doctoral Students, and (3) Others. Replies were returned by electronic media.

For the result of FY2006, the questionnaires were distributed to all of the organizations being surveyed in the latter part of October 2007, with February 15, 2008 as the deadline for replies. However, in an effort to obtain as many responses as possible, this deadline was extended for organizations. (the final deadline was extended to April 2008). Questionnaires were distributed to a total of 1,211 organizations, and responses were received from 1,041 organizations (including those which replied “not applicable”). Thus, the response rate was 86.0%.<sup>3</sup>

Table 1–2–1 Number of Organizations Surveyed and Response Rate (2007 Survey for Results of FY2006)

by Organaization	FY2004	FY2005	FY2006
Universities and Colleges	8,484 (57.1%)	9,562 (61.7%)	10,743 (65.5%)
National University Corporation	6,297 (42.4%)	7,196 (46.4%)	8,033 (49.0%)
Municipal and Prefectural Universities and Colleges	192 (1.3%)	165 (1.1%)	199 (1.2%)
Private Universities and Colleges	1,468 (9.9%)	1,574 (10.2%)	1,867 (11.4%)
Inter-university Research Institute Corporations	527 (3.5%)	627 (4.0%)	644 (3.9%)
Independent Administrative Agencies	5,695 (38.3%)	5,371 (34.7%)	5,000 (30.5%)
National Experimental Research Institutions	72 (0.5%)	170 (1.1%)	228 (1.4%)
Public Experimental Research Institutions	56 (0.4%)	51 (0.3%)	61 (0.4%)
Public-interest Corporations	264 (1.8%)	310 (2.0%)	261 (1.6%)
Private Corporations	283 (1.9%)	32 (0.2%)	101 (0.6%)
<b>Total</b>	<b>14,854 (100.0%)</b>	<b>15,496 (100.0%)</b>	<b>16,394 (100.0%)</b>

(unit: persons, The percentage in parentheses is the share of each fiscal year.)

1 In this survey, Independent Administrative Agencies, public-interest corporations, public experimental research institutions (laboratories established by local public entities), and private corporations are defined as organizations approved by the Minister of Education, Culture, Sports, Science and Technology (MEXT) to apply for Grants-in-Aid for Academic Research.

2 As subjects of the survey, “Postdoctoral Fellows” includes cases in which a salary or the like is not paid (i.e., persons not in an employment relationship), but who have been accepted based on written internal regulations, etc.

3 In the FY2005 and 2006 surveys, the response rates for all organizations surveyed were 74.0% and 74.8%, respectively. For universities, the response rates for the years were 85.7% and 87.0% respectively. Responses were received on a continuing basis from organizations which were thought to have a large number of survey subjects. However, the increase in the response rate is considered to be one factor contributing to changes in the survey results over time.

### 1.3. Subjects of Survey

The subjects of this survey were persons engaged in research, classified as “Postdoctoral Fellows,” “Financially Supported Doctoral Students,” and “Others,” as defined below. For convenience, these are referred to collectively as “Persons in Employment.”<sup>4</sup>

#### **I. Postdoctoral Fellows**

Those who, after completed doctorates, (1) engage in research activities at a research organization such as a university, not as a professor, an associate professor, an assistant professor, or the like, or (2) engage in research activities at a research organization such as an independent administrative agency, assigned to the position for a fixed term and are not in a position such as a leader or a chief researcher of their research group. Both (1) and (2) Include those who have terminated their student status but have been a graduate student for a period exceeding the required number of years for completing a doctoral course and have obtained the required credits (generally referred to as “withdrawals upon obtaining required credits”).

#### **II Financially Supported Doctoral Students**

It means Doctoral students who receive financial support from universities and other organizations. Financial support here means those with benefits paid. Scholarships with repayment obligation offered by the Japan Student Services Organization and loan-type scholarships offered by incorporated foundations and the university itself are not included.

#### **III Others**

Those other than the above I and II, including those who perform research assistant work and provide technical assistance for a fixed term or are holders of a bachelor’s degree or a master's degree and are engaged in research activities in conformity to postdoctoral programs. (Do not include professors, assistant professors, and assistant professors.)

---

<sup>4</sup> For details regarding the survey subjects, see the Appendix 2, “Entry Guide,”



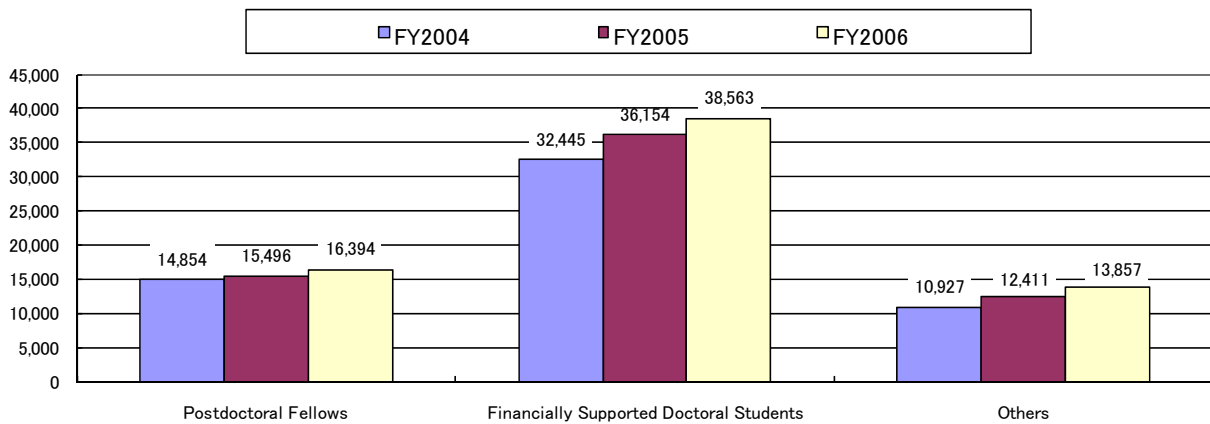
## 2. Survey Results

In order to ascertain the actual number of “Persons in Employment” who were engaged in research activities in each research organization, etc., responses to a questionnaire (see Appendix 1) were obtained. This part shows the status of employment/support of “Postdoctoral Fellows” and “Financially Supported Doctoral Students”.

### 2.1. Overview

The total number<sup>5</sup> of Postdoctoral Fellows (results of FY2006) was 16,394. This was a 5.8% increase from the 15,496 in the results of FY2005. The number of Financially Supported Doctoral Students (results of FY2006) was 38,563<sup>6</sup> or a 6.7% increase from the 36,154 in the results of FY2005. The total numbers of Postdoctoral Fellows and Financially Supported Doctoral Students has shown an increasing tendency over the past 3 years. [Fig. 2-1-1]

Figure 2-1-1 Transition of Persons in Employment



5 Because this survey investigated the total number of Persons in Employment during the reference year, there is a possibility of overlapping counting.

6 According to the School Basic Survey for FY2006 (MEXT), 75,365 persons were registered in graduate school doctoral courses.

## 2.2. Employment of Postdoctoral Fellows

Postdoctoral Fellows who were engaged in research activities at each research organization was investigated. This section shows breakdowns of Postdoctoral Fellows by each attribute.

### [1] Overview of Postdoctoral Fellows

#### (1) Type of Organization

In the breakdown by type of organization (results of FY2006), universities and colleges accounted for the largest share, at 66%, followed by Independent Administrative Agencies, at 31%. The percentage of Postdoctoral Fellows affiliated with universities and colleges has increased since the results of FY2004 (57%, 62%, 66%). [Figure 2-2-1, Table 2-2-1]

Figure 2-2-1 Breakdown of Postdoctoral Fellows by Type of Organization (Results of FY2006)

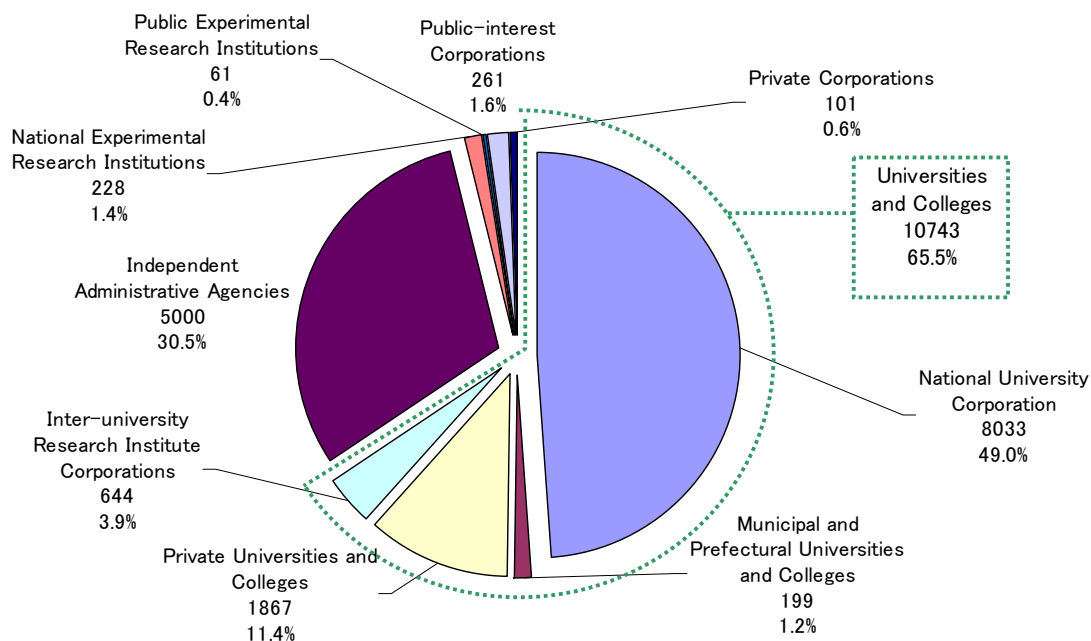


Table 2-2-1 Transition of Breakdown of Postdoctoral Fellows by Type of Organization

by Organaization	FY2004	FY2005	FY2006
Universities and Colleges	8,484 (57.1%)	9,562 (61.7%)	10,743 (65.5%)
National University Corporation	6,297 (42.4%)	7,196 (46.4%)	8,033 (49.0%)
Municipal and Prefectural Universities and Colleges	192 (1.3%)	165 (1.1%)	199 (1.2%)
Private Universities and Colleges	1,468 (9.9%)	1,574 (10.2%)	1,867 (11.4%)
Inter-university Research Institute Corporations	527 (3.5%)	627 (4.0%)	644 (3.9%)
Independent Administrative Agencies	5,695 (38.3%)	5,371 (34.7%)	5,000 (30.5%)
National Experimental Research Institutions	72 (0.5%)	170 (1.1%)	228 (1.4%)
Public Experimental Research Institutions	56 (0.4%)	51 (0.3%)	61 (0.4%)
Public-interest Corporations	264 (1.8%)	310 (2.0%)	261 (1.6%)
Private Corporations	283 (1.9%)	32 (0.2%)	101 (0.6%)
<b>Total</b>	<b>14,854 (100.0%)</b>	<b>15,496 (100.0%)</b>	<b>16,394 (100.0%)</b>

(unit: persons, The percentage in parentheses is the share of each fiscal year.)

(2) Source of Funding

In the breakdown by source of funding (results of FY2006), “Competitive Funds and Other External Funds” accounted for 46% and “Subsidies and Other Internal Funds” accounted for 31%. Since the results of FY2004, the percentages of “Competitive Funds and Other External Funds” and “Subsidies and Other Internal Funds” have shown roughly flat trends at approximately 45% and 31%, respectively. [Figure 2–2–2, Table 2–2–2]

Figure 2–2–2 Breakdown of Postdoctoral Fellows by Source of Funding (Results of FY2006)

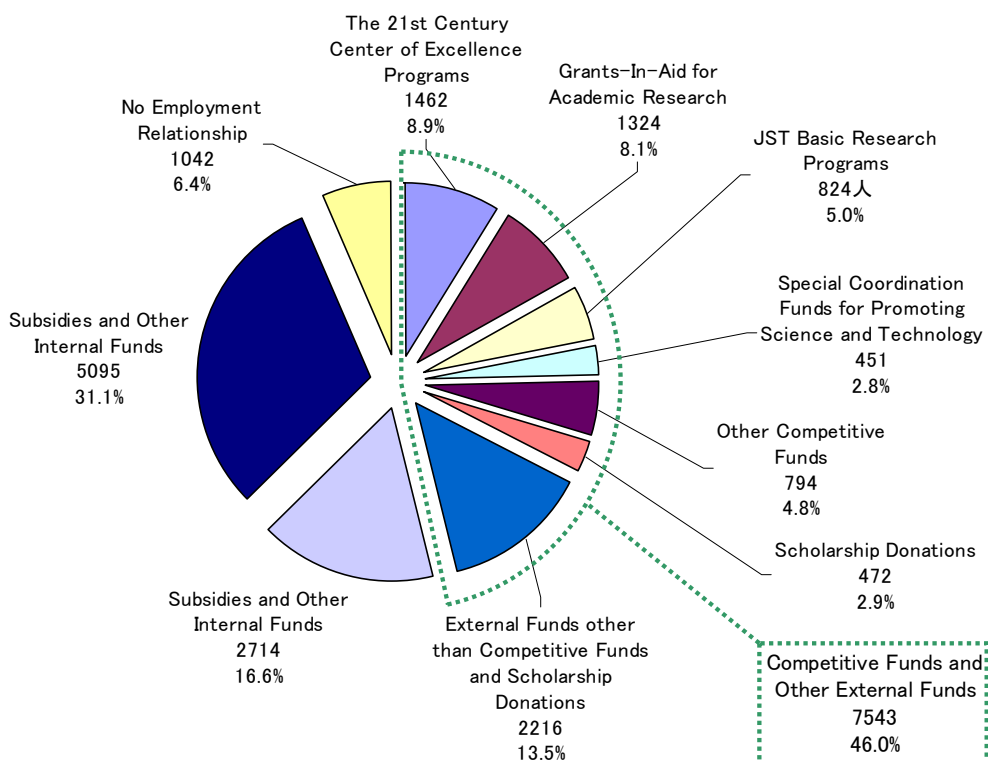


Table 2–2–2 Transition of Postdoctoral Fellows by Source of Funding

by Fund	FY2004	FY2005	FY2006
Competitive Funds and Other External Funds	6,407 (43.1%)	7,317 (47.2%)	7,543 (46.0%)
Competitive Funds	4,579 (30.8%)	4,752 (30.7%)	4,855 (29.6%)
The 21st Century Center of Excellence Programs	1,436 (9.7%)	1,511 (9.8%)	1,462 (8.9%)
Grants-In-Aid for Academic Research	958 (6.4%)	1,163 (7.5%)	1,324 (8.1%)
JST Basic Research Programs	1,231 (8.3%)	1,294 (8.4%)	824 (5.0%)
Special Coordination Funds for Promoting Science and Technology	464 (3.1%)	404 (2.6%)	451 (2.8%)
Other Competitive Funds	490 (3.3%)	380 (2.5%)	794 (4.8%)
Scholarship Donations	256 (1.7%)	394 (2.5%)	472 (2.9%)
External Funds other than Competitive Funds and Scholarship Donatio	1,572 (10.6%)	2,171 (14.0%)	2,216 (13.5%)
Fellowship and Government-sponsored Students.	2,705 (18.2%)	2,766 (17.8%)	2,714 (16.6%)
Subsidies and Other Internal Funds	4,929 (33.2%)	4,663 (30.1%)	5,095 (31.1%)
No Employment Relationship	813 (5.5%)	750 (4.8%)	1,042 (6.4%)
<b>Total</b>	<b>14,854 (100.0%)</b>	<b>15,496 (100.0%)</b>	<b>16,394 (100.0%)</b>

(unit: persons, The percentage in parentheses is the share of each fiscal year.)

(3) Age Distribution

Postdoctoral Fellows in the 30-34 year age group accounted for 44% (results of FY2006), In comparison with males, female Postdoctoral Fellows accounted for higher percentages in the higher age groups. The percentage of Postdoctoral Fellows aged 35 and older has shown a continuing increase since the results of FY2004 (26%, 28%, 29%). [Figure 2-2-3, Table 2-2-3]

Figure 2-2-3 Age Distribution of Postdoctoral Fellows (Results of FY2006)

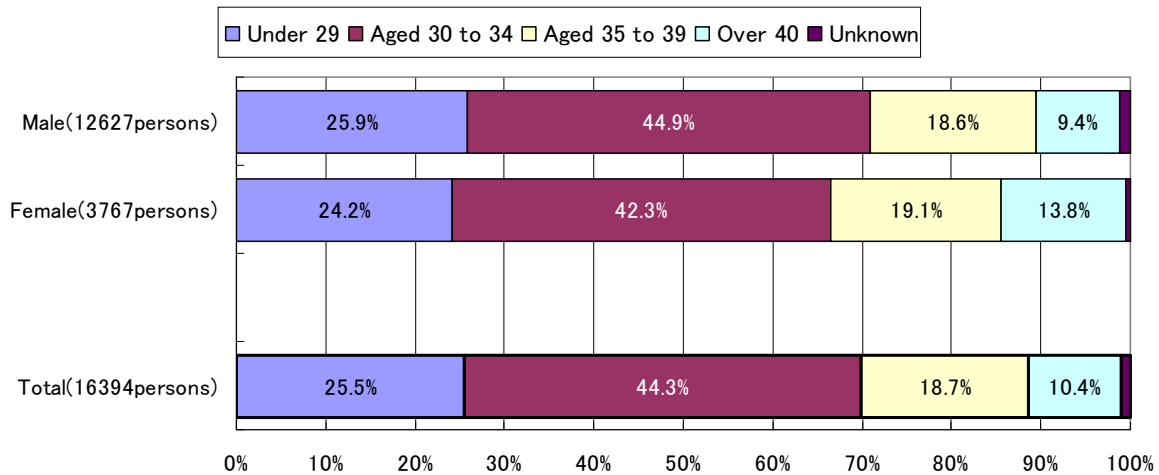


Table 2-2-3 Transition of Age Distribution of Postdoctoral Fellows

by age bracket	FY2004	FY2005	FY2006
Under 29	4,126 (27.8%)	3,985 (25.7%)	4,185 (25.5%)
Aged 30 to 34	6,840 (46.0%)	7,095 (45.8%)	7,268 (44.3%)
Aged 35 to 39	2,442 (16.4%)	2,754 (17.8%)	3,072 (18.7%)
Over 40	1,375 (9.3%)	1,590 (10.3%)	1,706 (10.4%)
Unknown	71 (0.5%)	72 (0.5%)	163 (1.0%)
<b>Total</b>	<b>14,854 (100.0%)</b>	<b>15,496 (100.0%)</b>	<b>16,394 (100.0%)</b>

(unit: persons, The percentage in parentheses is the share of each fiscal year.)

(4) Male-Female Ratio

The percentage of female Postdoctoral Fellows (results of FY2006) was 23%. The percentage of females in Postdoctoral Fellows tends to increase with increasing age. The percentage of females in Postdoctoral Fellows has increased from 21% in the results of FY2004 to 23% in the results of FY2006. [Figure 2-2-4, Table 2-2-4]

Figure 2-2-4 Male-Female Ratio of Postdoctoral Fellows (Results of FY2006)

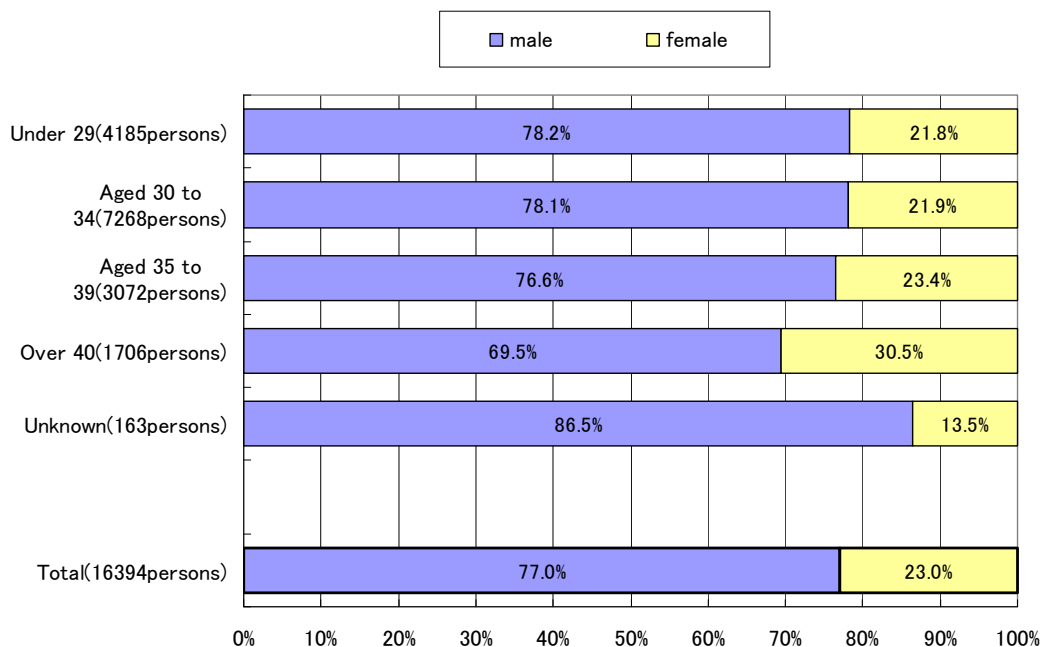


Table 2-2-4 Transition of Male-Female Ratio of Postdoctoral Fellows

by age bracket	FY2004		FY2005		FY2006	
	male	female	male	female	male	female
Under 29	3,280 (79.5%)	846 (20.5%)	3,190 (80.1%)	795 (19.9%)	3,274 (78.2%)	911 (21.8%)
Aged 30 to 34	5,436 (79.5%)	1,404 (20.5%)	5,606 (79.0%)	1,489 (21.0%)	5,675 (78.1%)	1,593 (21.9%)
Aged 35 to 39	1,934 (79.2%)	508 (20.8%)	2,160 (78.4%)	594 (21.6%)	2,352 (76.6%)	720 (23.4%)
Over 40	1,012 (73.6%)	363 (26.4%)	1,167 (73.4%)	423 (26.6%)	1,185 (69.5%)	521 (30.5%)
Unknown	53 (74.6%)	18 (25.4%)	57 (79.2%)	15 (20.8%)	141 (86.5%)	22 (13.5%)
<b>Total</b>	<b>11,715 (78.9%)</b>	<b>3,139 (21.1%)</b>	<b>12,180 (78.6%)</b>	<b>3,316 (21.4%)</b>	<b>12,627 (77.0%)</b>	<b>3,767 (23.0%)</b>

<unit: persons, The percentage in parentheses is the share of each age bracket.>

(5) Persons Covered by Social Insurance [Paid by Employer]

In this survey, the number of persons covered by social insurance<sup>7</sup> (number of persons whose social insurance premiums were paid by the employer) among Persons in Employment. It is an indicator of the number of persons engaged in research activities with working hours close to those of full-time employees.

In the results of FY2006, the percentage of persons covered by social insurance (paid by employer) in all Postdoctoral Fellows was 61%. By type of organization, 48% of those at universities and colleges and 86% of those at Independent Administrative Agencies were covered by social insurance. Looking at the transition since FY2004, the percentage of persons covered by social insurance in all Postdoctoral Fellows has increased from 55% to 58% and 61%. [Figure 2-2-5, Table 2-2-5]

Figure 2-2-5 Postdoctoral Fellows Covered by Social Insurance [Paid by Employer] by Type of Organization (Results of FY2006)

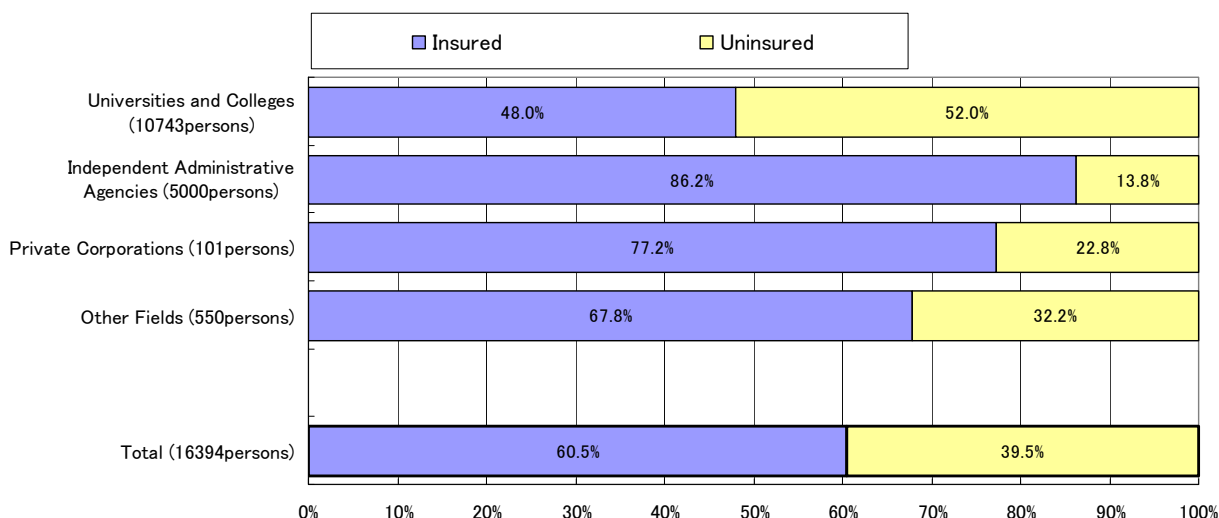


Table 2-2-5 Transition of Postdoctoral Fellows Covered by Social Insurance (Paid by Employer) by Type of Organization

by organization	FY2004		FY2005		FY2006	
	Insured	Uninsured	Insured	Uninsured	Insured	Uninsured
Universities and Colleges	3,404 (40.1%)	5,080 (59.9%)	4,139 (43.3%)	5,423 (56.7%)	5,158 (48.0%)	5,585 (52.0%)
Independent Administrative Agencies	4,318 (75.8%)	1,377 (24.2%)	4,453 (82.9%)	918 (17.1%)	4,311 (86.2%)	689 (13.8%)
Private Corporations	272 (96.1%)	11 (3.9%)	32 (100.0%)	0 (0.0%)	78 (77.2%)	23 (22.8%)
Other organizations	231 (58.9%)	161 (41.1%)	342 (64.4%)	189 (35.6%)	373 (67.8%)	177 (32.2%)
<b>Total</b>	<b>8,225 (55.4%)</b>	<b>6,629 (44.6%)</b>	<b>8,966 (57.9%)</b>	<b>6,530 (42.1%)</b>	<b>9,920 (60.5%)</b>	<b>6,474 (39.5%)</b>

(unit: persons, The percentage in parentheses is the share of each organization.)

<sup>7</sup> This survey tabulates only cases where social insurance premiums were paid by the surveyed organizations. In cases where the prescribed working time are less than approximately 3/4 of those of full-time employees of the organization concerned, and cases where an employment relationship does not exist, such as persons with fellowships, the employer is not obligated to bear the cost of social insurance; therefore, persons in these circumstances are counted as not covered. In addition, when a person is covered by social insurance under an employment relationship with a manpower outsourcing company or the like, the surveyed organization does not bear the cost of social insurance.

## [2] Postdoctoral Fellows by Research Field

In this survey, the classification of research fields was the same as in the FY2005 survey (which investigated the results of FY2004).<sup>8</sup> There are 11 categories based on the Second Science and Technology Basic Plan and others. The 8 priority fields are as follows “Life Sciences,” “Information and Communication Technologies,” “Environment,” “Nanotechnology and Materials,” “Energy,” “Manufacturing,” “Social Infrastructure,” and “Frontiers”. In addition to the 8 priority fields, “Humanities and Social Science,” “Other,” and “Unknown” are added.

### (1) Number of Postdoctoral Fellows by Research Field

The largest percentage of Postdoctoral Fellows by research field (result of FY2006) was in the Life Sciences, at 39%. In comparison with the results of FY2004, the percentage of "Information and Communication Technologies", "Manufacturing", and "Humanities and Social Science" has increased. [Figure 2–2–6, Table 2–2–6]

Figure 2–2–6 Number of Postdoctoral Fellows by Research Field (Results of FY2006)

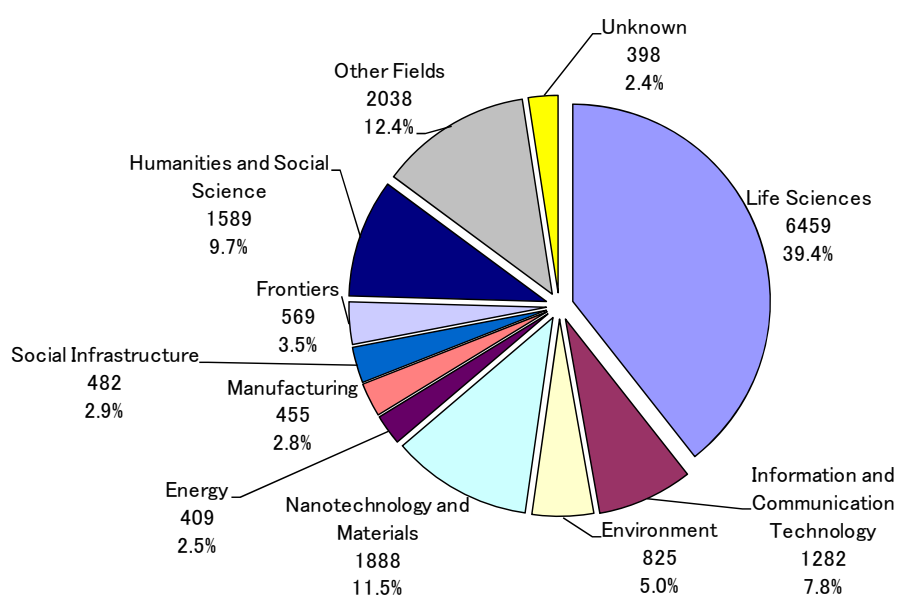


Table 2–2–6 Transition of Postdoctoral Fellows by Research Field

by Research Field	FY2004	FY2006
Life Sciences	6,042 (40.7%)	6,459 (39.4%)
Information and Communication Technology	1,057 (7.1%)	1,282 (7.8%)
Environment	794 (5.3%)	825 (5.0%)
Nanotechnology and Materials	2,091 (14.1%)	1,888 (11.5%)
Energy	527 (3.5%)	409 (2.5%)
Manufacturing	248 (1.7%)	455 (2.8%)
Social Infrastructure	476 (3.2%)	482 (2.9%)
Frontiers	441 (3.0%)	569 (3.5%)
Humanities and Social Science	1,218 (8.2%)	1,589 (9.7%)
Other Fields	1,751 (11.8%)	2,038 (12.4%)
Unknown	209 (1.4%)	398 (2.4%)
<b>Total</b>	<b>14,854 (100.0%)</b>	<b>16,394 (100.0%)</b>

(unit: persons, The percentage in parentheses is the share of each fiscal year.)

<sup>8</sup> Because the classification of fields in the FY2006 Survey (results of FY2005) was “Science,” “Engineering,” “Agriculture,” “Healthcare,” “Humanities and Social Science,” “Other,” and “Unknown,” a comparison with the fields in this year’s survey is not possible.

## (2) Age Distribution by Research Field

In all fields, Postdoctoral Fellows in the 30-34 year age group accounted for the largest percentage among the age groups as classified in this survey. The percentage of Postdoctoral Fellows aged 35 years and older was high in the Life Sciences and low in the Frontiers field. In comparison with the results of FY2004, the percentages of persons aged 35 years and older has increased in “Humanities and Social Science” and “Nanotechnology and Materials.” [Figure 2-2-7, Table 2-2-7]

Figure 2-2-7 Age Distribution of Postdoctoral Fellows by Research Field (Results of FY2006)

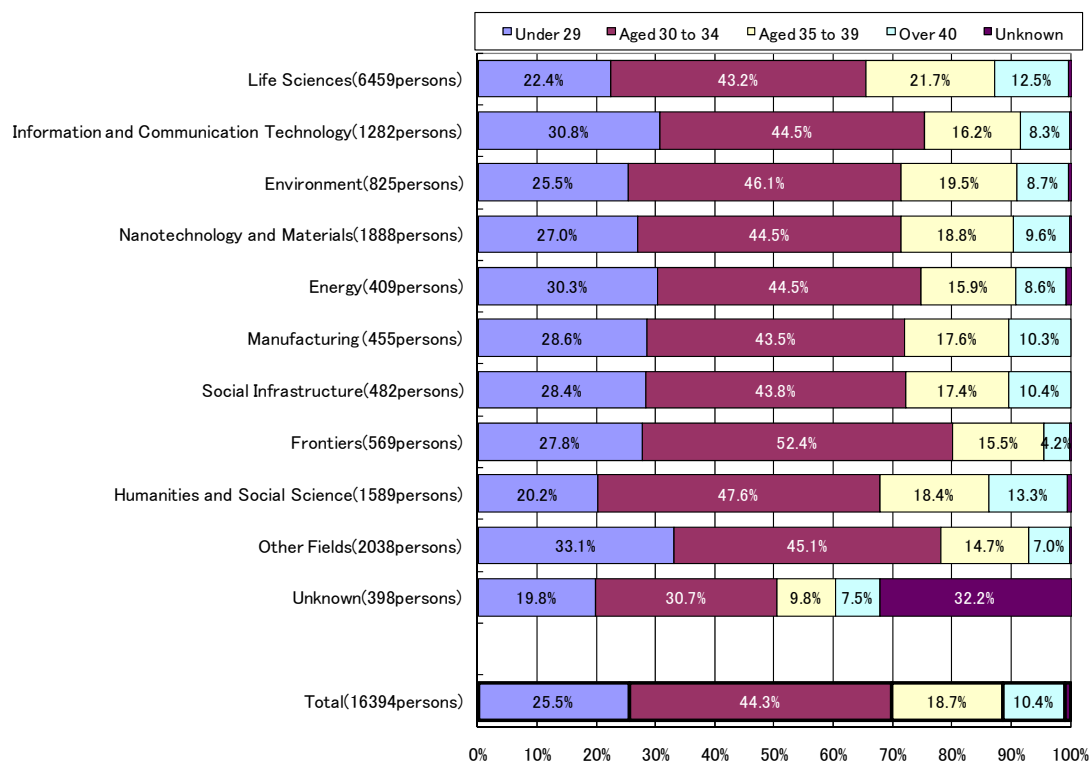


Table 2-2-7 Transition of Age Distribution of Postdoctoral Fellows by Research Field

by Research Field	FY2004		FY2006	
	Under 34	Over 34	Under 34	Over 34
Life Sciences	4,301 (71.2%)	1,691 (28.0%)	4,237 (65.6%)	2,204 (34.1%)
Information and Communication Technology	789 (74.6%)	267 (25.3%)	966 (75.4%)	315 (24.6%)
Environment	559 (70.4%)	234 (29.5%)	590 (71.5%)	233 (28.2%)
Nanotechnology and Materials	1,546 (73.9%)	542 (25.9%)	1,350 (71.5%)	537 (28.4%)
Energy	389 (73.8%)	138 (26.2%)	306 (74.8%)	100 (24.4%)
Manufacturing	168 (67.7%)	80 (32.3%)	328 (72.1%)	127 (27.9%)
Social Infrastructure	353 (74.2%)	123 (25.8%)	348 (72.2%)	134 (27.8%)
Frontiers	364 (82.5%)	77 (17.5%)	456 (80.1%)	112 (19.7%)
Humanities and Social Science	935 (76.8%)	274 (22.5%)	1,077 (67.8%)	504 (31.7%)
Other Fields	1,406 (80.3%)	344 (19.6%)	1,594 (78.2%)	443 (21.7%)
Unknown	156 (74.6%)	47 (22.5%)	201 (50.5%)	69 (17.3%)
<b>Total</b>	<b>10,966 (73.8%)</b>	<b>3,817 (25.7%)</b>	<b>11,453 (69.9%)</b>	<b>4,778 (29.1%)</b>

(unit: persons, The percentage in parentheses is the share of each age bracket.)



### (3) Male-Female Ratio by Research Field

The highest percentages of female Postdoctoral Fellows (results of FY2006) were in the Humanities and Social Science, at 39%, followed by the Life Sciences, at 30%. In comparison with the results of FY2004, the percentage of females has increased in all research fields except Information and Communication Technologies and Social Infrastructure. [Figure 2-2-8, Table 2-2-8]

Figure 2-2-8 Male-Female Ratio of Postdoctoral Fellows by Research Field (Results of FY2006)

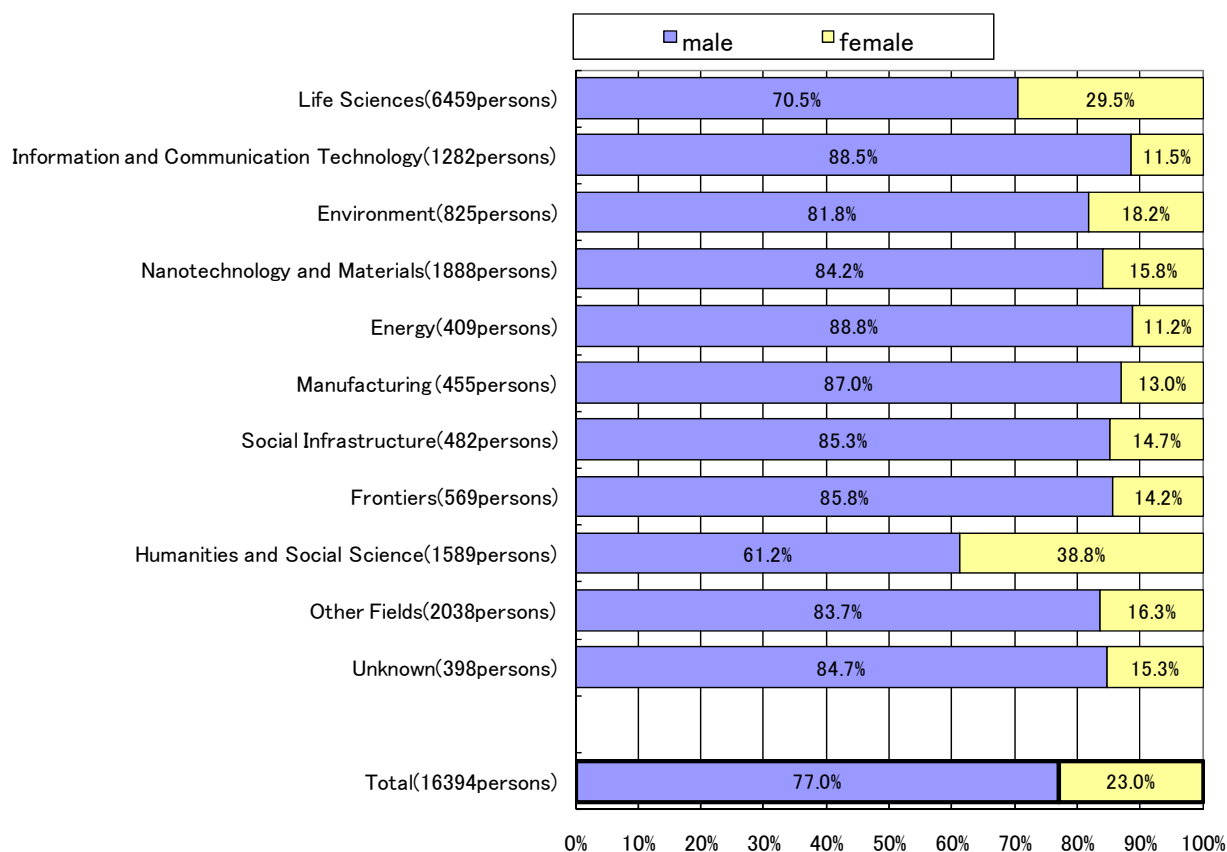


Table 2-2-8 Transition of Male-Female Ratio of Postdoctoral Fellows by Research Field

by Research Field	FY2004		FY2006	
	male	female	male	female
Life Sciences	4,350 (72.0%)	1,692 (28.0%)	4,555 (70.5%)	1,904 (29.5%)
Information and Communication Technology	928 (87.8%)	129 (12.2%)	1,135 (88.5%)	147 (11.5%)
Environment	655 (82.5%)	139 (17.5%)	675 (81.8%)	150 (18.2%)
Nanotechnology and Materials	1,872 (89.5%)	219 (10.5%)	1,589 (84.2%)	299 (15.8%)
Energy	470 (89.2%)	57 (10.8%)	363 (88.8%)	46 (11.2%)
Manufacturing	225 (90.7%)	23 (9.3%)	396 (87.0%)	59 (13.0%)
Social Infrastructure	393 (82.6%)	83 (17.4%)	411 (85.3%)	71 (14.7%)
Frontiers	390 (88.4%)	51 (11.6%)	488 (85.8%)	81 (14.2%)
Humanities and Social Science	773 (63.5%)	445 (36.5%)	973 (61.2%)	616 (38.8%)
Other Fields	1,491 (85.2%)	260 (14.8%)	1,705 (83.7%)	333 (16.3%)
Unknown	168 (80.4%)	41 (19.6%)	337 (84.7%)	61 (15.3%)
<b>Total</b>	<b>11,715 (78.9%)</b>	<b>3,139 (21.1%)</b>	<b>12,627 (77.0%)</b>	<b>3,767 (23.0%)</b>

(unit: persons, The percentage in parentheses is the share of each reearch field.)

#### (4) Proportion of Foreigners by Field

The proportion of foreigners among Postdoctoral Fellows was 24%. The highest percentage of foreigners was in Nanotechnology and Materials (38%), followed by Information and Communication Technologies (34%). The percentage of foreigners in Postdoctoral Fellows has remained flat since the results of FY2004, at 24%. [Figure 2-2-9, Table 2-2-9]

Figure 2-2-9 Proportion of Foreign Postdoctoral Fellows by Research Field (Results of FY2006)

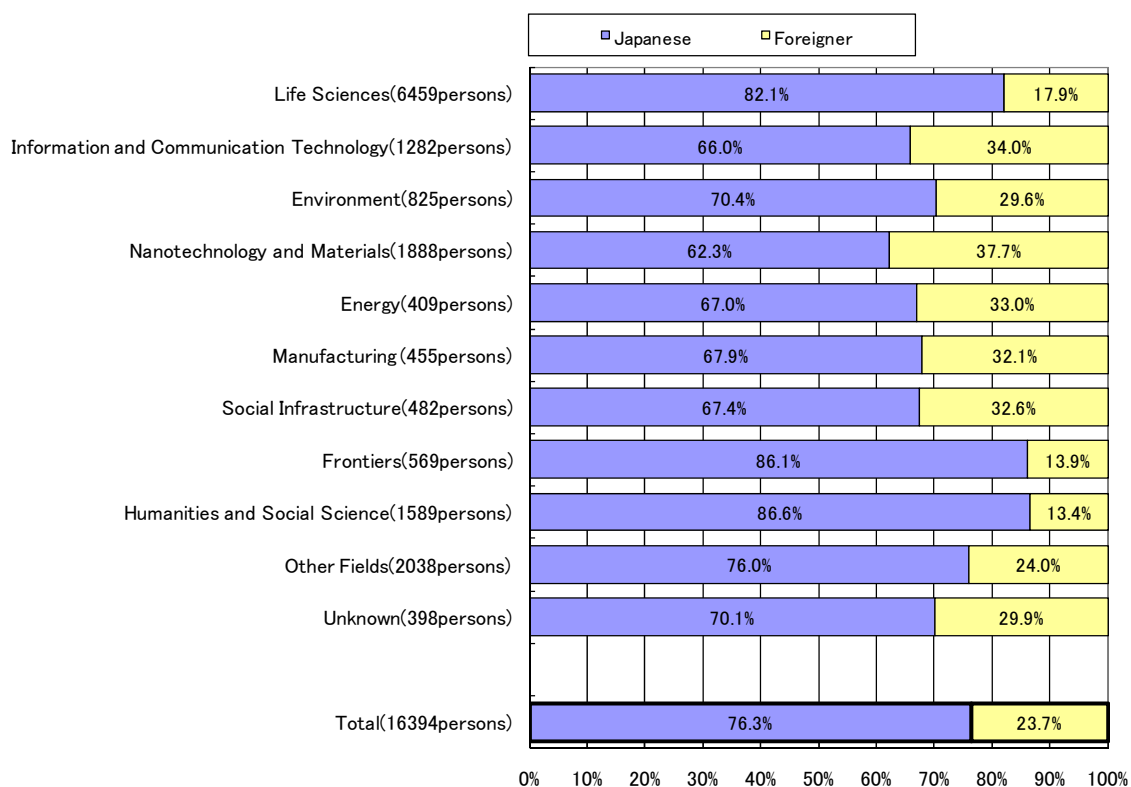


Table 2-2-9 Transition of Proportion of Foreign Postdoctoral Fellows by Research Field

by Research Field	FY2004		FY2006	
	Japanese	Foreigner	Japanese	Foreigner
Life Sciences	4,995 (82.7%)	1,047 (17.3%)	5,300 (82.1%)	1,159 (17.9%)
Information and Communication Technology	736 (69.6%)	321 (30.4%)	846 (66.0%)	436 (34.0%)
Environment	569 (71.7%)	225 (28.3%)	581 (70.4%)	244 (29.6%)
Nanotechnology and Materials	1,361 (65.1%)	730 (34.9%)	1,177 (62.3%)	711 (37.7%)
Energy	350 (66.4%)	177 (33.6%)	274 (67.0%)	135 (33.0%)
Manufacturing	139 (56.0%)	109 (44.0%)	309 (67.9%)	146 (32.1%)
Social Infrastructure	316 (66.4%)	160 (33.6%)	325 (67.4%)	157 (32.6%)
Frontiers	374 (84.8%)	67 (15.2%)	490 (86.1%)	79 (13.9%)
Humanities and Social Science	1,042 (85.6%)	176 (14.4%)	1,376 (86.6%)	213 (13.4%)
Other Fields	1,320 (75.4%)	431 (24.6%)	1,549 (76.0%)	489 (24.0%)
Unknown	145 (69.4%)	64 (30.6%)	279 (70.1%)	119 (29.9%)
<b>Total</b>	<b>11,347 (76.4%)</b>	<b>3,507 (23.6%)</b>	<b>12,506 (76.3%)</b>	<b>3,888 (23.7%)</b>

(unit: persons, The percentage in parentheses is the share of each reearch field.)

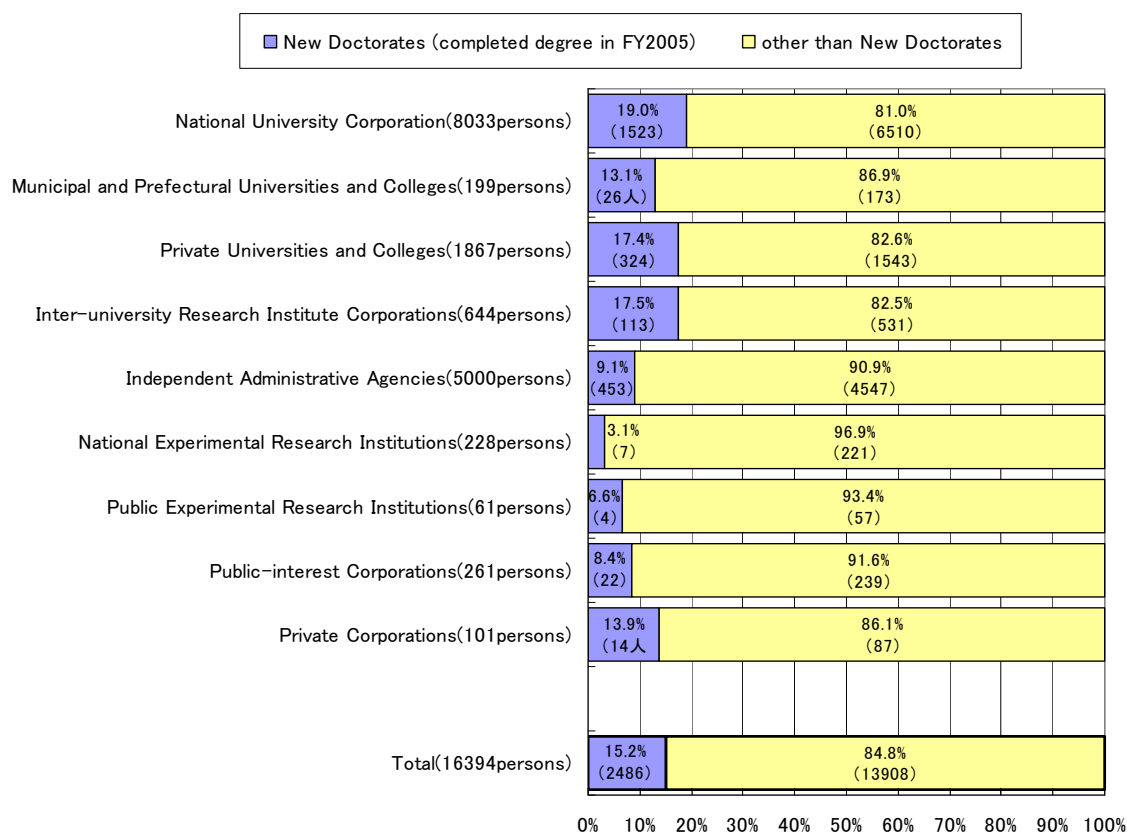
### [3] Proportion of New Doctorates in Postdoctoral Fellows (New Survey Item)

In this year's survey, the number of persons who completed new doctorates (completed degree in FY2005) among Postdoctoral Fellows was investigated by adding the item "New Doctorates (persons completing doctorate during the previous FY)" to the survey of Postdoctoral Fellows. "New Doctorates" in this survey mean persons who completed their doctorates during the year prior to the reference fiscal year, including persons classified as "Withdrawal upon obtaining required credits." The addition of this survey item made it possible to assess the inflow of new doctorates into the population of Postdoctoral Fellows.

#### (1) Overview of New Doctorates

New Doctorates accounted for 15% of Postdoctoral Fellows (results of FY2006). By type of organization, the highest percentage of New Doctorates (19%) was at National University Corporations. [Figure 2-2-10]

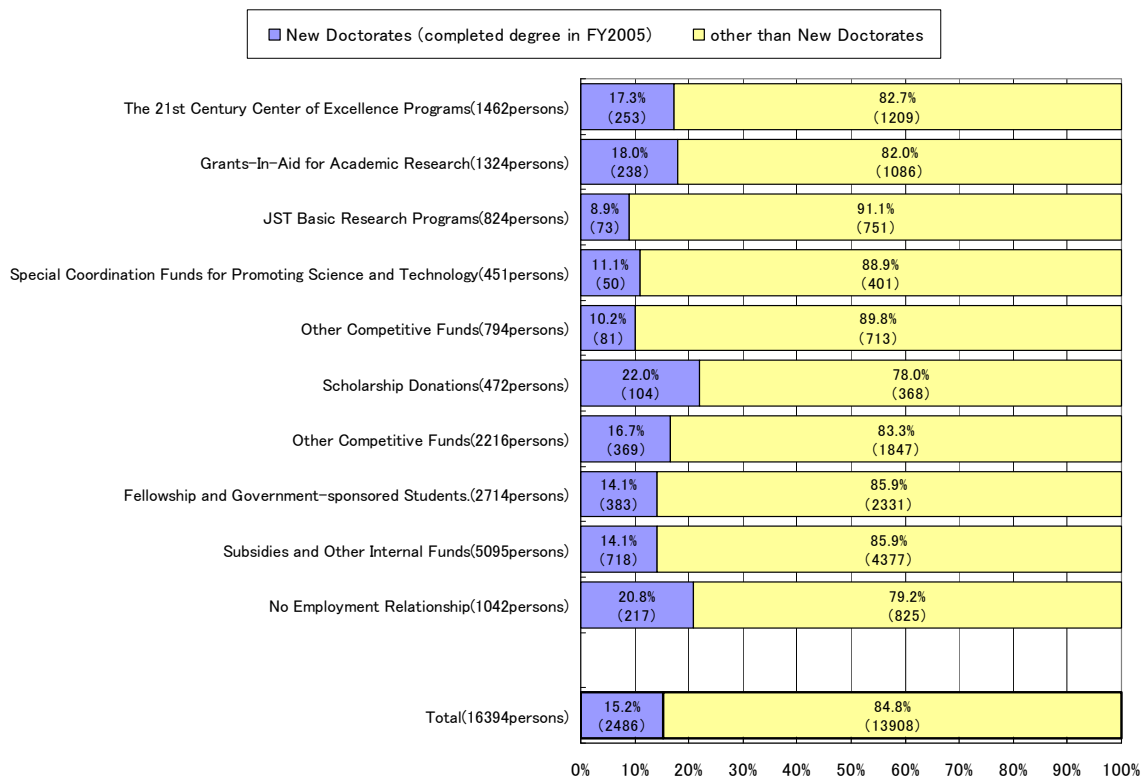
Figure 2-2-10 Proportion of New Doctorates in Postdoctoral Fellows by Type of Organization (Results of FY2006)



(2) Employment by Source of Funding

In comparison with all Postdoctoral Fellows, New Doctorates (completed degree in FY2005) had a high percentage of scholarship donations as their source of funding. [Figure 2–2–11]

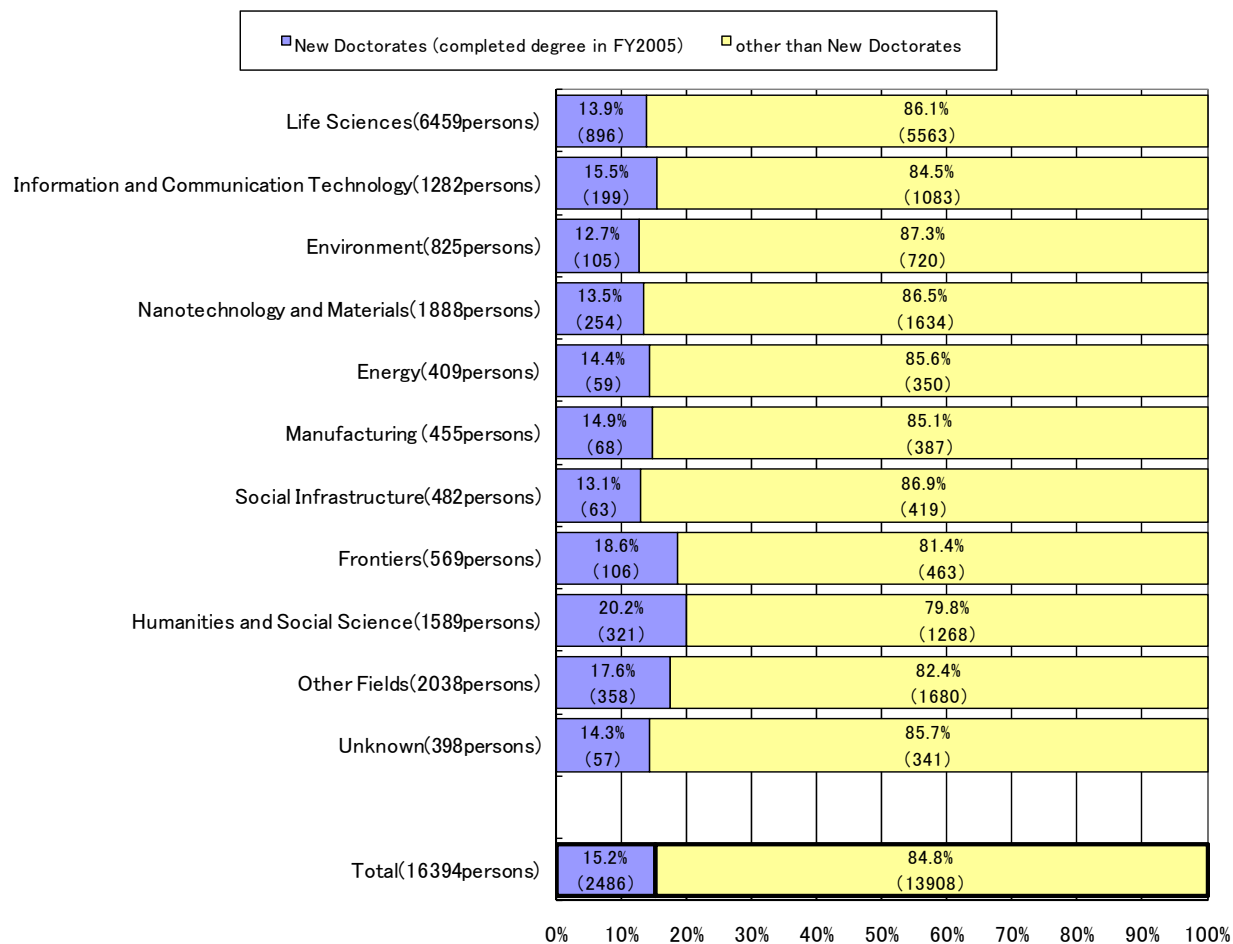
Figure 2–2–11 Proportion of New Doctorates in Postdoctoral Fellows by Source of Funding (Results of FY2006)



(3) Research Fields

The largest percentage of New Doctorates among Postdoctoral Fellows (results of FY2006) was in the field of Humanities and Social Science, at 20%. [Figure 2–2–12]

Figure 2–2–12 Proportion of New Doctorates in Postdoctoral Fellows by Research Field (Results of FY2006)



## 2.3. Financially Supported Doctoral Students

Financially Supported Doctoral Students<sup>9</sup> who received financial support in the form of benefits from universities and colleges were investigated. This section shows breakdowns of Financially Supported Doctoral Students by each attribute.

### [1] Overview of Financially Supported Doctoral Students

#### (1) Type of Organization

By type of organization (results of FY2006), the largest number of Financially Supported Doctoral Students was at National University Corporations (79%), followed by Private Universities and Colleges (17%). The percentage at Private Universities and Colleges has increased from 13% in the results of FY2004 to 17% in the results of FY2006. [Figure 2-3-1, Table 2-3-1]

Figure 2-3-1 Breakdown of Financially Supported Doctoral Students by Type of Organization  
(Results of FY2006)

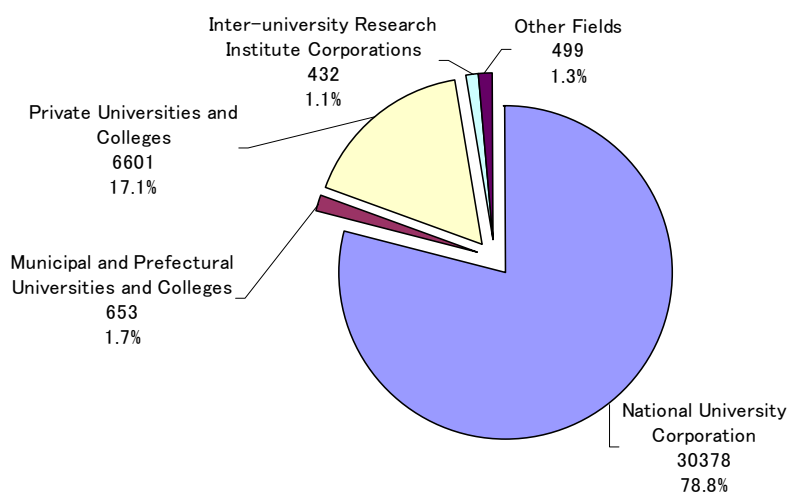


Table 2-3-1 Transition of Breakdown of Financially Supported Doctoral Students by Type of Organization

by Organization	FY2004	FY2005	FY2006
Universities and Colleges	31,469 (97.0%)	35,478 (98.1%)	38,064 (98.7%)
National University Corporation	26,378 (81.3%)	28,677 (79.3%)	30,378 (78.8%)
Municipal and Prefectural Universities and Colleges	453 (1.4%)	390 (1.1%)	653 (1.7%)
Private Universities and Colleges	4,181 (12.9%)	5,957 (16.5%)	6,601 (17.1%)
Inter-university Research Institute Corporations	457 (1.4%)	454 (1.3%)	432 (1.1%)
Other Fields	976 (3.0%)	676 (1.9%)	499 (1.3%)
<b>Total</b>	<b>32,445 (100.0%)</b>	<b>36,154 (100.0%)</b>	<b>38,563 (100.0%)</b>

<unit: persons, The percentage in parentheses is the share of each fiscal year.>

<sup>9</sup> Because this survey investigated the total number of persons by the amount of payments for each source of funding, there is a possibility of overlapping counting in cases where subjects changed source of funding or received payments from multiple sources during the year.

(2) Source of Funding

The largest source of funding for Financially Supported Doctoral Students was “Subsidies and Other Internal Funds,” at 58% (results of FY2006). Looking at the transition since FY2004, the percentage of “Subsidies and Other Internal Funds” has decreased from 61% to 58%, while on the other hand, the percentage of “Fellowships and Government-Sponsored Students” has increased from 12% to 16%. [Figure 2–3–2, Table 2–3–2]

Figure 2–3–2 Breakdown of Financially Supported Doctoral Students by Source of Funding (Results of FY2006)

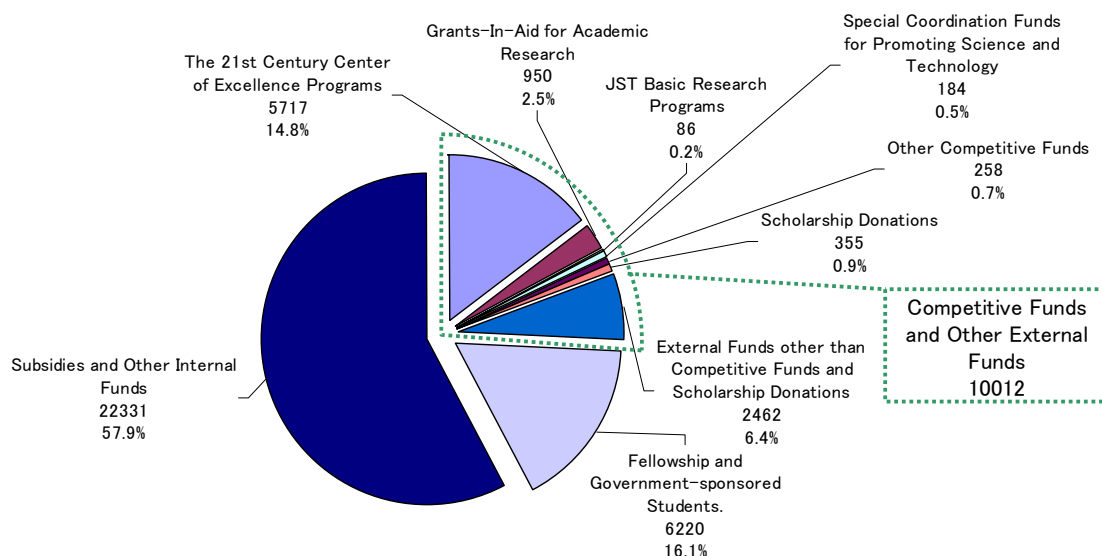


Table 2–3–2 Transition of Breakdown of Financially Supported Doctoral Students by Source of Funding

by Fund	FY2004	FY2005	FY2006
Competitive Funds and Other External Funds	8,429 (26.0%)	9,591 (26.5%)	10,012 (26.0%)
Competitive Funds	7,217 (22.2%)	7,341 (20.3%)	7,195 (18.7%)
The 21st Century Center of Excellence Programs	5,336 (16.4%)	5,863 (16.2%)	5,717 (14.8%)
Grants-In-Aid for Academic Research	978 (3.0%)	875 (2.4%)	950 (2.5%)
JST Basic Research Programs	570 (1.8%)	337 (0.9%)	86 (0.2%)
Special Coordination Funds for Promoting Science and Technology	178 (0.5%)	151 (0.4%)	184 (0.5%)
Other Competitive Funds	155 (0.5%)	115 (0.3%)	258 (0.7%)
Scholarship Donations	167 (0.5%)	272 (0.8%)	355 (0.9%)
External Funds other than Competitive Funds and Scholarship Donations	1,045 (3.2%)	1,978 (5.5%)	2,462 (6.4%)
Fellowship and Government-sponsored Students.	4,039 (12.4%)	5,265 (14.6%)	6,220 (16.1%)
Subsidies and Other Internal Funds	19,898 (61.3%)	21,298 (58.9%)	22,331 (57.9%)
No Employment Relationship	79 (0.2%)	0 (0.0%)	0 (0.0%)
<b>Total</b>	<b>32,445 (100.0%)</b>	<b>36,154 (100.0%)</b>	<b>38,563 (100.0%)</b>

(unit: persons, The percentage in parentheses is the share of each fiscal year.)

(3) Age Distribution

Looking at Financially Supported Doctoral Students by age group (results of FY2006), the percentage of persons aged 29 years or younger was 70%. The percentage of those aged 29 years or younger has decreased from 72% in the results of FY2004 to 70%. [Figure 2-3-3, Table 2-3-3]

Figure 2-3-3 Age Distribution of Financially Supported Doctoral Students (Results of FY2006)

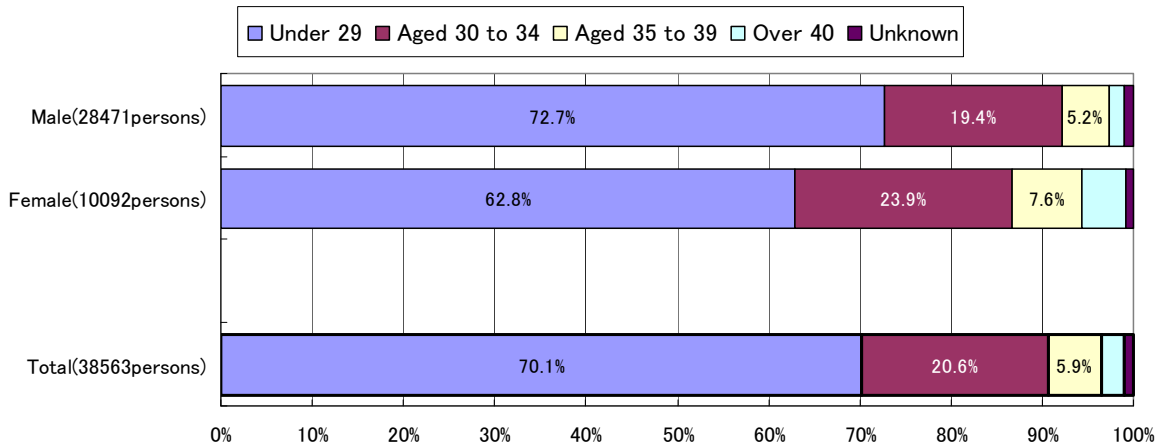


Table 2-3-3 Transition of Age Distribution by Financially Supported Doctoral Students

by Age Bracket	FY2004	FY2005	FY2006
Under 29	23,503 (72.4%)	25,876 (71.6%)	27,049 (70.1%)
Aged 30 to 34	6,277 (19.3%)	7,265 (20.1%)	7,934 (20.6%)
Aged 35 to 39	1,789 (5.5%)	1,999 (5.5%)	2,258 (5.9%)
Over 40	748 (2.3%)	823 (2.3%)	957 (2.5%)
Unknown	128 (0.4%)	191 (0.5%)	365 (0.9%)
<b>Total</b>	<b>32,445 (100.0%)</b>	<b>36,154 (100.0%)</b>	<b>38,563 (100.0%)</b>

<unit: persons, The percentage in parentheses is the share of each fiscal year.>



(4) Male-Female Ratio

The percentage of females in Financially Supported Doctoral Students was 26% (results of FY2006). The percentage of females increased with age, and reached 50% in the 40 year and older age group. The percentage of females has increased from 24% in the results of FY2004 to 26% in FY2006. [Figure 2–3–4, Table 2–3–4]

Figure 2–3–4 Male-Female Ratio of Financially Supported Doctoral Students (Results of FY2006)

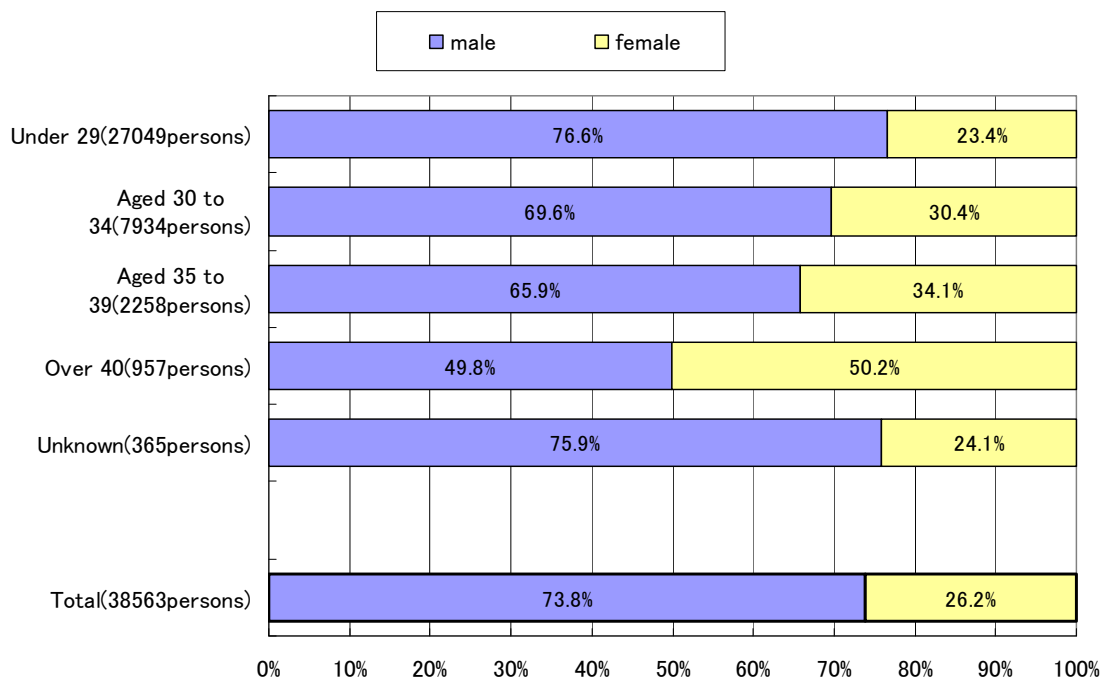


Table 2–3–4 Transition of Male-Female Ratio of Financially Supported Doctoral Students

by Age Bracket	FY2004		FY2005		FY2006	
	male	female	male	female	male	female
Under 29	18,313 (77.9%)	5,190 (22.1%)	19,832 (76.6%)	6,044 (23.4%)	20,707 (76.6%)	6,342 (23.4%)
Aged 30 to 34	4,501 (71.7%)	1,776 (28.3%)	5,096 (70.1%)	2,169 (29.9%)	5,522 (69.6%)	2,412 (30.4%)
Aged 35 to 39	1,180 (66.0%)	609 (34.0%)	1,311 (65.6%)	688 (34.4%)	1,488 (65.9%)	770 (34.1%)
Over 40	436 (58.3%)	312 (41.7%)	439 (53.3%)	384 (46.7%)	477 (49.8%)	480 (50.2%)
Unknown	85 (66.4%)	43 (33.6%)	114 (59.7%)	77 (40.3%)	277 (75.9%)	88 (24.1%)
Total	24,515 (75.6%)	7,930 (24.4%)	26,792 (74.1%)	9,362 (25.9%)	28,471 (73.8%)	10,092 (26.2%)

<unit: persons, The percentage in parentheses is the share of each age bracket.>

[2] Financially Supported Doctoral Students by Research Field

The number of Financially Supported Doctoral Students by the same 11 fields to Postdoctoral Fellows was investigated.

(1) Status of Financial Support by Research Field

The largest percentage of Financially Supported Doctoral Students (FY2006) was in the field of Life Sciences (33%), followed by Humanities and Social Science (20%). In comparison with the results of FY2004, the percentage of the Life Sciences field has decreased from 35% to 33%, while that of Humanities and Social Science has increased from 16% to 20%. [Figure 2-3-5, Table 2-3-5]

Figure 2-3-5 Breakdown of Financially Supported Doctoral Students by Research Field (Results of FY2006)

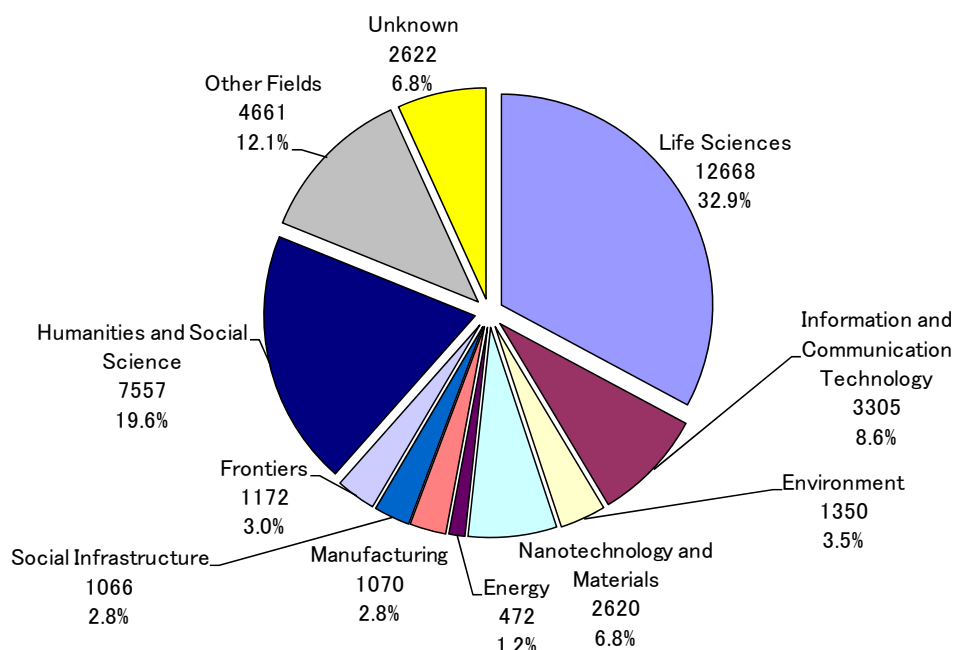


Table 2-3-5 Transition of Breakdown of Financially Supported Doctoral Students by Research Field

by Research Field	FY2004	FY2006
Life Sciences	11,455 (35.3%)	12,668 (32.9%)
Information and Communication Technology	2,688 (8.3%)	3,305 (8.6%)
Environment	985 (3.0%)	1,350 (3.5%)
Nanotechnology and Materials	2,587 (8.0%)	2,620 (6.8%)
Energy	480 (1.5%)	472 (1.2%)
Manufacturing	675 (2.1%)	1,070 (2.8%)
Social Infrastructure	805 (2.5%)	1,066 (2.8%)
Frontiers	490 (1.5%)	1,172 (3.0%)
Humanities and Social Science	5,241 (16.2%)	7,557 (19.6%)
Other Fields	4,555 (14.0%)	4,661 (12.1%)
Unknown	2,484 (7.7%)	2,622 (6.8%)
<b>Total</b>	<b>32,445 (100.0%)</b>	<b>38,563 (100.0%)</b>

<unit: persons, The percentage in parentheses is the share of each fiscal year.>

(2) Age Distribution by Research Field

In every research fields, the largest percentage of Financially Supported Doctoral Students (results of FY2006) was in the age group 29 years and younger. In comparison with the results of FY2004, the percentages of 30 years and older have increased with the exception of Information and Communication Technologies, Manufacturing, and Other. [Figure 2-3-6, Table 2-3-6]

Figure 2-3-6 Age Distribution of Financially Supported Doctoral Students by Research Field (Results of FY2006)

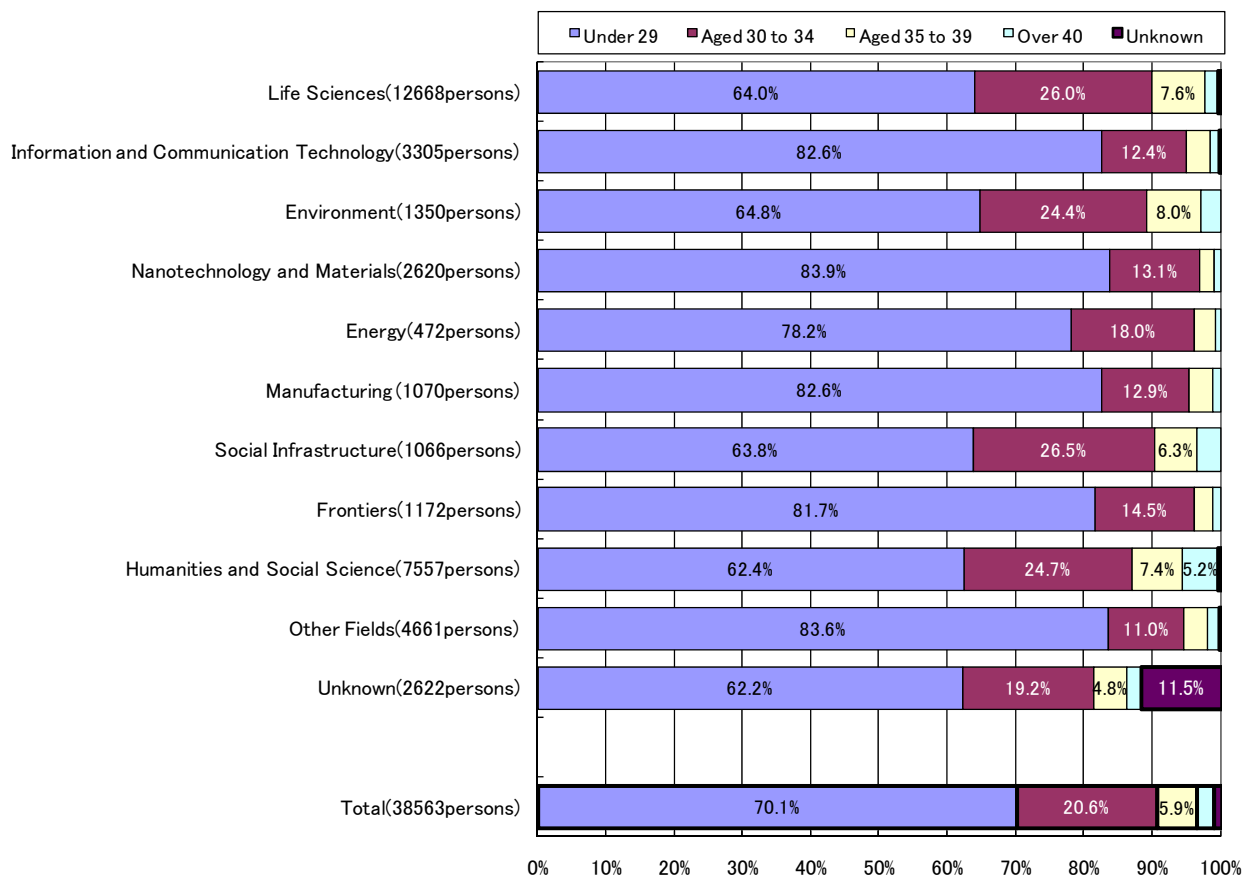


Table 2-3-6 Transition of Age Distribution of Financially Supported Doctoral Students by Research Field

by Research Field	FY2004		FY2006	
	Under 29	Over 30	Under 29	Over 30
Life Sciences	7,798 (68.1%)	3,575 (31.2%)	8,110 (64.0%)	4,522 (35.7%)
Information and Communication Technology	2,179 (81.1%)	507 (18.9%)	2,731 (82.6%)	570 (17.2%)
Environment	709 (72.0%)	274 (27.8%)	875 (64.8%)	475 (35.2%)
Nanotechnology and Materials	2,216 (85.7%)	371 (14.3%)	2,198 (83.9%)	422 (16.1%)
Energy	379 (79.0%)	101 (21.0%)	369 (78.2%)	103 (21.8%)
Manufacturing	550 (81.5%)	125 (18.5%)	884 (82.6%)	186 (17.4%)
Social Infrastructure	545 (67.7%)	259 (32.2%)	680 (63.8%)	386 (36.2%)
Frontiers	419 (85.5%)	70 (14.3%)	957 (81.7%)	215 (18.3%)
Humanities and Social Science	3,335 (63.6%)	1,887 (36.0%)	4,715 (62.4%)	2,821 (37.3%)
Other Fields	3,651 (80.2%)	903 (19.8%)	3,898 (83.6%)	761 (16.3%)
Unknown	1,722 (69.3%)	742 (29.9%)	1,632 (62.2%)	688 (26.2%)
<b>Total</b>	<b>23,503 (72.4%)</b>	<b>8,814 (27.2%)</b>	<b>27,049 (70.1%)</b>	<b>11,149 (28.9%)</b>

(unit: persons, The percentage in parentheses is the share of each fiscal year.)

### (3) Male-Female Ratio by Research Field

Looking at the male-female ratio of Financially Supported Doctoral Students (FY2006), the largest percentage of females is in the field of Humanities and Social Science (42%), followed by the Life Sciences (30%). In comparison with the results of FY2004, the percentage of females has increased in all fields with the exception of Life Sciences, Information and Communication Technologies, and Energy. [Figure 2-3-7, Table 2-3-7]

Figure 2-3-7 Male-Female Ratio of Financially Supported Doctoral Students by Research Field  
(Results of FY2006)

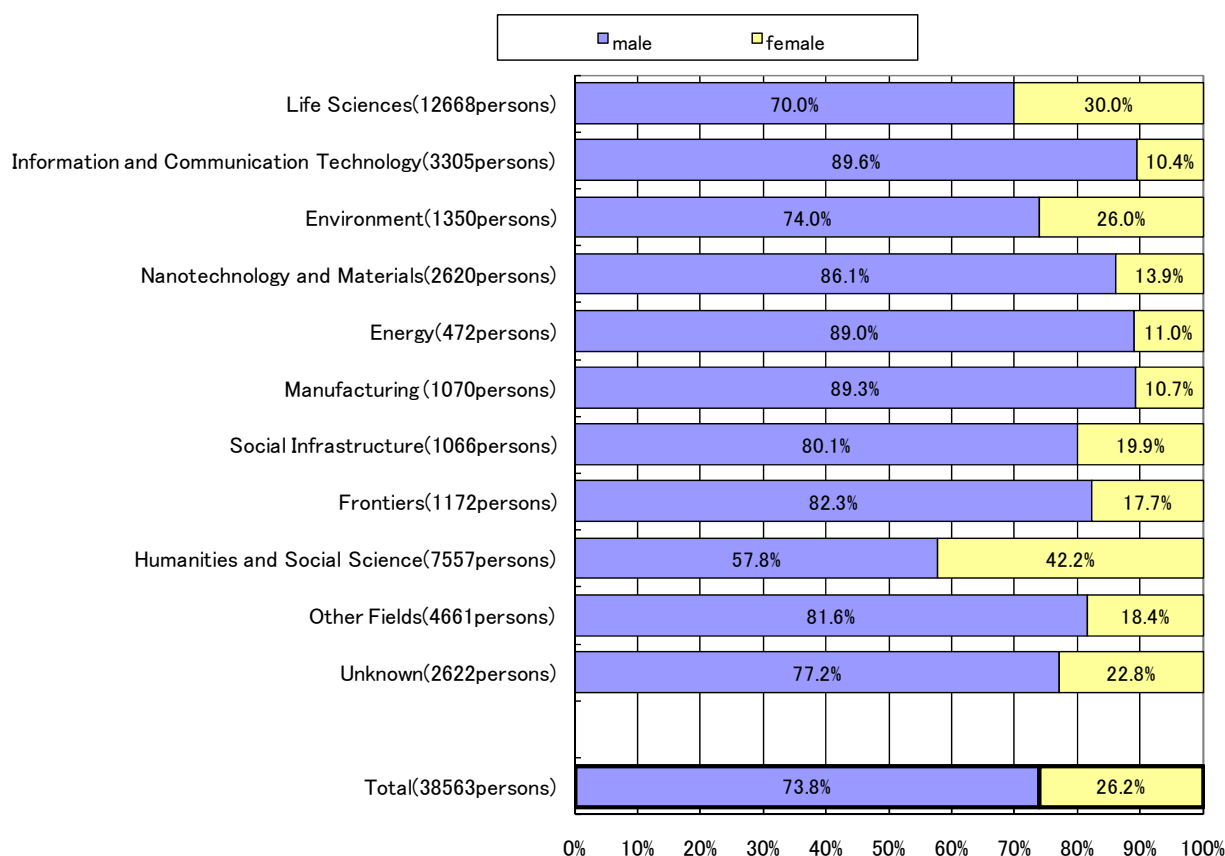


Table 2-3-7 Transition of Male-Female Ratio of Financially Supported Doctoral Students by Research Field

by Research Field	FY2004		FY2006	
	male	female	male	female
Life Sciences	8,015 (70.0%)	3,440 (30.0%)	8,866 (70.0%)	3,802 (30.0%)
Information and Communication Technology	2,386 (88.8%)	302 (11.2%)	2,960 (89.6%)	345 (10.4%)
Environment	746 (75.7%)	239 (24.3%)	999 (74.0%)	351 (26.0%)
Nanotechnology and Materials	2,268 (87.7%)	319 (12.3%)	2,256 (86.1%)	364 (13.9%)
Energy	421 (87.7%)	59 (12.3%)	420 (89.0%)	52 (11.0%)
Manufacturing	613 (90.8%)	62 (9.2%)	955 (89.3%)	115 (10.7%)
Social Infrastructure	656 (81.5%)	149 (18.5%)	854 (80.1%)	212 (19.9%)
Frontiers	410 (83.7%)	80 (16.3%)	965 (82.3%)	207 (17.7%)
Humanities and Social Science	3,103 (59.2%)	2,138 (40.8%)	4,371 (57.8%)	3,186 (42.2%)
Other Fields	3,836 (84.2%)	719 (15.8%)	3,802 (81.6%)	859 (18.4%)
Unknown	2,061 (83.0%)	423 (17.0%)	2,023 (77.2%)	599 (22.8%)
<b>Total</b>	<b>24,515 (75.6%)</b>	<b>7,930 (24.4%)</b>	<b>28,471 (73.8%)</b>	<b>10,092 (26.2%)</b>

(unit: persons, The percentage in parentheses is the share of each research field.)

(4) Proportion of Foreigners by Research Field

The proportion of foreigners in Financially Supported Doctoral Students (FY2006) was 22%. The proportions of foreigners in the fields of Environment and Social Infrastructure were 34% and 33%, respectively, which was high in comparison with other fields. The percentage of foreigners in Financially Supported Doctoral Students increased from 20% in the results of FY2004 to 22% in FY2006. [Figure 2-3-8, Table 2-3-8]

Figure 2-3-8 Proportion of Financially Supported Foreign Doctoral Students by Research Field (Results of FY2006)

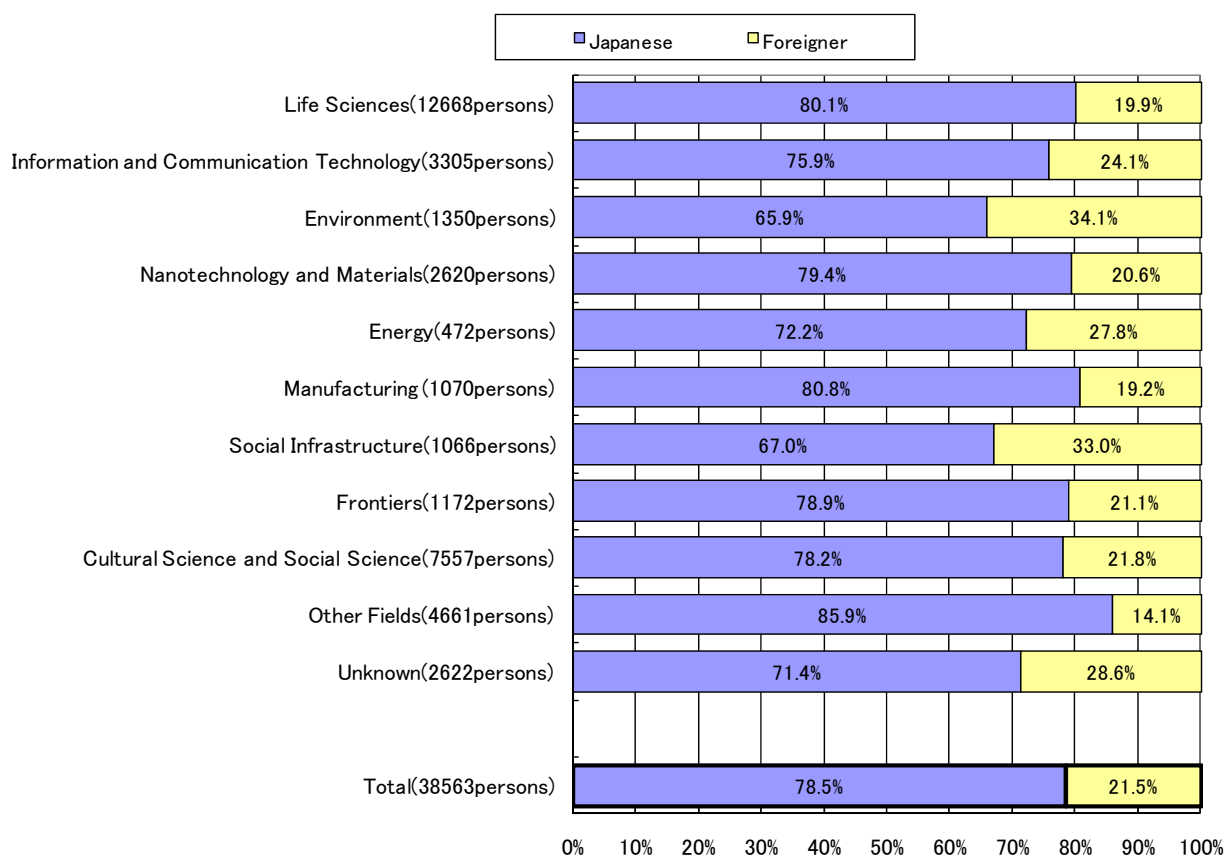


Table 2-3-8 Transition of Proportion of Financially Supported Foreign Doctoral Students by Research Field

by Research Field	FY2004		FY2006	
	Japanese	Foreigner	Japanese	Foreigner
Life Sciences	9,570 (83.5%)	1,885 (16.5%)	10,148 (80.1%)	2,520 (19.9%)
Information and Communication Technology	2,079 (77.3%)	609 (22.7%)	2,507 (75.9%)	798 (24.1%)
Environment	645 (65.5%)	340 (34.5%)	890 (65.9%)	460 (34.1%)
Nanotechnology and Materials	2,088 (80.7%)	499 (19.3%)	2,081 (79.4%)	539 (20.6%)
Energy	348 (72.5%)	132 (27.5%)	341 (72.2%)	131 (27.8%)
Manufacturing	508 (75.3%)	167 (24.7%)	865 (80.8%)	205 (19.2%)
Social Infrastructure	519 (64.5%)	286 (35.5%)	714 (67.0%)	352 (33.0%)
Frontiers	432 (88.2%)	58 (11.8%)	925 (78.9%)	247 (21.1%)
Humanities and Social Science	4,069 (77.6%)	1,172 (22.4%)	5,908 (78.2%)	1,649 (21.8%)
Other Fields	3,795 (83.3%)	760 (16.7%)	4,004 (85.9%)	657 (14.1%)
Unknown	1,857 (74.8%)	627 (25.2%)	1,873 (71.4%)	749 (28.6%)
<b>Total</b>	<b>25,910 (79.9%)</b>	<b>6,535 (20.1%)</b>	<b>30,256 (78.5%)</b>	<b>8,307 (21.5%)</b>

(unit: persons, The percentage in parentheses is the share of each research field.)

[3] Pay-scale breakdown of Financially Supported Doctoral Students

The approximate monthly payments to Financially Supported Doctoral Students by source of funding were investigated, classified as “less than ¥50,000”, “¥50,000 to less than ¥100,000”, “¥100,000 to less than ¥150,000”, “¥200,000 or more”, and “Unknown”.

(1) Status of Financial Support by Pay Scale

Excluding persons whose pay scales were unknown, 53% of the subjects received less than ¥50,000/month from one source of funding, and 80% received less than ¥150,000 (results of FY2006). The percentages of payments for the various pay scales have been fairly flat since the results of FY2005. [Figure 2–3–9, Table 2–3–9]

Figure 2–3–9 Breakdown of Pay Scales of Financially Supported Doctoral Students (Results of FY2006)

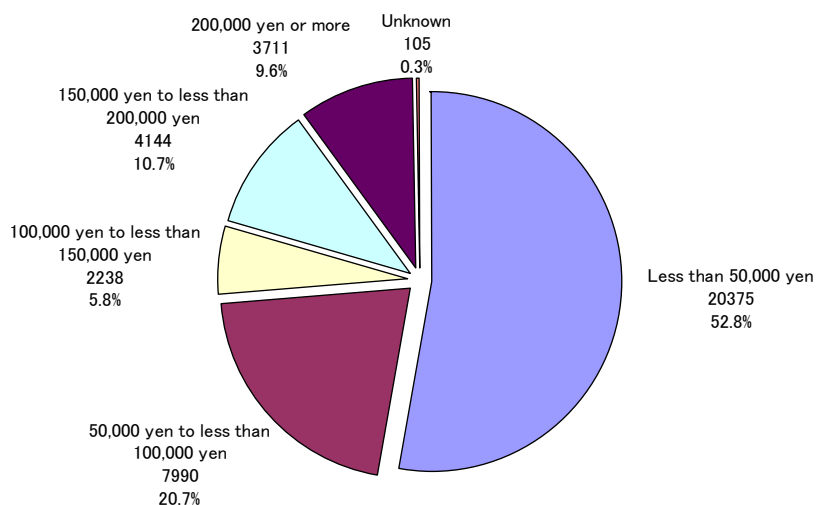


Table 2–3–9 Transition of Breakdown of Pay Scales of Financially Supported Doctoral Students

by Pay Scale	FY2005	FY2006
Less than 50,000 yen	18,993 (52.5%)	20,375 (52.8%)
50,000 yen to less than 100,000 yen	7,601 (21.0%)	7,990 (20.7%)
100,000 yen to less than 150,000 yen	2,258 (6.2%)	2,238 (5.8%)
150,000 yen to less than 200,000 yen	3,917 (10.8%)	4,144 (10.7%)
200,000 yen or more	3,100 (8.6%)	3,711 (9.6%)
Unknown	285 (0.8%)	105 (0.3%)
<b>Total</b>	<b>36,154 (100.0%)</b>	<b>38,563 (100.0%)</b>

〈unit: persons, The percentage in parentheses is the share of each fiscal year.〉

## (2) Pay Scale by Source of Funding

Looking at the amount of monthly payments (results of FY2006) from one source of funding by source, the amount of payments from “Subsidies and Other Internal Funds” was low in comparison with the other sources of funding. [Figure 2–3–10, Table 2–3–10]

Figure 2–3–10 Pay Scale of Financially Supported Doctoral Students by Source of Funding  
(Results of FY2006)

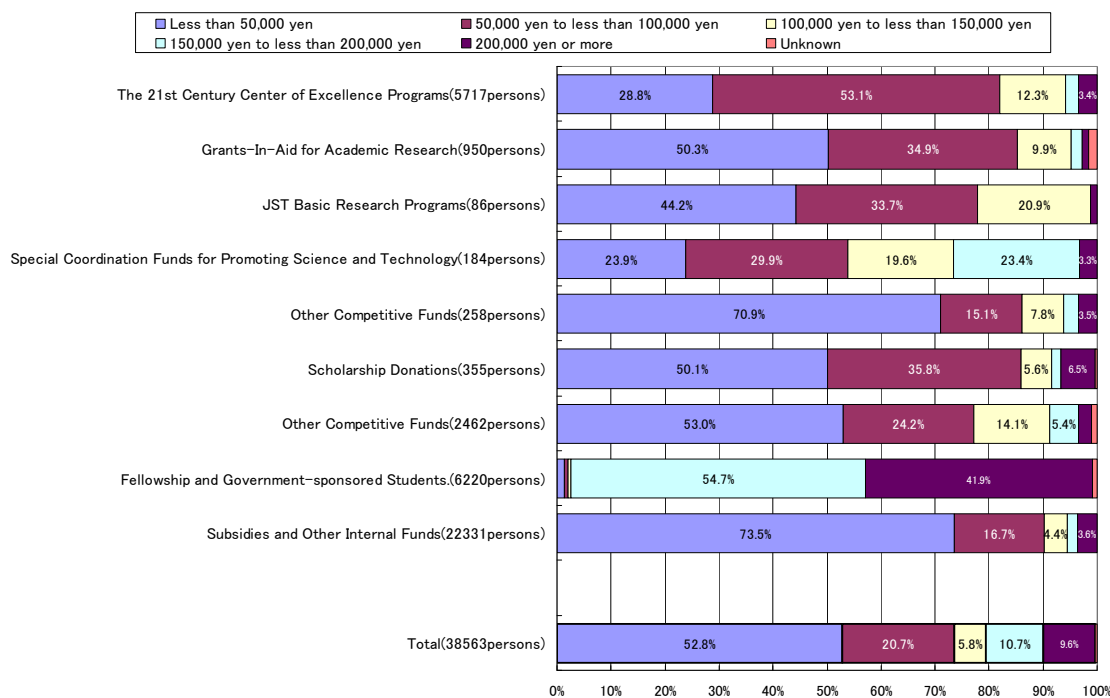


Table 2–3–10 Transition of Pay Scale of Financially Supported Doctoral Students by Source of Funding

by Fund	FY2005						Total
	Less than 50,000 yen	50,000 yen to less than 100,000 yen	100,000 yen to less than 150,000 yen	150,000 yen to less than 200,000 yen	200,000 yen or more	Unknown	
The 21st Century Center of Excellence Programs	1,576 (26.9%)	3,166 (54.0%)	743 (12.7%)	147 (2.5%)	230 (3.9%)	1 (0.0%)	5,863
Grants-In-Aid for Academic Research	343 (39.2%)	356 (40.7%)	111 (12.7%)	20 (2.3%)	44 (5.0%)	1 (0.1%)	875
JST Basic Research Programs	128 (38.0%)	122 (36.2%)	58 (17.2%)	11 (3.3%)	9 (2.7%)	9 (2.7%)	337
Special Coordination Funds for Promoting Science and Technology	38 (25.2%)	37 (24.5%)	40 (26.5%)	33 (21.9%)	3 (2.0%)	0 (0.0%)	151
Other Competitive Funds	30 (26.1%)	47 (40.9%)	23 (20.0%)	9 (7.8%)	6 (5.2%)	0 (0.0%)	115
Scholarship Donations	135 (49.6%)	83 (30.5%)	31 (11.4%)	12 (4.4%)	11 (4.0%)	0 (0.0%)	272
Other Competitive Funds	897 (45.3%)	561 (28.4%)	355 (17.9%)	98 (5.0%)	55 (2.8%)	12 (0.6%)	1,978
Fellowship and Government-sponsored Students.	13 (0.2%)	20 (0.4%)	16 (0.3%)	3,005 (57.1%)	2,176 (41.3%)	35 (0.7%)	5,265
Subsidies and Other Internal Funds	15,833 (74.3%)	3,209 (15.1%)	881 (4.1%)	582 (2.7%)	566 (2.7%)	227 (1.1%)	21,298
<b>Total</b>	<b>18,993 (52.5%)</b>	<b>7,601 (21.0%)</b>	<b>2,258 (6.2%)</b>	<b>3,917 (10.8%)</b>	<b>3,100 (8.6%)</b>	<b>285 (0.8%)</b>	<b>36,154</b>

by Fund	FY2006						Total
	Less than 50,000 yen	50,000 yen to less than 100,000 yen	100,000 yen to less than 150,000 yen	150,000 yen to less than 200,000 yen	200,000 yen or more	Unknown	
The 21st Century Center of Excellence Programs	1,649 (28.8%)	3,038 (53.1%)	701 (12.3%)	134 (2.3%)	195 (3.4%)	0 (0.0%)	5,717
Grants-In-Aid for Academic Research	478 (50.3%)	332 (34.9%)	94 (9.9%)	20 (2.1%)	12 (1.3%)	14 (1.5%)	950
JST Basic Research Programs	38 (44.2%)	29 (33.7%)	18 (20.9%)	0 (0.0%)	1 (1.2%)	0 (0.0%)	86
Special Coordination Funds for Promoting Science and Technology	44 (23.9%)	55 (29.9%)	36 (19.6%)	43 (23.4%)	6 (3.3%)	0 (0.0%)	184
Other Competitive Funds	183 (70.9%)	39 (15.1%)	20 (7.8%)	7 (2.7%)	9 (3.5%)	0 (0.0%)	258
Scholarship Donations	178 (50.1%)	127 (35.8%)	20 (5.6%)	6 (1.7%)	23 (6.5%)	1 (0.3%)	355
Other Competitive Funds	1,304 (53.0%)	596 (24.2%)	346 (14.1%)	133 (5.4%)	58 (2.4%)	25 (1.0%)	2,462
Fellowship and Government-sponsored Students.	87 (1.4%)	45 (0.7%)	23 (0.4%)	3,403 (54.7%)	2,606 (41.9%)	56 (0.9%)	6,220
Subsidies and Other Internal Funds	16,414 (73.5%)	3,729 (16.7%)	980 (4.4%)	398 (1.8%)	801 (3.6%)	9 (0.0%)	22,331
<b>Total</b>	<b>20,375 (52.8%)</b>	<b>7,990 (20.7%)</b>	<b>2,238 (5.8%)</b>	<b>4,144 (10.7%)</b>	<b>3,711 (9.6%)</b>	<b>105 (0.3%)</b>	<b>38,563</b>

(unit: persons. The percentage in parentheses is the share of each research fund.)

### (3) Pay Scale by Research Field

By research field, the percentage of monthly payments of less than ¥150,000 from one source (excluding persons whose pay scales were unknown) was 83% in the Life Sciences field and 82% in Humanities and Social Science. These percentages were high in comparison with the other fields. [Figure 2-3-11, Table 2-3-11]

Figure 2-3-11 Pay Scale of Financially Supported Doctoral Students by Research Field (Results of FY2006)

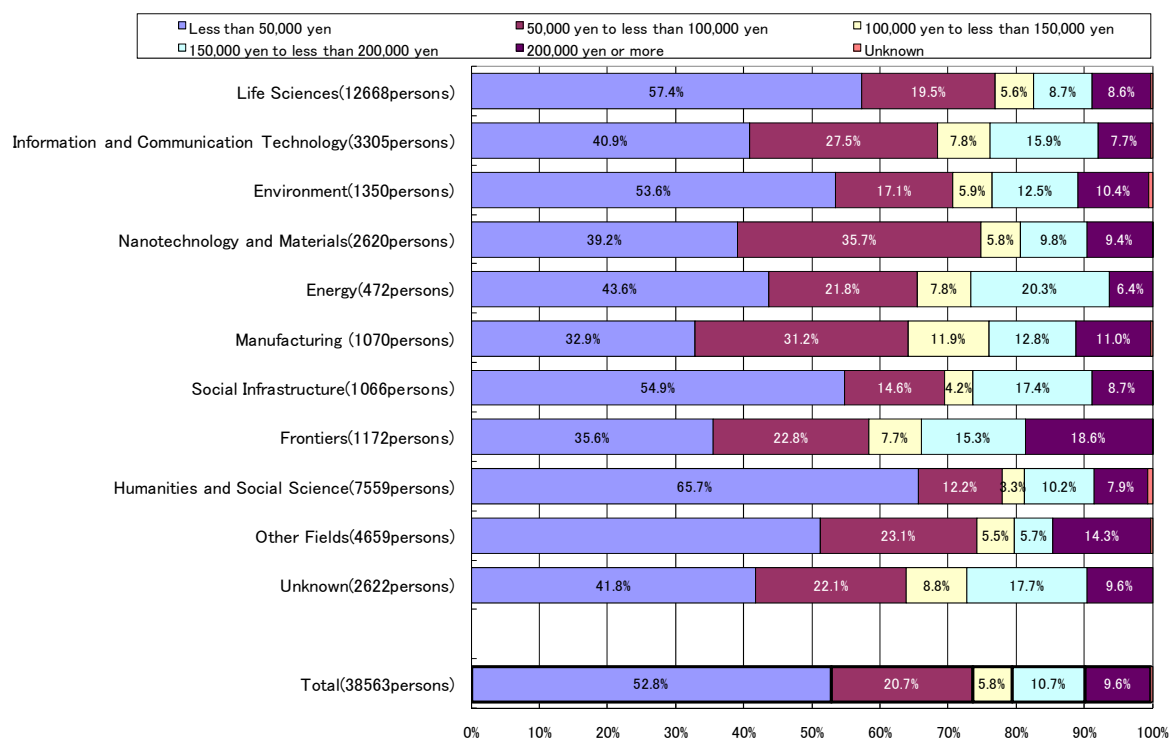


Table 2-3-11 Transition of Pay Scale of Financially Supported Doctoral Students by Research Field

by Research Field	Less than 50,000 yen	50,000 yen to less than 100,000 yen	100,000 yen to less than 150,000 yen	150,000 yen to less than 200,000 yen	200,000 yen or more	Unknown	Total
Life Sciences	7,269 (57.4%)	2,476 (19.5%)	711 (5.6%)	1,096 (8.7%)	1,092 (8.6%)	24 (0.2%)	12,668
Information and Communication Technology	1,352 (40.9%)	909 (27.5%)	257 (7.8%)	524 (15.9%)	254 (7.7%)	9 (0.3%)	3,305
Environment	723 (53.6%)	231 (17.1%)	79 (5.9%)	169 (12.5%)	141 (10.4%)	7 (0.5%)	1,350
Nanotechnology and Materials	1,026 (39.2%)	935 (35.7%)	151 (5.8%)	258 (9.8%)	247 (9.4%)	3 (0.1%)	2,620
Energy	206 (43.6%)	103 (21.8%)	37 (7.8%)	96 (20.3%)	30 (6.4%)	0 (0.0%)	472
Manufacturing	352 (32.9%)	334 (31.2%)	127 (11.9%)	137 (12.8%)	118 (11.0%)	2 (0.2%)	1,070
Social Infrastructure	585 (54.9%)	156 (14.6%)	45 (4.2%)	186 (17.4%)	93 (8.7%)	1 (0.1%)	1,066
Frontiers	417 (35.6%)	267 (22.8%)	90 (7.7%)	179 (15.3%)	218 (18.6%)	1 (0.1%)	1,172
Humanities and Social Science	4,963 (65.7%)	925 (12.2%)	253 (3.3%)	771 (10.2%)	600 (7.9%)	47 (0.6%)	7,559
Other Fields	2,386 (51.2%)	1,074 (23.1%)	256 (5.5%)	265 (5.7%)	667 (14.3%)	11 (0.2%)	4,659
Unknown	1,096 (41.8%)	580 (22.1%)	232 (8.8%)	463 (17.7%)	251 (9.6%)	0 (0.0%)	2,622
<b>Total</b>	<b>20,375 (52.8%)</b>	<b>7,990 (20.7%)</b>	<b>2,238 (5.8%)</b>	<b>4,144 (10.7%)</b>	<b>3,711 (9.6%)</b>	<b>105 (0.3%)</b>	<b>38,563</b>

(unit: persons, The percentage in parentheses is the share of each research field.)



## **3. Conclusions**

### 3.1. Employment of Postdoctoral Fellows

#### **Results of FY2006**

##### (1) Overview

The total number of Postdoctoral Fellows in the results of FY2006 was 16,394 persons.

##### (2) Employment by Organization

Among organizations with which Postdoctoral Fellows were affiliated, universities and colleges accounted for the largest percentage, at 66%, followed by Independent Administrative Agencies, at 31%.

##### (3) Employment by Source of Funding

“Competitive Funds and Other External Funds” and “Subsidies and Other Internal Funds” accounted for 46% and 31%, respectively.

##### (4) Age Distribution

Postdoctoral Fellows in the 30-34 year age group accounted for the highest percentage, at 44%. In comparison with males, female Postdoctoral Fellows accounted for a higher percentage in senior age groups.

##### (5) Male-Female Ratio

The ratio of female Postdoctoral Fellows was 23%. The ratio of female Postdoctoral Fellows tends to increase with age. In the breakdown by field, the highest percentage of females was in Humanities and Social Science (39%), followed by Life Sciences (30%).

##### (6) Proportion of Foreigners

The proportion of foreign Postdoctoral Fellows was 24%. In the breakdown by field, the highest percentage of foreigners was in Nanotechnology and Materials (38%), followed by Information and Communication Technologies (34%).

##### (7) Employment by Research Field

The highest percentage of Postdoctoral Fellows was in the Life Sciences field (39%), followed by Nanotechnology and Materials (12%).

##### (8) Social Insurance Coverage (Paid by Employer)

The percentage of Postdoctoral Fellows with social insurance coverage (paid by the employer) was 61%.

##### (9) Employment of New Doctorates (New Survey Item)

The percentage of New Doctorates (persons completing new doctoral degree in FY2005) in all Postdoctoral Fellows was 15%.

## **Trends**

### (1) Overview

The total number of Postdoctoral Fellows increased from 15,496 in the results of FY2005 to 16,394. The rate of increase was 5.8%.

### (2) Employment by Organization

The percentage of Postdoctoral Fellows affiliated with universities and colleges has increased from 57% in the results of FY2004 to 62% in FY2005 and 66% in FY2006.

### (3) Employment by Source of Funding

Since the results of FY2004, the percentages for “Competitive Funds and Other External Funds” and “Subsidies and Other Internal Funds” have remained roughly flat, at approximately 45% and approximately 31%, respectively.

### (4) Age Distribution

The percentage of Postdoctoral Fellows in the 30-34 year age group has increased from 26% (FY2004), to 28% (FY2005), and 29% (FY2006).

### (5) Male-Female Ratio

The percentage of female Postdoctoral Fellows has increased from 21% in the results of FY2004 to 23% in FY2006.

### (6) Proportion of Foreigners

The percentage of foreign Postdoctoral Fellows has remained flat at 24% since the results of FY2004.

### (7) Employment by Research Field

In comparison with the results of FY2004, the percentage of Postdoctoral Fellows by field has increased in “Information and Communication Technologies”, “Manufacturing”, and “Humanities and Social Science”.

### (8) Social Insurance Coverage (Paid by Employer)

Since the results of 2004, the percentage of Postdoctoral Fellows with social insurance coverage (paid by the employer) has increased from 55% (FY2004) to 58% (FY2005) and 61% (FY2006).

## 3.2. Financially Supported Doctoral Students

### **Results of FY2006**

#### (1) Overview

The total number of Financially Supported Doctoral Students in the results of FY2006 was 38,563 persons.

#### (2) Support by Organization

Financially Supported Doctoral Students affiliated with National University Corporations accounted for the largest number, at 79%, followed by private universities and colleges, at 17%.

#### (3) Support by Source of Funding

“Subsidies and Other Internal Funds” accounted for the highest percentage, at 58%.

#### (4) Age Distribution

Supported Doctoral Students, those aged 29 years or younger accounted for 70%. In every field, Financially Supported Doctoral Students aged 29 years or younger accounted for the highest percentage.

#### (5) Male-Female Ratio

The percentage of female Financially Supported Doctoral Students was 26%. The percentage of females tended to increase with age, and reached 50% for persons 40 years of age and older. By field, the percentage of females was highest in Humanities and Social Science (42%), followed by Life Sciences (30%).

#### (6) Proportion of Foreigners

The proportion of foreign Financially Supported Doctoral Students was 22%. The ratios of foreigners in Environmental Sciences (34%) and Social Infrastructure (33%) were high in comparison with the other fields.

#### (7) Support by Research Field

The highest percentage of Financially Supported Doctoral Students was in the Life Sciences field (33%), followed by Humanities and Social Science (20%).

#### (8) Pay Scale

Excluding persons whose pay scales were unknown, the percentage of Financially Supported Doctoral Students receiving payments of less than ¥50,000/month from one source was 53%; the percentage receiving payments of less than ¥150,000 was 80%.

## **Trends**

### (1) Overview

The total number of Financially Supported Doctoral Students increased from 36,154 in the results of FY2005 to 38,563 in FY2006. The rate of increase was 6.7%.

### (2) Support by Organization

The percentage affiliated with private universities and colleges increased from 13% in the results of FY2004 to 17% in the results of FY2006.

### (3) Support by Source of Funding

In comparison with the results of FY2004, the percentage of “Subsidies and Other Internal Funds” decreased from 61% to 58%; on the other hand, the percentage of “Fellowships and Government-Sponsored Students” increased from 12% to 16%.

### (4) Age Distribution

The percentage aged 29 years or younger decreased from 72% in the results of FY2004 to 70% in the results of FY2006.

### (5) Male-Female Ratio

The percentage of females increased from 24% in FY2004 to 26% in FY2006.

### (6) Proportion of Foreigners

The percentage of foreigners increased from 20% in the results of FY2004 to 22% in the results of FY2006.

### (7) Support by Research Field

In comparison with the results of FY2004, the percentage of Life Sciences decreased from 35% to 33%, and the percentage of Humanities and Social Science increased from 16% to 20%.

### (8) Pay Scale

The amount of monthly payments from one source (excluding persons whose pay scales were unknown) has remained approximately flat since the results of FY2005.

**[Summary Table (Results of FY2006)]**

	<b>Postdoctoral Fellows</b>	<b>Financially Supported Doctoral Students</b>
Overview	Total number: 16,394	Total number: 38,563
Organization	[In order of descending percentage] Universities and colleges: 66% National University Corporations: 49% Independent Administrative Institutions: 31%	[In order of descending percentage] National University Corporations: 79% Private universities and colleges: 17% Public universities and colleges: 2%
Source of Funds	[In order of descending percentage] Competitive Funds and Other External Funds: 46% Subsidies and Other Internal Funds: 31%	[In order of descending percentage] Subsidies and Other Internal Funds: 58% Competitive Funds and Other External Funds: 26%
Research Field	[In order of descending percentage] Life Sciences: 39% Other: 12% Nanotechnology and Materials: 12% Humanities and Social Science: 10% Information and Communication Technologies: 8%	[In order of descending percentage] Life Sciences: 33% Humanities and Social Science: 20% Other: 12% Information and Communication Technologies: 9% Nanotechnology and Materials: 7%
Male-Female Ratio	a. Percentage of females: 23% b. Percentage of females increases with age (31% for those aged 40 and older) c. The top three fields of percentage of females (descending order): Humanities and Social Science: 39% Life Science: 30% Environment: 18%	a. Percentage of females: 26% b. Percentage of females increases with age (50% for those aged 40 and older) c. The top three fields of percentage of females (descending order): Humanities and Social Science: 42% Life Science: 30% Environment: 26%
Proportion of Foreigners	a. Percentage of foreigners: 24% b. The top three fields of percentage of foreigners (descending order): Nanotechnology and Materials: 38% Information and Communication Technologies: 34% Energy: 33%	a. Percentage of foreigners: 22% b. The top three fields of percentage of foreigners (descending order): Environment: 34% Social Infrastructure: 33% Energy: 28%
Other	a. Percentage of Postdoctoral Fellows with social insurance coverage (paid by employer): 61% b. Percentage of New Doctorates (completed degree in FY2005) in Postdoctoral Fellows: 15%	Monthly payments from 1 source (excluding persons whose pay scales were unknown) Less than ¥50,000: 53% Less than ¥150,000: 80%

## [Acknowledgement]

In this survey, questionnaires were distributed to a total of 1,211 organizations, including universities and colleges, Independent Administrative Agencies, national experimental institutes, public experimental institutes, public interest corporations, and private corporations. Responses were received from 1,041 of these organizations, for a high response rate of 86%. A new item was added in this year's survey, investigating the number of New Doctorates (persons receiving doctoral degrees in FY2005) in the population of Postdoctoral Fellows, resulting in an increased work load for those in charge at the surveyed organizations. Useful information was also received from those in charge, who explained the actual conditions of the diverse employment patterns of Postdoctoral Fellows and the status of support for Financially Supported Doctoral Students.

This survey was carried out with the cooperation of those concerned at a large number of research organizations. We express our profound gratitude for their assistance.

## [Division of Roles in Survey Work]

### [Mainly responsible for conducting the survey]

Knowledge Infrastructure Policy Division, Science and Technology Bureau, Ministry of Education, Culture, Sports, Science and Technology (MEXT)

- Design of questionnaire (jointly with NISTEP)
- Distribution and collection of questionnaires (jointly with NISTEP)
- Check of report (jointly with NISTEP)

### [Mainly responsible for data analysis]

1<sup>st</sup> Policy-Oriented Research Group, National Institute of Science and Technology Policy (NISTEP)

<Person in Charge>

- **Design of Questionnaire:** Toshiyuki Misu
- **Confirmation of Data Submitted by Research Organizations:** Ayaka Mizukoshi, Toshiyuki Misu
- **Data Tabulation/Analysis:** Keiji Saito
- **Writing Report:** Keiji Saito
- **Proofreading:** Hideyuki Tsunoda, Toshiyuki Misu, Ayaka Mizukoshi

# Appendix 1

Survey on Postdoctoral Fellows and Research Assistants  
(Record of FY2006)

## Questionnaire

Ministry of Education, Culture, Sports, Science and Technology

Knowledge Infrastructure Policy Division  
Science and Technology Policy Bureau

Format 0
----------

Survey on Postdoctoral Fellows and Research Assistants (FY2006 Data)
--

(1) Name of research institute		
(2) Research institute No. *		(Four-digit number)
(3) Name of department in charge		
(4) Name of person in charge		
(5) Phone no.		
(6) E-mail		
(7) Zip code		
(8) Address		

<Please note>

- Please enter the four-digit number shown on the label on the envelope sent from the MEXT in "Research institute No."
- Please implement "Error Check" in order to avoid incomplete answers. (Please refer to the Entry Method.)
- Please do not change the name of each sheet.







## Appendix 2

Survey on Postdoctoral Fellows and Research Assistants  
(Record of FY2006)

# Entry Guide

Ministry of Education, Culture, Sports, Science and Technology

Knowledge Infrastructure Policy Division  
Science and Technology Policy Bureau

## Survey on Postdoctoral Fellows and Research Assistants

### Attention

- Please submit the form by summing the results for the entire organization.
- Please contact the Knowledge Infrastructure Policy Division in MEXT, if you have questions on how to enter this survey form. Answers to inquiries will be uploaded in the designated URL.

### <Table of Contents>

1. Survey Objective .....	<1>
2. Survey Subjects .....	<2>
3. Entering Surveyed Item.....	<4>
4. Submission of Answers.....	<7>
Appendix Table 1 Types of “Employment categorization” .....	<9>
Appendix Table 2 Classification of Research Fields.....	<12>
Appendix Table 3 List of examples of those included or excluded.....	<14>

## 1. Survey Objective

This survey is being implemented to ascertain the number of researchers engaged in research activities at research organizations such as universities and public research institutes, who are employed for a fixed term and funded by external funds such as competitive funds, subsidies or internal financial sources.

This survey intends to uncover the total number of postdoctoral fellows and research assistants in research organizations, the actual number of doctoral students receiving financial support, and to provide reference information for measures to support researchers in the future.

Answers from each institute will be collected by the Knowledge Infrastructure Policy Division, Science and Technology Policy Bureau of the MEXT, and will be analyzed by the National Institute of Science and Technology Policy.

<Name of Survey>

“Survey on Postdoctoral Fellows and Research Assistants”

<Survey Subjects >

Universities and colleges(excluding junior colleges), inter-university research institutes, national experimental research institutes, public experimental research institutes, and independent administrative institutions, non-profit corporations and private enterprises with research centers (1,211 institutes in total)

<Survey Method>

Questionnaire survey (answers collected via e-mail)

< Collection period>

From October 29, 2007 (Mon) to February 15, 2008 (Fri)

<Reporting of Results>

Survey results are scheduled to be made available to the public by the MEXT after summarization.

<Entry Format>

Please download the entry format from the survey Site

Knowledge Infrastructure Policy Division, Science and Technology Policy Bureau,  
MEXT

## 2. Survey Subjects

(1) Effective date of the survey

Actual employment as of FY2006 (from April 1, 2006 to March 31, 2007)

(2) Subjects surveyed

Please enter the number of persons who are employed consecutively for more than two months and engaged in research activities in research institutes, based on external funds such as competitive funds, subsidies or internal financial sources, for each of the following categories of I through III.

**“I. Financially Supported Doctoral Students”**

It means Doctoral students who receive financial support from universities and other organizations. Financial support here means those with benefits paid. Scholarships with repayment obligation offered by the Japan Student Services Organization and loan-type scholarships offered by incorporated foundations and the university itself are not included.

**“II. Postdoctoral Fellows”**

Those who, after completed doctorates, (1) engage in research activities at a research organization such as a university, not as a professor, an associate professor, an assistant professor, or the like, or (2) engage in research activities at a research organization such as an independent administrative agency, assigned to the position for a fixed term and are not in a position such as a leader or a chief researcher of their research group. Both (1) and (2) Include those who have terminated their student status but have been a graduate student for a period exceeding the required number of years for completing a doctoral course and have obtained the required credits (generally referred to as “withdrawals upon obtaining required credits”).

**“III. Others”**

Those other than the above I and II, including those who perform research assistant work and provide technical assistance for a fixed term or are holders of a bachelor's degree or a master's degree and are engaged in research activities in conformity to postdoctoral programs. (Do not include professors, assistant professors, and assistant professors.)

Please **exclude** the following persons even if they fall under either of the above.

(i) Those who are employed for less than two months in the fiscal year in question

\*Note: Please refer to the “3. Entering each surveyed item” for information on the employment period.

(ii) Researcher or research partaker who obtained competitive fund

\*Note: Though JSPS manages “Research Grants-in-aid for Scientific Research”, Fellows of the JSPS will be categorized as “Research Fellows of the Japan Society for the Promotion of Science,” and support personnel employed through JSPS grants are categorized as “Grants-in-aid for Scientific Research.”

(iii) Undergraduate or master course students

(Undergraduate or master students in another university are also excluded.)

<Example> Teaching assistant who is a master course student

(iv) University faculty (professors, associate professors, assistant professors, lecturers) and group leaders or chief researchers in independent administrative agencies are excluded.

\*Note: Those who work as part-time teachers or in another status in universities other than the research institute in question are not excluded.

(v) Those who have full-time key roles in other institutes besides the research service at the institute in question

<Example> Joint researchers in private sectors, commissioned researchers, those who are in an employment relationship with the Japan Science and Technology Agency under the Core Research for Evolution Science and Technology, etc.

(vi) Staff who is not directly engaged in research services of the institute in question

<Example> Staff in administration head office, doctors and pharmacists at affiliated hospitals, security guards, cleaners, symposium panelists, part-time workers for site management, etc.

**\* Please refer to Appendix Table 3 for other examples for inclusion or exclusion from each item.**

The employees listed below were excluded from the survey until the last fiscal year, but will be included as of this year's survey. For institutes listed below, please count the number of persons employed under the employment category of "41 Subsidies and other funds."

- Special Postdoctoral Researcher (SPDR) (Independent Administrative Institution RIKEN)
- Funds for the Promotion of the Mobility of Postdoctoral Fellows (Japan Atomic Energy Agency)
- Special Postgraduates (Japan Atomic Energy Agency)
- Recruitment for a Researcher for University-Industry Cooperation and Collaboration/Recruitment for a Senior Post Doctoral Fellow (Japan Atomic Energy Agency)
- Aerospace Project Researcher (Japan Aerospace Exploration Agency)
- Postdoctoral Researcher for Frontier Research for Global Science/Postdoctoral Researcher for Projects to Predict the Future Global Change (Japan Agency for Marine-Earth Science and Technology)
- Postdoctoral Researcher for Frontier Research for Global Change/Postdoctoral Researcher for Global Environment Observation (Japan Agency for Marine-Earth Science and Technology)
- Research Fellows (Japan Agency for Marine-Earth Science and Technology)
- Special Researches on Okinawa (National Agriculture and Food Research Organization)
- Industrial Technology Fellowship Project (New Energy and Industrial Development Organisation)

<b>3. Entering Surveyed Item</b>
----------------------------------

[Items related to Format 1]

- ◆ In Format 1, please enter the number of persons who fall under the categories of I. Doctoral students, II. Postdoctoral fellows and III. Others.
- ◆ Please enter the actual numbers (in total) by the end of FY2006.

(1) In "(1) Employment categorization" please enter the number listed in Appendix Table 1 for the  
<4>



expenditure funding the employment cost (salaries, grants, etc.) for those who are employed (please refer to \* below) or who are provided with financial support.

\* “Employment” in this survey for 1-39 in Appendix Table 1 is defined as a state wherein the salaries are paid (employed) to those who engage in services related to research under researchers (including research partakers) from competitive funding such as Grants-in-aid for Scientific Research (including overhead costs) obtained by the researchers. This will include cases wherein the money is paid in the form of “rewards” or the person is dispatched from a worker dispatching service company based on the fund. Cases wherein only travel expenses are paid are excluded.

Also, as for 46 in Appendix Table 1, please enter the number of persons who fall under the category even if salaries and other costs are not paid.

If the institute to which the representative researcher belongs differs from that of the fellow research contributor, please summarize the result by having the institute of the representative researcher conform to (the institute of) the research contributor, where the researcher is employed by the contributor.

- (2) In “(2) System/position name” in the case of employment by competitive funding (1-36 in Appendix Table 1), please enter the name of the position attached to the employee by said competitive funding.

Also, in the case of employment using funds other than competitive funding (37-40 in Appendix Table 1) and for 43-46, please enter the position name or system name attached to the employee. If there is more than one position/system, please enter respectively.

- (3) In “(3) research field” please enter the number of persons corresponding to each research field.

The categorization of research fields of this survey switches alternately. For the previous fiscal year, the categorization of research fields in the School Basic Survey (1: Science; 2: Engineering; 3: Agriculture; 4: Healthcare; 5: Humanities and Social Science; 6: Other; 0: Unknown) was used. For this year’s survey, please enter the research field according to the categorization of priority fields in the Second Science and Technology Basic Plan (1: Life Sciences; 2: Information and Communication; 3: Environment; 4: Nanotechnology and Materials; 5: Energy; 6: Manufacturing; 7: Social Infrastructure; 8: Frontiers; 9: Humanities and Social Science; 10: Other; 0: Unknown). Please refer to the Attached Exhibit 2 for details.

- (4) In “(4) Number of persons” please enter the total number of employees for each of “(2) System/position name” in (2) above. Please exclude those employed for a period of less than two months. Please include those with an employment period of more than two months, even if the working days are not consecutive, for instance, two days a week. (Please omit fractions of less than one month. For example, “5 months and 18 days” is rounded up to five months.) Please refer to the following for those employed for multiple fiscal years.

<Example 1>  
 Those who are employed from April 15, 2006 to May 30, 2006  
 → Excluded (1 month and 16 days)

<Example 2>  
 Those who are employed from July 1, 2005 to November 30, 2006 (5 months)  
 → Counted as employed in FY2006.

<Example 3>  
 Those employed from April 1, 2006 to May 15, 2006 (1 month and 15 days) and  
 from August 1, 2006 to September 25, 2006 (1 month and 25 days)  
 → Counted as employed in FY2006. (2 months 40 days → 3 months 10 days)

<Example 4>  
 Those employed from January 1, 2007 to February 15, 2007 (1 month 15 days) and  
 from April 15, 2006 to May 15, 2007 (1 month)  
 → Excluded (1 month 15 days for FY2006)

- (5) In “(5) Age/gender” among the total number of persons entered in “(4) Number of persons,” please enter the number of persons corresponding to each category of “age 29 or below,” “age 30-34,” “age 35-39” and “age 40 or above” and the number of females in each (the number included in the total). (The sum of the number of persons for all categories will be equal to “(4) Number of persons.”)

Age categorization should be based on the age as of April 1, 2006. (Please see below.)

Age 29 or below	Those who are born on April 2, 1976 or after
Age 30-34	Those who are born from April 2, 1971 to April 1, 1976
Age 35-39	Those who are born from April 2, 1966 to April 1, 1971
Age 40 or above	Those who are born on April 1, 1966 or before

- (6) In “(6) Foreigners” please enter the number of foreigners among the total number of persons. (The number will be included in “(4) Number of persons”.)

- (7) In “(7) Those enrolled in the social insurance scheme” please enter the number of persons covered by employer’s contributions for social insurance (welfare pension, health insurance). (The number will be included in “(4) Number of persons”.) Those who are not covered by contributions paid by your institute, such as those who are enrolled in welfare pension as a dependent of their spouse or those who have full-time positions in other institutes, are excluded.
- (8) In “(8) Completed doctoral degree in FY2005,” please enter the number of persons who completed their doctorate degree during the year prior to the reference year. In this year’s survey, please enter the number of persons who completed their doctorate degree from April 2005 to March 2006. It includes the withdrawals upon obtaining required credits in FY2005.

**[Items related to Format 2]**

- ◆ This is to survey the estimated amount of actual monthly payments to “I. Doctoral Students” surveyed in Format 1.
- (1) Please copy from Format 1 for “**(1) Employment categorization,**” “**(2) System/position name,**” “**(3) Research field**” and “**(4) Number of persons.**”
- (2) In “(8) Number of employees by amount paid,” please enter the breakdown of the number of persons entered in “(4) Number of persons” for each of the corresponding categorizations of amounts paid. In surveying the monthly amount of payment, please use the most efficient method for each institute to ascertain the estimated amount, such as a method to calculate the amount for a sample certain month.
- Please categorize “41 Research Fellows of the Japan Society for the Promotion of Science” and “44 Japanese government scholarship students” as “200,000 yen or more” and “150,000 yen to 200,000 yen” respectively. In cases where the institute does not pay a person directly and cannot find out the amount, please enter the number of such persons under the categorization of “unknown.”

<b>4. Submission of Answers</b>
---------------------------------

○ Answering method

- Please enter the necessary information in the format downloaded (MS-Excel file), and submit via e-mail. The subject of the e-mail should be “**(institute code number + institute name),**” and the

name of the file attached (answer format) should be “**(institute code number + institute name).xls.**”

(Example: “0895 Marunouchi University,” “4566 Toranomom Institute.xls”)

- If there are no postdoctoral fellows or research assistants covered by this survey in the institute, please let us know by phone or e-mail.

○ Contact information and institute code

We may confirm the details of answers upon data collection. Please always enter your institute code, name of institute, name of department, name and contact information.

If you cannot read the format, please contact us.

Ministry of Education, Culture, Sports, Science and Technology  
Knowledge Infrastructure Policy Division

**(Appendix Table 1) Types of “Employment categorization”**

<b>[Competitive funding]</b>	
<b>(Ministry of Education, Culture, Sports, Science and Technology)</b>	
1	Grants-in-aid for Scientific Research
2	Core Research for Evolution Science and Technology *
3	Funds for Promoting Science and Technology
4	The 21st Century Center Of Excellence Program
5	Promotion of Key Technologies Research and Development
6	Promotion Plan for Establishing Earth Observation System
7	Research and Development Project for Nuclear Power System
8	Development of Technologies and Equipments for Advanced Measurement and Analysis
9	Soliciting of Proposals on Development Research of Unique and Innovative Technologies/ Development Research of Innovative Technologies
10	Development of Unique Seeds
11	Project to Promote Research and Development in Prioritized Regions
12	Joint Research Combining the Region
13	Grant for the Research for the Future Program
<b>(Cabinet Office)</b>	
14	Research on Evaluation Technology for Health Effect of Foods
15	Promotion of Industry-Academic-Government Joint Research on Okinawa
<b>(Ministry of Internal Affairs and Communications)</b>	
16	Strategic Information and Communications R&D Promotion Programme (SCOPE)
17	Support on the Development of Advanced Technology for Exploring New Areas of Telecommunications and Broadcasting Businesses
18	Promotion of Research on Fundamental Technologies in Private Sectors
19	Promotion of Research on Science and Technology for Fire Safety and Disaster Prevention
<b>(Ministry of Health, Labour and Welfare)</b>	
20	Grant-in-aid for Scientific Research Fund on Labor and Welfare Science
21	Project to Promote Basic Research in the Area of Insurance and Medical Care
<b>(Ministry of Agriculture, Forestry and Fisheries)</b>	
22	Project to Promote Basic Research for the Creation of New Technologies and Areas
23	Project to Support Researches Integrating Different Areas for the Creation of Biological Industries
24	Assistance of Private Sector Researches in the Area of Agriculture, Forestry, Fishery and Foods
25	Project on the Advancement of Agriculture, Forestry and Fisheries Researches Utilizing Advanced Technology
<b>(Ministry of Economics, Trade and Industry)</b>	
26	Assistance of Industrial Technologies Researches
27	Research and Development on the Creation and Practical Application of University-Launched Businesses
28	Research and Development of New Regional Consortiums
29	Development of Innovative and Practical Nuclear Technology
30	Research to Promote the Development and Use of Petroleum and Natural Gas
<b>(Ministry of Land, Infrastructure and Transport)</b>	
31	Promotion of Basic Research in the Area of Transportation
32	Assistance of Research and Development of Construction Technology

<b>(Ministry of the Environment)</b>	
33	Funds for the Comprehensive Promotion of Global Environment Researches
34	Funds for the Promotion of Environmental Technology Development
35	Grant-in-aid for Scientific Research Fund on Waste Treatment
36	Project on the Development of Global Warming Countermeasure Technologies
<b>[Other External Funds]</b>	
37	Current Expenditures to Private Institutions of Higher Education (Special Subsidies on Advancement Promotion of Education and Research in Private Universities)
38	Scholarship-loan donations (scholarship endowment accounting)
39	Other external funds
<b>[Other financial sources]</b>	
40	Subsidies and other internal funds *
<b>[Other]</b>	
41	Research Fellows of the Japan Society for the Promotion of Science
42	Foreign Research Fellows of the Japan Society for the Promotion of Science
43	Other fellowships *
44	Japanese government scholarship students
45	Foreign government scholarship students
46	Not in employment relationship *

\* In “2 Core Research for Evolution Science and Technology,” projects implemented by being entrusted to universities should be recorded by the institute in question. Do not count researchers who have an employment relationship with the Japan Science and Technology Agency separately for each university.

\* As for “40 Subsidies and other funds,” please enter the number of research assistants, teaching assistants and other persons employed under the original projects by the university and the independent administrative agency, to which salaries and others are paid from financial sources other than 1-39.

\* As for “43 Other fellowship,” please enter the number of persons who are engaged in researches in the research institute in question based on funds obtained privately, such as fellowships other than Research Fellows of the Japan Society for the Promotion of Science.

As for those in employment relationship with the New Energy and Industrial Technology Development Organization (NEDO) through the Industrial Technology Fellowship Program implemented by NEDO, please count the number of persons on the NEDO side. Please do not double count them in each research institute.

\* As for “46 Not in employment relationship,” please enter the number of persons that corresponds to

those defined in (2) of “2. Those surveyed,” and those corresponding to 1-45 (those to whom salaries and other costs are not paid) but are engaged in research activities similarly to those who fall under 1-45 and are stipulated in internal regulations of the university for acceptance. As for “I. Doctoral Students,” only those who receive financial support are covered in this survey, so they never fall under “46 Not in employment relationship.”

## (Appendix Table 2) Classification of Research Fields

\* This classification of fields is the same as that used in the Third Science and Technology Basic Plan, and is the same as that used in the survey conducted 2 years ago (FY2004 survey). In next year's survey, the survey will return to the classification used in FY2005 (i.e., fields of Science, Engineering, Agriculture, Health Care, and Humanities and Social Science). A proposal to conduct the survey using these two classification systems in alternate years is now under study.

### (1) Life Sciences

Class	Subclass
Biology	Basic biology, biochemistry, anthropology
Agriculture	Agriculture, agricultural chemistry, forestry, fishery, animal husbandry, veterinary medicine, boundary agriculture
Medicine	Pharmacology, basic medicine, boundary medicine, social medicine, internal clinical medicine, surgical clinical medicine, dentistry, nursing
General fields	Neuroscience, experimental zoology, human medical engineering, health/sports science
Multidisciplinary and new fields	Genomics, biomolecular science

### (2) Information and Communication Technologies

Engineering	Electrical and electronic engineering
General field	Informatics

### (3) Environment

Multidisciplinary and new fields	Environmental studies
Multidisciplinary and new fields	Resource management
Engineering	General engineering (earth/resource system engineering, recycling engineering)

### (4) Nanotechnology and Materials

Multidisciplinary and new fields	Nano/micro science
Science	Materials chemistry
Engineering	Applied physics/engineering infrastructure, materials engineering, process engineering

### (5) Energy

Engineering	General engineering (nuclear fusion engineering, nuclear power engineering, energy engineering)
-------------	---



(6) Manufacturing

Engineering	Mechanical engineering
-------------	------------------------

(7) Social Infrastructure

Multidisciplinary and new fields	Social/safety system science
Engineering	Civil engineering, architectural science
Agriculture	Agroengineering

(8) Frontiers

Mathematical and physical studies	Astronomy, earth satellite science
Engineering	General engineering (aerospace engineering, naval architecture and ocean engineering)

(9) Humanities and Social Science

General field	Science education/educational engineering, sociology of science, history of science, scientific studies on cultural properties
Multidisciplinary and new fields	Gender
Humanities	Philosophy, literature, linguistics, history, human geography, cultural anthropology
Social sciences	Jurisprudence, political science, economics, management, sociology, psychology, education
Agriculture	Agricultural economics

(10) Other

General field	Human life sciences, geography
Multidisciplinary and new fields	Regional research
Mathematical and physical studies	Mathematics, physics, plasma science
Chemistry	Basic chemistry, composite chemistry

\* Because this table is divided into categories for convenience of the survey, there may be cases where assignment by the standards of the table seems inappropriate, depending on the content of the individual research. In such cases, the respondent may assign the item appropriately at the discretion of the each organization.

In cases where assignment is not possible by this method, please list as “(0) Unknown.”

**(Appendix Table 3) List of examples of those included or excluded**

**\* (i) Positions corresponding to “professor, assistant professor, teacher or assistant” provided in the School Education Law and (ii) undergraduate or master (first stage of doctorate) courses students are excluded uniformly (except in cases where only the salary is equal to an assistant).**

	○ Examples of those included	× Examples of those excluded
I. Doctoral students	<ul style="list-style-type: none"> <li>○ Doctoral students at the university in question who are receiving salaries as research assistants, teaching assistants and under other titles</li> <li>○ Those who are engaged in researches in the research institute in question while enrolled in doctoral courses of other universities, and are receiving financial support or salaries</li> <li>○ Research Fellows of the Japan Society for the Promotion of Science (DC)</li> <li>○ Foreign students receiving a (Japanese or foreign) government scholarship</li> </ul>	<ul style="list-style-type: none"> <li>× Students enrolled in a <u>master course or first stage of a doctorate course</u> who are receiving salaries as research assistants</li> <li>× Doctoral students who are not receiving financial support</li> <li>× Students who receive a scholarship offered by the Japan Student Services Organization but are not receiving economic support from institutes to which they belong</li> <li>× Students who receive income as part-time teachers in the university to which they belong or in any other university, but are not receiving financial support from the institutes to which they belong</li> <li>× Privately financed foreign students (foreign students not receiving financial support)</li> <li>× Students who are paid only travel expenses and daily allowances upon attending academic conferences</li> <li>× Students who are paid salaries only for services other than research service (setting event sites, moving equipment, sending reference materials, etc.)</li> </ul>
II. Postdoctoral fellows	<ul style="list-style-type: none"> <li>○ Those who, after earning a doctoral degree, continue researches while receiving salaries for a certain period from institutes and researchers that obtained competitive funding</li> <li>○ Those who, after earning a doctoral degree, continue researches as researchers and others (title regarded as equivalent to postdoctoral fellows in the institute in question) in the university in question</li> <li>○ Researchers of a level equivalent to postdoctoral fellows who are employed by independent administrative institutions or incorporated foundations based on grants for administrative costs or self-sponsored funds</li> <li>○ Those who, after earning a doctoral degree, continue researches at the institute in question without receiving salaries</li> <li>○ Research Fellows of the Japan Society for the</li> </ul>	<ul style="list-style-type: none"> <li>× Those who, after earning a doctoral degree, belong to a certain research institute but whose key role is secretarial assistance or technical support and not the research activity itself (→ fall under III)</li> <li>× Specially-appointed professors, specially-appointed assistant professors, specially-appointed teachers and specially-appointed assistants employed based on competitive funding</li> <li>× Researchers such as group leaders and chief researchers whom independent administrative institutions, incorporated foundations and others employ based on grants for administrative costs or self-sponsored funds</li> <li>× <u>Professors, assistant professors, teachers and assistants</u> with fixed terms of office whom national universities employ based on subsidies or tuition fee incomes (excluded regardless of whether or not there is a fixed term)</li> </ul>

	<p>Promotion of Science (PD, SPD)</p> <ul style="list-style-type: none"> <li>○ Those who, after earning a doctoral degree, are employed <u>at the institute in question</u> as a researcher within the scope of the amount commissioned for the Core Research for Evolution Science and Technology</li> <li>○ Researcher equivalent to postdoctoral fellows employed by a national university independently, based on grants for administrative costs or tuition fee incomes</li> </ul>	
--	---	--

<p>III. Other</p>	<ul style="list-style-type: none"> <li>○ Those who, after finishing <u>undergraduate or master courses</u> (excluding those who are currently enrolled in a doctoral course), are employed as a research assistant based on Grants-in-aid for Scientific Research</li> <li>○ Those who earned a doctoral degree or those who did not, and are employed in the key role of secretarial or technical support*.</li> </ul> <p>* (Example) Tabulation of survey forms, server maintenance, raising laboratory animals, accounting of research funds, etc.</p> <ul style="list-style-type: none"> <li>○ Technical supporter dispatched from worker dispatching service companies based on expenses paid from competitive funding</li> </ul>	<ul style="list-style-type: none"> <li>× Staff with the profession of technical support without fixed terms of office, similar to the former “Engineering Official” at national universities</li> <li>× Students <u>who are enrolled in a master course</u> and are employed as research assistants (those who are enrolled in undergraduate and master courses are all excluded)</li> <li>× Staff of administration head office who are not directly engaged in research services in question, part-time workers for holding events, etc.</li> <li>× Joint researchers and commissioned researchers who receive salaries from private enterprises</li> <li>× Those who have the title of “Engineer” or “Supporter” but meet the requirements of II, and are clearly regarded as actually engaged in researches similarly to postdoctoral fellows who fall under II (→ fall under II)</li> </ul>
-------------------	--	--

This table shows some examples to be used as a reference when categorizing those surveyed. Please categorize appropriately with referring to the criteria of pp2-3.